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Abstracts from the 2013 Oklahoma Research Day

Held at the University of Central Oklahoma

02. Education and Professional Studies

03. Health Studies

02.03.01 Exploring the Relationship between Trunk Adiposity and Trunk Flexibility

TaNiqua Ward, Melissa Powers,

University of Central Oklahoma

Purpose: The purpose of this study is to examine the relationship between trunk adiposity and trunk flexibility among adults. **Methods:** A total of 29 participants, male (n=11) and female (n=18) participants between the ages of 19 and 84 years. The participants were recruited from the University of Central Oklahoma daily email news service. The bioelectrical impedance analyzer (BIA) was used to calculate percent body fat and body mass index (BMI). Three circumference measurements were taken on each participant: waist, abdomen, and hips. The two inclinometers were placed on the sacroiliac joint (S1) and thoracic 12 (T12) to measure trunk flexion and extension. Trunk flexibility was measured as the difference between the two readings at full flexion or extension. **Results:** The Pearson's Product Moment Correlation was used to analyze the results. There was a significant negative relationship between trunk flexion correlated with abdomen circumference ($r = -.49$, $p = .01$) and hip circumference ($r = -.39$, $p = .03$). A significant relationship was found between trunk extension and BMI ($r = .38$, $p = .04$). **Conclusion:** Abdomen and hips are most beneficial when measuring circumferences for trunk adiposity. It was found that trunk flexion has a greater relationship with trunk adiposity than trunk extension.

02.03.02 Nintendo® Wii Fit™ Balance and Cognitive Function in Older Adults Kristin Bogda, University of Central Oklahoma, Edmond, OK.

Kristin Bogda,

University of Central Oklahoma

Fear of falling is highly prevalent among older adults. It is important to find ways to decrease the fear of falling and improve the confidence one has in their own balance when doing daily activities. **PURPOSE:** The purpose of this study was to evaluate the effects of a balance training intervention using the Nintendo Wii Fit on balance confidence and cognitive function, specifically executive function, in older adults. **METHODS:** Twelve adults over the age of 65 years were assigned to a treatment group or control group to complete an eight-week balance training intervention. Balance confidence was measured using the Activities-Specific Balance Confidence Scale. Cognitive function was evaluated with the Trail Making Test (TMT), Part A and Part B. Center of mass was measured using the Nintendo Wii Fit balance board. All assessments were taken at baseline and after eight weeks of training. The data were analyzed using an ANOVA with repeated measures for each outcome ($\alpha = .025$). **RESULTS:** No significant interaction or time effects were observed for any variable. The group effect for TMT Part A approached significance ($F = 7.034, p = 0.029$). **CONCLUSIONS:** It can be concluded that using the Nintendo Wii Fit as a balance training tool will not improve balance confidence or cognitive function, particularly executive function, in older adults. Future studies should look at testing other components of cognitive function to see if the Nintendo Wii Fit is a useful device for older adult

02.03.03 Effects of Yoga on Balance Confidence

Kelsey Hubble, Ed Cunliff, Jacilyn Olson, Melissa Powers,

University of Central Oklahoma

Purpose: The purpose of this study was to determine if the combination of yoga, Tai Chi, and mindful meditation increased balance and balance confidence in older female adults. **Methods:** Ten female participants were randomly assigned to one of two groups: Experimental or Control. The Experimental Group received yoga, Tai Chi, and a guided mindful meditation, while the control group received Tai Chi and yoga. Both groups met for 30 minutes per session, twice a week for seven weeks. Balance was assessed with Timed Tandem Walk, Timed Tandem Stand, and Timed Up-and-Go; balance confidence was assessed with the Activities-specific Balance Confidence scale. All assessments took place at baseline and post-intervention. A 2 X 2 ANOVA with repeated measures was conducted for all variables. Descriptive statistics and effect sizes were calculated. **Results:** The Timed Tandem Walk Errors group by time interaction was significant with F of 6.639 ($p = .037$). The control group had a large effect size of -1.79. No significant differences from pre-test to post-test were found in the Timed Tandem Walk, Timed Tandem Stand, Timed Up-and-Go, and the Activities-specific Balance Confidence scale ($p > .05$). **Discussion:** The control group had an increase in errors during the balance assessment of Timed Tandem Walk. Future research should include a longer intervention of at least 12 weeks in duration.

