

Western Society for Kinesiology and Wellness
2017 Conference Abstracts

Oral Presentations. Wednesday, October 11, 2017

Cardiac and Perceptual Responses to Performing Tandem Cardiopulmonary Resuscitation. Alex Shafer & Jacob, Montana State University Billings.

Introduction: It is a common recommendation in first response organizations that, if another certified individual is present, tandem cardiopulmonary resuscitation (CPR) should be used in an emergency. Information regarding the physiological and perceptual response of the human body in the act of performing Tandem-CPR relative to Solo-CPR is lacking. Purpose: The purpose of this investigation is to compare rescuer heart rate (HR), rating of perceived exertion (RPE), and CPR quality during Tandem-CPR and Solo-CPR. Methods: Thirteen healthy young adults (aged 26.5 ± 4.3 yrs) volunteered to complete two 6-minute bouts of CPR during a single session. Values for HR and RPE were recorded using a Polar V800 HR monitor and Adult OMNI-RPE scale, respectively. A Laerdal Resusci-Anne CPR manikin was used to record compression scores (0-100%). Results: Significant differences in the HR and RPE responses exist between Tandem-CPR and Solo-CPR. Minute-HR values were significantly lower during Tandem-CPR for all 6 minutes of each bout. Sample mean HR per bout was significantly lower in Tandem-CPR than in Solo-CPR (111.2 ± 16.8 bpm vs. 126.1 ± 19.3 bpm, $p < 0.0001$). Peak RPE was significantly lower during Tandem-CPR compared to Solo-CPR (3.2 ± 2.0 bpm vs. 5.0 ± 2.5 bpm, $p < 0.05$). Compression scores were significantly higher for Tandem-CPR when compared to Solo-CPR ($96 \pm 3\%$ vs. $94 \pm 5\%$, $p < 0.05$). Conclusion: Current findings call for a professional recommendation that tandem CPR be used when available, based on perception, performance, and physiological differences. This confirms professional guidelines. This study does not account for the anecdotally reported stress incited in CPR context; further research should examine this aspect.

A comparison of video conferencing versus in-person health coaching approaches in combination with mHealth devices on weight loss, physical activity, and glycemic control. Kelly Johnson, University of Saint Mary.

Objective: Compare health coaching efficacy on weight loss, physical activity, and glycemic control between individualized video conferencing (VC), in-person (IP) and control (CG) groups of adults with high BMIs. Methods: Thirty adults ($BMI \geq 30$ kg/m²) were randomly assigned to create three groups of 10 members each. Participants received a wireless accelerometer watch and body weight scale to synch with their personal smartphones and downloaded apps. Participants assigned to VC and IP received weekly health coaching individualized based on data uploaded over the 12-wk intervention. Steps/day and weight loss were analyzed via analyses of covariance (ANCOVA). Between-group ANOVAs analyzed post-intervention changes in weight (kg), glucose, HbA1c, and HOMA-IR. Results: VC's weight loss (8.80 ± 3.5 kg; 7.7%) was significant. Weight loss for IP and CG were similar at 2.4 ± 1.6 kg and 2.4 ± 3.1 kg (3.4 and 3.5%), respectively. Steps/day differed between VC and IP at week 4 and between VC and CG at weeks 6, 8, 9, and 11 ($p \leq .05$). No between- group differences were found for any glycemic control markers. Conclusions: Individually-targeted video conferencing sessions with our multidisciplinary team (M.D., R.D. and exercise physiologist) is an effective approach for weight loss.

Tech-App Exchange. Bethany Shifflett, San Jose State University.

We all have our favorite applications and tech tools. Some are an integral part of all we do and quite often are the key to making life manageable. Come to this session to share your favorite and pick up some new tips. The facilitator will lead off with information about a text and/or Socrative and after that it's show and tell time. A great chance to learn from each other! Faculty with a resource they'd like to share information about, just sign up when you arrive. A 1-page information sheet about the software/ hardware/tool will be there for you to fill out so the information can be shared with all conference participants. Each person will have about 5 minutes to describe the resource and how they use it.