02.03.04 Effects of Active Video Games (Wii Fit™) on Senior Adult Balance, Fitness and Mood

Darla Fent, Caitlin Little, Cynthia Murray, Jacob Todd, Kayla Garver,

University of Central Oklahoma

The aim of this pilot study was to assess and compare balance, balance confidence, fitness levels, and mood in six senior adults (approximately 74 years old) recruited from a local retirement center. Two participants were assigned to one of three groups: a traditional balance class, a Wii Fit™ balance program and a control group who refrained from participating in additional daily physical activity. The seniors in the two balance classes participated in 35 minutes of activity consisting of 20 minutes of strength training exercises and 15 minutes of balance exercises twice a week for 6 months. Pre, mid and post assessments were conducted utilizing components of the Senior Fitness Test (chair stand, arm curl, chair sit-and-reach, back scratch and 8-ft. up-and-go) and grip strength to evaluate functional performance measures. Similarly, balance was evaluated utilizing the Berg Balance Scale and the Activities-specific Balance Confidence (ABC) Scale. And, mood was assessed via the Positive and Negative Affect Schedule (PANAS). Differences between pre, mid and post measurements, as well as differences between groups, were analyzed using analysis of variance (SAS) and effect size. There were very few instances in which significant differences ($p < .05$) occurred. However, the majority of comparisons indicated a large effect ($\eta^2 p > .14$). These findings imply that future studies with larger sample sizes may result in clarification of how Wii Fit™ impacts seniors' bal

02.03.05 Reproducibility and reliability of optic nerve head measurements in normal eyes evaluated by Cirrus HD-OCT

Megan Kirkpatrick, Jessica Colpitt,

Northeastern State University

Introduction. Optic nerve head (ONH) assessment is a crucial element in the glaucoma clinical examination. Methods. Forty-eight subjects between ages of 22 and 36 with normal ONH participated in this study. All scans were acquired using the Cirrus HD-OCT with the Optic Disc Cube 200x200 scan on the subject's right eye. The mean and variance from the mean amongst the three visits was analyzed using methods developed by Bland and Altman. Results. All ICCs were excellent, ranging from 0.829 to 0.98 for inter-visit measurements. All parameters showed small CR values. Conclusion. Intervisit measurements of RNFL and ONH parameters obtained with the Cirrus HD-OCT were found to have excellent reproducibility, indicating that this instrument may be useful in assessment and management of glaucoma progression. The CR values for these five parameters give us a more standardized way of measuring glaucoma progression.

02.03.06 Repeatability of Free Form Customization Measurement Technology

Randolph Fincher, Alan McKee, Jason Koschmeder,

Northeastern State University

Purpose: New free-form customized measurement progressive add lens (PAL) technologies such as the Zeiss i.Terminal are designed to measure pupillary distance, pantoscopic tilt, vertex distance, frame wrap, and fitting height far more precisely than conventional handheld instruments. To our knowledge there has been no published report on the inter- and intra-observer repeatability of the ophthalmic measurements taken with the Zeiss i.Terminal and requires additional research. Methods: In a randomized clinical study, repeated measurements were taken using the Zeiss i.Terminal to determine inter- and intra-observer repeatability of pupillary distance, pantoscopic tilt, vertex distance, panoramic angle, and fitting height measurements. Two statistical methods, Bland-Altman (mean difference) and coefficient of repeatability (CR), coefficient of variation (CVw), and intra-class correlation coefficient (ICC) plot comparisons of each different measurement were used to analyze the repeatability of each of the above parameters. Results: Inter- and intra-observer repeatability were greatest for total pupillary distance and wrap angle. Monocular pupillary distance measurements were highly variable, while fitting height, vertex distance, and pantoscopic angle had poor repeatability. Conclusion: Additional research associated to the inter- and intra-observer repeatability of parameters by this and other digital centration devices is warranted.

02.03.07 An Investigation of the Food Environment in Carter County

Kevin Fink, Christi Schultz, Deana Hildebrand, Jonathan Yuhas, Mendy Spohn, Nancy Betts,

Oklahoma State University

Oklahoma recently ranked as the fifth most obese state in the United States. Two-thirds of Oklahoma adults are classified as overweight or obese. Closer proximity to grocery stores and supermarkets encourages healthy eating behaviors and obesity prevention while convenience stores and other smaller venues are not associated with healthy eating and obesity prevention. The purpose of the study was to examine the food environment for food outlets in Carter County, Oklahoma. To assess the environment, the Nutrition Environment Measurement Survey in Stores (NEMS-S) was utilized to examine the availability, price, and quality of healthy versus regular food options. Higher scores represented a more healthy overall food environment while lower scores indicated an unhealthy food environment (-9 to 57). Utilizing ArcGIS, locations and food outlets were mapped. The overall assessments were low within the county. The mean county score was 9.14. The highest rated store assessment was 42. Overall, grocery stores provided a higher mean subscale score for availability of healthy food items than the other store-types examined. Grocery stores also provided a statistically significant healthier food environment for the overall NEMS-S and availability scores. More convenience stores were available than grocery stores within the county.

02.03.08 Entering the Flow of Labyrinth Research

Dr. C. Diane Rudebock, Katja Marquart, Kay Sandor, Lea Goode-Harris, Marion Dabney,

University of Central Oklahoma

This poster describes various research projects focused on labyrinth research by members of an international organization, The Labyrinth Society. This group of researchers from across the United States shared their diverse research projects using the labyrinth, a circuitous, universal path designed as a walking meditation. The new field of labyrinth research provides many opportunities to collaborate with professionals across disciplines as well as those in the United States and across the world. Electronic media allows 'real time' conversations to occur which in years past may have taken countless weeks and months, thus making collaboration across disciplines and locations much easier. Quantitative and Qualitative examples of labyrinth research are used to demonstrate the labyrinth as a tool which can be used across disciplines for research opportunities in various disciplines involving students, staff and faculty on college campuses and in the community.

02.03.09 Effects of Embrocation oil on Time to Exhaustion During Treadmill Running

Kyler Daugherty, Brady Redus,

University of Central Oklahoma

Embrocation oil is a muscle warming oil that is applied to the skin and increases blood flow to the muscle. Athletes often use this oil as a replacement for a warm up before a training session or competition. Currently, there is a lack of research on the efficacy of embrocation oil. This study will examine if embrocation oil increases an individual's muscular endurance (time to exhaustion). The participants will consist of twenty physically fit college age students (18-30 years). Both males and females will be studied. The participants will run on a treadmill that increases in intensity (2% grade) every minute until the subject cannot continue (exhaustion). The participants will be randomly assigned to two groups and will be given embrocation oil to self-massage into upper thighs and calves during one testing period and again without embrocation oil five (5) days later during the second testing period. A dependent T-test will be conducted on the data that is collected from participant's time to exhaustion. It is expected that embrocation oil will increase time to exhaustion. The results from this study may be used by endurance athletes for performance enhancement.

02.03.10 Cost Effectiveness of the RPS Adeno Detector Plus

Mindi Combs, Dr. Earlena McKee, Linda Ray, Thomas Salmon,

Northeastern State University

Purpose. Analyze the cost effectiveness of the RPS Adeno Detector Plus Methods. We selected from patients already presenting with a red eye complaint. Our data was collected from both surveys completed by clinicians and the results of thioglycollate broth and RPS Adeno Detector Plus tests. With this data, we determined the total number of positive bacterial tests, adenoviral tests, and the total number of tests positive for both bacteria and adenoviruses. We then calculated the percentage of these types of red eyes compared to the total number of red eyes tested. Results. We found that the clinical founded diagnosis of bacterial conjunctivitis (2), 0 of 2 were correct. In addition, of those diagnosed on clinical findings alone to be of viral etiology, 2 of the 3 were correctly diagnosed. Conclusion. We found there were no changes in treatment after reading the results of the RPS Adeno Detector Plus. Because there were so few patients in this study we were unable to determine the potential value of an RPS Adeno Detector Plus relative to the cost of Tobradex.