Walking with a weighted exercise vest: How much weight do you really need? Jeffrey Bernard, Christian O. Madrigal, Krystle K. Sanders, & Matthew Frazee, California State University, Stanislaus; Yi-Hung Liao, National Taipei University of Nursing and Health Sciences.

Exercising while wearing a weighted vest has become a popular way to increase exercise intensity. Although it is well documented that weighted vests do increase the effort of exercise, it is not clear how much weight should be applied. In the framework of the American College of Medicine (ACSM) recommendations, one should exercise at moderate intensity for at least 30 minutes 5 days per week. Therefore, the purpose of this study was to determine how much weight should be applied to a vest for one to achieve moderate intensity exercise (i.e. 40-50% VO₂max) while walking on a treadmill. Ten recreationally active college-aged students performed a VO₂max test to determine their level of fitness. Next, they completed 5 exercise bouts, randomized on separate days, which consisted of a 15 minute walk (3.1 mph) on a flat surface treadmill in which an exercise vest was either 1) unweighted, 2) loaded with 30%, 3) 40%, 4) 50%, or 5) 60% of body weight respectively. Heart rate, oxygen consumption, caloric expenditure, and metabolic equivalents were determined using a metabolic cart. Based on these metrics we found that a vest weighted to at least 50% of body weight was needed for recreationally active college students to achieve moderate intensity exercise while walking on a treadmill. Thus, it appears possible that one can walk with a weighted vest to meet the ACSM recommendations. However, further research is warranted to determine if this percentage of body weight can be applied to others modes of exercise.

Evaluation of the Video-Based Virtual Exercise Physiology Laboratory. Young Sub Kwon, Humboldt State University; Hosung So, California State University, San Bernardino, Oh Seung Kwon, Arcata High School.

Kinesiology is one of the fastest-growing majors in the country. Exercise physiology is one of the gatekeeper courses of the Kinesiology major. Lab experience is one of the most important parts of this subject; however, most of California state universities may not have enough expensive equipment to provide hands-on lab activities to their Kinesiology major students. Video-based virtual exercise physiology laboratory (VBVEP) could remove enrollment bottleneck challenges for Kinesiology. The purpose of this project was to compare student learning outcomes from VBVEP with that from traditional exercise physiology laboratory activities. Student participants from exercise physiology course were randomly assigned to either experimental group 1 or group 2. Group 1 completed traditional laboratory activities, whereas group 2 completed the VBVEP. Both groups then completed the same assessment to evaluate their understanding of aerobic and anaerobic power laboratory concepts. Mean aerobic power lab activity assessment scores (%) were 80.5 ± 5.5 and 80.6 ± 6.7 and mean anaerobic power lab assessment scores were 81.5 ± 8.0 and 82.0 ± 6.4 for groups 1 and 2, respectively. In this investigation, 50% of the students indicated a preference for the traditional

laboratory activity, and the other 50% of the class either preferred the VBVEP (28.9%) or did not prefer one laboratory type over another (21.1%). Students agreed that the VBVEP was at least moderately educational (21%), but most students thought that the VBVEP was very educational (78.9%). These findings support that VBVEP instructs students as effectively as a traditional laboratory.

Oral Presentations. Thursday, October 12th

Effects of Aerobic and Resistance Training Effects on Short Term Memory. Salina Ramachhita, Bertha Alicia Mendoza; La Sierra University.

Many studies have shown that active participation in physical activity has a strong correlation with high cognitive performance levels. Thus, the interest regarding the effects of movements on cognition and how it affects neurochemistry and the brain has risen. A single bout of aerobic exercise at a moderate level for 30 minutes improves cognition prominently for memory, reasoning and planning. Therefore, our purpose is to investigate the acute effects of both aerobic and resistance training impacts on short term memory.

Vascular Conductance and Peripheral Blood Flow in Individuals with Down Syndrome Following Lower Body Negative Pressure Challenge. Sang Ouk Wee, California State University, San Bernardino; A. Rosenberg, K. Bunsawat, T. Baynard, & B. Fernhall, University of Illinois at Chicago.

Individuals with Down syndrome (DS) commonly exhibit autonomic dysfunction, which contributes to chronotropic incompetence and reduced peak aerobic capacity (VO_{2peak}). Impaired vascular conductance, blood flow, and hemodynamics to sympathoexcitation have been associated with autonomic dysfunction. Lower level of lower body negative pressure (LBNP) has been used to study autonomic function as a controlled stimulus. Purpose: To examine the differences in hemodynamics and peripheral vascular reactivity to sympathoexcitation using hypovolemic lower body negative pressure (LBNP) in individuals with and without DS. Methods: 24 volunteers (DS=12, 24 yrs; Control=12, 23 yrs) participated in this study. VO_{2peak} was obtained via indirect calorimetry by an individualized maximal exercise treadmill protocol. Changes in hemodynamics and vascular reactivity (HR, BP, brachial diameter, blood flow and vascular conductance) were measured before, during and after LBNP (-20 mmHg). Results: Individuals with DS have significantly lower VO_{2peak} (25.0 ± 1.7 vs. 42.5 ± 1.7 ml/kg/min for DS and controls, respectively) and higher BMI (23.1 ± 1.7 vs. 31.9 ± 1.8 kg/m² for controls and DS, respectively) ($p < 0.05$). There were no group differences in hemodynamics at baseline. There was significant interaction in brachial blood flow ($p < 0.05$) and trend to significant vascular conductance ($p = 0.08$) with decreased blood flow and vascular conductance in controls, whereas the group with DS did not exhibit changes with hypovolemic challenge. Conclusions: Our results demonstrate absences of vascular reactivity to sympathoexcitation in individuals with DS. This may indicate that individuals with DS exhibit autonomic dysfunction.

Taking a Stand: The NSCA's Position Paper for Female Athletes and Its Impact on Strength Training Research, 1990-2017. Jason Shurley, University of Wisconsin, Whitewater; Jan Todd, The University of Texas at Austin.

In fall of 1989, the National Strength and Conditioning Association (NSCA) published a position paper titled "Strength Training for Female Athletes" (Holloway, et al., 1989a; Holloway et al., 1989b). The paper's authors asserted that, "due to similar physiological responses, it appears that males and females should train for strength in the same basic way, employing similar methodologies, programs, and types of exercises" (Holloway, 1989b). Further, the authors expressed a "major concern" about the

paucity of research on strength training for female athletes and called for more research that involved higher intensity and more “modern” programs. Nearly a quarter of a century later, one of the few studies that has examined the application of strength training for male and female athletes showed marked differences (Reynolds, et al., 2012). In that study, eighty-six percent of coaches of female athletes said that a different approach should be taken in the design and application of strength programs for female athletes, as compared to male counterparts. Accordingly, female athletes supervised by those coaches were more likely to perform “female preferred” activities like Pilates, yoga, and high volume/low-intensity repetition schemes. In light of the fact that the committee’s recommendations may not be widely implemented among strength and conditioning practitioners, it is worth exploring whether researchers have heeded their call. This paper will explore research on strength and conditioning for female athletes since the NSCA position paper and examine whether gaps remain in the scientific study of training adaptations in female athletes.

Introducing Kinesiology STEM activities in the High School. Judy Schultz, Robert D. Catena, Christopher P. Connolly, & Kasee Hildenbrand, Washington State University.