02.03.11 “Emotional Suppression and Mimicry between Sexes”

Kiersten Durning,

University of Central Oklahoma

Abstract: This research is directed toward a better understanding of emotions being shown through Micro-Expressions, comparing an individual's ability to “hide” their emotions comparing male and female participants. Measuring the participants' facial movements in reaction to the picture both when inhibiting emotion and not. Micro-expressions may be socially determined with an individual mimicking another's emotional facial expression. This study will test if pictures displaying facial expressions would be causation for more muscle movement, measured with electromyography.

02.03.12 Comparison of Load Carriage Foot Force Distribution With and Without Hiking Pole Use

Bert Jacobson,

Oklahoma State University

The use of hiking or trekking poles has gained much popularity among recreational walkers and hikers. The purpose of this study was to compare the distribution of foot force while walking with and without hiking poles. Following IRB approval, each subject was fitted with a 20 kg pack and tested while walking at 5.0 Km•hr⁻¹ under each condition. Data were collected using a piezoelectric force plate (Kistler Instruments Winterthur, Schweiz) interfaced with Bioware Analysis System. Three trials were conducted in random order 1) without hiking poles (NP), 2) with standard (SP) hiking poles, and 3) with anti-shock (AP) hiking poles. For each trial the following data were recorded: 1) Medio-lateral (FFx), anterior-posterior (FFy), and vertical (FFz) ground reaction force for the foot and medio-lateral (PFx), anterior-posterior (PFy), and vertical (PFz) ground reaction for the hiking pole. Repeated measures ANOVA yielded no significant differences in foot forces among the three conditions (NP, SP, and AP) for any of the recorded directions (medio-lateral, anterior-posterior, and vertical). The subjects felt less subjective exertion while using the poles. In conclusion, trekking poles may not redistribute force distribution to the extent that energy may be conserved, however, the perception of reduced exertion and the added stability may warrant additional research.

02.03.13 Comparison of the Testing of Oblique Axes in Confrontation Visual Field Testing Versus the Traditional Method

Elizabeth Fieser, Kaylaen Dittmer, Spencer Johnson, Thomas Salmon,

Northeastern State University

Purpose. To determine if testing arcuate visual fields at four locations per eye along oblique axes (at 45 degrees and 135 degrees) is as effective as testing arcuate visual fields using the traditional method of testing eight locations per eye at the principal meridians (90 degrees and 180 degrees). Methods. Eight "patients" had front surface mirror-coated lens blanks taped over each of their eyes. We placed two layers of hypoallergenic tape on the back of the lens blanks to induce different severities of quadrantanopias. Fifteen "examiners" performed a traditional visual field screener along the principal meridians and a non-traditional visual field screener along the oblique axes on each patient. The examiners recorded if they observed a defect and in which quadrant it was located. Results. The examiners were able to correctly identify 67% of eyes with the traditional method and 63% of eyes with the oblique method. The traditional method was 61.9% sensitive and 83.5% specific. The oblique method was 58.9% sensitive and 75.9% specific. A Bland-Altman analysis showed that the mean of the differences between the two methods was close to zero, however, the degree of variability between testing methods was larger than desirable. This suggests a low degree of repeatability from one examiner to the next. Conclusions. Collectively, the examiners showed slightly better sensitivity and specificity with the traditional method.

02.03.14 Perspectives: Oklahoma City METRO Transit Commuter Input on Transportation Services through a PhotoVoice Project

Brie Brumfield,

University of Central Oklahoma

The Oklahoma City METRO Transit system accommodates nearly 3 million bus riders each year (METRO Transit, 2009). The purpose of this research is to identify, according to regular users of the Oklahoma City METRO Transit system, aspects of transportation that are satisfactory and deserve praise and those that can be improved upon to further accommodate bus riders. The PhotoVoice project will provide public transportation users with digital cameras which they will use to take pictures of things they believe are working well with transportation and things that could be better developed. Photographs and suggestions from the project volunteers will be compiled and presented to city officials, community leaders, and METRO Transit personnel at an art studio in downtown Oklahoma City. The input of bus riders through the PhotoVoice project will allow for an open channel of communication with city leaders and provide opportunity for improvement and recognition of strengths of this widely utilized transportation system.

02.03.15 The Effects of Boot Camp Training on Body Composition

Emily Fasnacht,

University of Central Oklahoma

Boot camp training is a type of interval training. Boot camp training improves body composition at an achievable duration (Drigny, Guiraud, Gayda, Nigam, & Gremeaux, 2011; Trapp et al., 2008). The purpose of this study was to study the effects of boot camp training on body composition. Participants included 23 females (18 completed for analysis) aged 24 – 59 years with an average age of 32.9. Participants volunteered from four different boot camp locations across the Oklahoma City area. Body composition was measured by DEXA at the start of the eight week study and at the end. Participants were involved in boot camps for eight weeks 3 – 4 days per week. Each boot camp session was approximately 50 minutes long. Results of the current study show a significant difference in body weight ($p=.049$) with a mean weight loss of 2.2 lbs. Although not significant, fat-free mass decreased by 1.1 lbs ($p=.09$) and fat mass decreased by 1.1 lbs ($p=0.145$). The current results are in disagreement with previous research that has demonstrated favorable body composition changes following interval training. Future research should consider larger sample sizes, a longer duration for the study, and a standardized diet plan.

02.03.16 Determining a Relationship Between Sleep Quality and Academic Performance in First Year University Students

Meagan Carter,

University of Central Oklahoma

The purpose of this study is to determine if there is a relationship between sleep quality and academic performance in first-year college students. This study is significant because it is the goal of a university to educate their students and assist them in succeeding inside and outside of the classroom. Current research supports a relationship between sleep and academics, however few studies performed on sleep quality and academic performance are targeted at first-year students and without self-reported grade point averages. For the variable of academic performance, grade point averages (GPA) will be the utilized. A traditional 4.0 scale will be used to report the subjects' grades for the semester. The Pittsburgh Sleep Quality Index (PSQI) gives a standard measurement for sleep quality through a 19-item questionnaire requesting subjects to supply information about the previous month's sleeping habits (Buysse et al., 1989). After grades have been posted for the semester, the participants' transcripts will be collected in order to obtain the semester's GPA for each participant. Once data collection is complete, a Pearson's correlation analysis will be run to determine whether there is a significant relationship between sleep quality and academic performance variables.

02.03.17 Mu Suppression in the Premotor Cortex for Recognition and Inference

Jennifer Hancock, Robert Mather,

University of Central Oklahoma

Mirroring is a learning function necessary for social cognitive processing that relies on intricate neural networks including the mirror neuron system. Mirror neurons (MN) are specialized neurons that activate when an organism facilitates movement or observes an activity. Modeling behaviors, linked to an efficient mirror neuron system, are important to social cognitive development. Social behavior is dependent on action recognition, visual analysis of the action, and intermittent inference of perceived action context. Skill acquisition and language development involve mimicry as a mechanism for interpreting sensory information. An inefficient or malfunctioning mirror neuron system has potential for pervasive ramifications concerning social interaction and development. Mu wave suppression, recorded by EEG, is a reliable method for evaluating the mirror neuron system. The expected outcome was mu wave suppression because of MN activity would display reduced mu wave capacity in each condition compared to baseline; with inference energizing MN activity in the same capacity as action observation and object recognition. A mixed factorial repeated-measures design evaluated mirror neuron activation indicated by mu wave suppression in the premotor cortex. Although mu suppression was not obvious, the difference in response for each condition suggests a variance in neural activity.

02.03.18 Emotional Intelligence Differences in Athletic Training, Physical Education, and Health Promotion Undergraduate Students

Jennifer Volberding, John Sellers, Theresa Brown, Tim Baghurst,

Oklahoma State University

Context: Emotional Intelligence (EI) is the ability to monitor one's own emotions as well as the ability to understand and manage people. This ability is essential for all individuals, especially those who have direct contact with patients/students. Objective: The purpose of this study was to determine the overall level of EI in undergraduate kinesiology students as well as compare differences amongst the majors due to patient/student exposures. Participants: The pool included undergraduate students enrolled in the Athletic Training (AT), Physical Education (PE), and Health Promotion (HP) programs (N = 94). Interventions: Students completed an online EI inventory of 33 statements, rated on a 5 point agreement scale. Analysis: Means and standard deviations were calculated for the overall EI score (out of 150) for all students and by degree. A one-way ANOVA was performed to determine differences. Results: EI scores were 124.95 + 12.92 for all students, 127.16 + 12.5 for AT, 121.08 + 11.32 for PE, and 127.56 + 12.92 for HP. ANOVA results ($F(2,91) = 2.71, p = .072$) demonstrated no significant differences between majors. Conclusions: It was expected that AT students have higher levels of EI as they are exposed to significant amounts of patient contact earlier and more often than PE and HP students. However, this study demonstrated that although patient/student contacts may differ between majors, there were no significant differences in kinesiology students EI.

02.03.19 Health Behaviors Leading to a Higher Risk of Morbidity, Mortality, and Cardiovascular Disease Among People From India and Pakistan Living in the United States for at least 10 Years

Amreen Hemani, Dr. C. Diane Rudebock,

University of Central Oklahoma

Cardiovascular disease is the first and third leading cause of death among men and women respectively in the United States. According to the National Heart Lung and Blood Institute, within the next 10 to 15 years, Asian-Indians will account for 40 to 60 percent of people around the world with cardiovascular disease, of which 12 percent will be in the U.S. Asian Indians have been identified as one group who has a higher rate of cardiovascular disease compared to other minorities. There has been little research conducted identifying reasons why Asian Indians have higher rates of cardiovascular disease. These rates have severe public health and financial implications. The purpose of this research is to determine what health behaviors lead to this high prevalence of cardiovascular disease. The hypothesis is that lack of physical activity and length of time living in the U.S. contribute the most to a higher risk of morbidity, mortality, and cardiovascular disease among people from India and Pakistan. A survey with questions relating to physical activity, cardiovascular health, food and vegetable consumption, and level of acculturation was given to a group of Indian and Pakistani people residing in the U.S. for at least 10 years. Preliminary findings suggest that lack of physical activity may be a contributing factor to cardiovascular disease and/or related conditions. No findings indicate that acculturation to an American diet is related.

02.03.20 Understanding the Impact of a Service Learning Project on Students' Transformative Learning Experience

Rachelle Franz,

University of Central Oklahoma

Transformative Learning (TL) is a process that involves cycles of cognitive dissonance, critical reflection, rational dialogue, and committed action that requires students to take an active role in their learning. Service Learning (SL) is a pedagogical strategy, used to provide a service to the community in connection to an academic discipline, which helps students enhance educational competencies. The purpose of this research is to develop more effective pedagogical approaches (for volunteering instructors) by implementing SL into Healthy Life Skills (HLS) course design and to evaluate its effectiveness on students' learning perspective. It is hypothesized that scores from Student Perception of Instructional Effectiveness (SPIE) will indicate an effective teaching methodology as a result of TL training and positive TL experiences for students. The researchers collaborated with Center of Excellence in Transformative Teaching and Learning to provide free workshops to HLS instructors to help them redesign their course syllabus. Quasi-experiment was conducted: Control (Fall 2012) and Treatment group (Spring 2013). Baseline scores were acquired using comprehensive final exams and post test scores using comprehensive final exams, SPIE, demographic, and qualitative questions. The researchers believe that TL experiences will help students acquire new perspectives about health and will help them become more engaged citizens in their community.

02.03.21 Evaluation of a Fitness-based Intergenerational Transformative Learning Experience

Terry Taylor, Darla Fent, Jacilyn Olson, Matthew Blair, Melissa Powers,

University of Central Oklahoma

The purpose of this study is to examine students' attitudes toward older adults and community service before and after a senior fitness class assignment. The participants will be students enrolled in an undergraduate exercise programming class. For a class assignment, students will conduct fitness testing at a local retirement community, and then develop exercise recommendations based on the testing results. The students will be surveyed to assess attitudes from the beginning of the semester to end to monitor changes in attitudes/beliefs toward older adults and in the ability and confidence in working with this population. The potential outcome of this study is that the students will have a more positive attitude towards the elderly and be more likely to consider a career in working with geriatric individuals/clients. From this study the authors will show the benefit in sustaining this project as well as adding similar programs to the curriculum.

02.03.22 A Service Learning Project Connects Dietetics Students With the Realities of Teenage Mothers and Their Children

Tawni Holmes, Jenny Bilodeau, Katherine Powell, Rachel Hill, Sarah Rakowski,

University of Central Oklahoma

Service Learning is a key tenant of transformative learning. Dietetic students in the Medical Nutrition Therapy course at the University of Central Oklahoma had the opportunity to learn valuable hands on menu planning skills as a service learning project conducted with the Pauline Mayer group home in Oklahoma City in Fall of 2012. The home is a place for teenage girls who are pregnant or have infant children to live while they finish high school. A previous visit with the group home gave members of the class observational data regarding the needs of the girls and their children and the circumstances in which they live. At the request of the home students in the class revised the current menus to meet the 2010 Hunger Free Kids Act guidelines for both teenagers and infants. The class conducted a literature search as well as researched the needs of both age groups for nutrient intakes and portion sizes. User-friendly tools for meal planning and grocery shopping were also developed so that the girls could learn life-long skills which could potentially affect their future ability to care for their children once they were living on their own. Follow-up with the Director of the home has provided positive feedback on the use of the menus and the usefulness of the tools for this age group. Feedback from the students of the course indicated that this was a valuable learning experience and provided an excellent opportunity for meeting a needed competency skill.

02.03.23 Correlation Between Speed and Strength in an Un-Weighted Straight Punch

Zachgery Scurry,

University of Central Oklahoma

The purpose of my study is to determine the correlation between speed and strength in a straight punch. I will test 20-30 college students' speed and strength in a straight punch. A bivariate Pearson Product Moment Correlation will be the statistical method used to determine the relationship. The first test will be to determine punching strength. To obtain this data each student will perform a one repetition weighted cable push (simulating to actual motion of a straight punch). The equipment to be used in the strength test will be the Pro-Maximum Single Pull Cable Column. The cable will be adjusted to arm pit height of the participant. Participants will then be asked to perform a straight punch with their dominate hand. Starting at 10-15lbs, the student will perform one punch at 5lb increments, until he or she reaches their maximum weight. The second test will be to measure the speed of each student's punch. To measure the velocity of a punch the Humac 360 (Computer Sports Medicine Inc. Stoughton, MA) will be used. A Humac 360 is a small computer box with a 16 ft. cord attached, it is designed to be pulled to determine velocity. Each student will be given three attempts to reach their peak punching velocity. My hypothesis is that the two will have a significant positive correlation. Related research has tested speed and strength before but there has not yet been done a direct correlation between the two. Awaiting IRB approval.

02.03.24 The Effects of Plyometric Exercises on Vertical Jump in Male and Female Basketball Athletes

Toral Desai, Patrick Lawrence,

University of Central Oklahoma

Strength and conditioning are frequently used in a variety of sports in order to enhance performance. While strengthening is important, plyometrics are a part of sports specific training that has the ability to increase explosiveness and power. The purpose of this study is to determine if plyometric training increases vertical jump in female and male basketball athletes. The hypothesis of this study is that over time and with adequate training, both female and male basketball athletes will improve their vertical jump which would benefit their productivity on the basketball court during games by enabling them to block shots or produce points for their respective teams by creating basketball shots for themselves. Approximately twenty female and male basketball athletes have been recruited from the University of Central Oklahoma's women's and men's basketball teams in February of 2013. Data of the vertical jump will be collected by using a Vertex instrument. Athletes will be asked to jump for three consecutive jumps and the average of the vertical jump will be collected as data. Upon the completion of the regular basketball season, athletes will be given a six week plyometric training regimen. This will consist of a twenty minute session twice a week of plyometric drills. At the end of every week, vertical jump of each participant will be measured and data will be collected. An ANOVA with repeated measures will be conducted to analyze data.

02.03.25 Differences In Eating Schedules, Sitting Time, Steps per Day, and Amount of Physical Activity Between Staff and Faculty.

Alaura Ervin, Greg Farnell,

University of Central Oklahoma

The purpose of this study is to compare BMI, eating behaviors, steps per day, and exercise habits of faculty and staff on the UCO campus. The hypothesis of the current study is that faculty member will have lower BMI's, higher steps per day and greater amounts of physical activity (exercise habits). The current hypothesis is based on existing literature that found American's decline in physical activity and increase in energy consumption can be contributed to the boost in figures of obesity rates. From 1950 to 2000, the amount of people working in sedentary jobs was 76% (Brownson, R.C. et al., 2005). The results from this study may alert staff members who usually sit for longer than 6 hours during work, may result in an increased BMI and increased sedentary lifestyle habits, both negatively effecting their overall health. Employees will receive the survey to complete online using UCO's survey tool, Qualtrics. Once they have completed the survey, 16 participants (8 staff and 8 faculty) will be randomly selected to wear accelerometers. The 16 participants will wear the accelerometers for 4 weeks and record their steps daily. The participant will turn in a daily step log sheet every week for four weeks. This study may determine common trends between individuals who spend large amounts of time sitting compared to individuals whose job duties require more physical activity. This study will compare differences between length of time sitting at work between staff and faculty.

02.03.26 Knowledge of Physical Activity on Campus

TaNiqua Ward, Melissa Powers,

University of Central Oklahoma

Purpose: The purpose of this study is to examine the relationship between the knowledge of physical activity and current physical activity levels among college students. Methods: The study will be conducted through two surveys. One survey will be true or false asking questions about the knowledge of physical activity. The other survey is the short International Physical Activity Questionnaire (IPAQ) that will ask questions pertaining to the student's current physical activity level. All the participants will be students at the University of Central Oklahoma (UCO). Pearson's product moment coefficients will be calculated to determine the relationship between knowledge of physical activity and current physical activity levels using SPSS software. Results: College students that are knowledgeable of physical activity are expected to be more physically active than those that are not as knowledgeable. The results found from this study will be used by UCO health educators to identify target areas for physical activity promotion among UCO students. Conclusion: This study will be beneficial for future studies because it can assist UCO with educating students about the importance of physical activity for health. UCO can begin an intervention with students to target the health consequences of an inactive lifestyle. This will help make students more self aware of their own health and allow students to have healthy lifestyles now and in the future.

02.03.27 Does the Use of the FITBIT Accelerometer Affect Physical Activity Levels?

Ryan Westrup, Greg Farnell,

University of Central Oklahoma

Physical inactivity and obesity are global problems with increasing prevalence. Previous research has demonstrated that the use accelerometers increase physical activity levels. The purpose of this research project is to determine if the FITBIT accelerometer increases physical activity levels. This study will include 20 participants; ten in the treatment group who will wear the FITBIT for 6 weeks and 10 in the control group. Participants were recruited by email from the UCO Employee Wellness Program, UCO Wellness Center staff, and the Kinesiology Department faculty and staff. All participants will complete the Human Activity Profile (HAP) survey to determine physical activity levels pre and post. Data from the FITBIT accelerometer will be obtained weekly from the treatment group. The current hypothesis is that wearing the FITBIT will increase physical activity levels compared to those not wearing the FITBIT. The FITBIT has features that make tracking activity levels easy, allowing one to compete with oneself, and others. Future studies should look into if the FITBIT actually motivates individuals and what factors cause an increase in physical activity levels. Also, studies should look into whether the FITBIT accelerometer is more beneficial at increasing activity levels compared to other accelerometers.