Authentic scientific research experiences contribute to the recruitment and retention of students in STEM majors (Cervato et al., 2015). Inquiry based learning activities and problem based learning allow students to engage in actively exploring questions relevant to their lives, and increase engagement (Cooper, 2014; Cynarski, 2014). Cooper especially notes that sports can provide salient links to students’ personal identities, which is important for engagement in learning. Kinesiology is an interdisciplinary field of study which lends itself to increasing student engagement in science based inquiry that focuses not only on students’ interest in sport but also relates to their personal health and well-being. We presented hands-on Kinesiology biomechanics, motor control, and exercise physiology labs which focused on sport related questions to two high school classes. Compared with two similar control classes we expected to improve science engagement, understanding of scientific process, and awareness of Kinesiology as a science. Results indicated that we were able to achieve the last goal within one semester. However, results on science engagement and scientific process knowledge were mixed, and likely reflected the complex nature of educational engagement and thus scope of the measures used, and limitations on the length and size of the study. We discuss ways to improve measurement and implementation of the program on a larger scale within the high school science and mathematics program.

Disability: The interconnection of beauty, body, and perception. Aubrey Shaw & Sharon Kay Stoll, University of Idaho.

Can people with disabilities be physically beautiful? Ancient Greeks held beliefs about physical beauty, which spread through many generations and through different cultures into modern times. We as a society hold implicit biases that effect how we view others and ourselves. For example, we have biases about beauty and we have biases about people with disabilities which all arise from perceptions. The perception of beauty affects everything all around us from objects to humans. Traditionally, culturally, and philosophically, athletes are beautiful because the movement of their body and physique. However, are athletes with physical impairments considered as beautiful? Hopefully, the presentation will create cognitive dissonance and will result in participants who: (1) are more informed, (2) leave with strategies that can be taught to others, (3) evaluate their own implicit bias, and (4) have a greater appreciation of competitive beauty in impaired populations.

The Analysis of Post-Running Event Surveys: "Cemetery Hill Won't Bury Me". Andrea Ednie, University of Wisconsin, Whitewater.

Participation in the Discover Whitewater Series Half Marathon, 5k, and Kids Run continued to increase for the 4th annual event during September, 2016. The 700+ participants race is a focal community event in Whitewater, WI, (city population 15,000; university enrollment 12,600). The post-race participant survey provides feedback pertinent to race planning. The 2016 survey made evident that participant ratings of the course (race course design and challenge) had decreased, with the proportion of participants who rated the course as "excellent" dropping from 66% to 51% over 3 years. The majority (78%) of open-ended explanations for the course evaluations cited the hilliness of the course (either as a welcomed challenge, or because they felt it was overwhelming). A key finding was that the traditional college age students rated the course significantly worse as compared with the other (older) age groups ($F(5, 170)=4.96, p<.001$). Moreover, a comparison of the participant demographics between 2014-16 indicated that representation of the college student demographic had significantly increased, from 6% in 2014 to 19% in 2016 ($F(1, 353)=8.39, p<.01$). This presentation relates theoretical applications to the identified demographic patterns in order to provide the opportunity to implement targeted interventions. Additionally, race planning implications, including strategies to improve participant perceptions of the course in preparation for the 2017 race (September 17, 2017), will be presented.

Adapted Aquatic Skills Program for Children with Autism and Autistic Related Spectrum. Walter L. Malsbary, David A. Kinnunen, Dawn K. Lewis, & Justine J. McAlpine, California State University, Fresno.

Data from the Center for Disease Control and Prevention (CDC) indicate two children 14 years and under die every day from drowning. Drowning is the third leading cause of all deaths for children ages 1 to 4. (cdc.gov/media/subtopic/matte/pdf/summer_swim.pdf). For every child in this age group who drowns, five more survive after receiving some sort of emergency care. However, survival doesn't indicate a lack of serious harm. A child who lives through a severe drowning episode may sustain permanent brain damage that leads to issues such as learning disabilities, memory malfunctions or even loss of the ability to think and/or move. The CDC identifies a variety of factors that can influence drowning risk, the most prominent being lack of swimming ability. According to the National Autism Association, drowning is a major cause of death in persons with autism spectrum disorder (ASD) and autism related spectrum (ARS) disorders. In this group, drownings accounted for approximately 91 percent of total U.S. deaths reported in children with autism. The purpose of this project was to develop a specialized swimming program for use in local public and private settings, schools (K-12), colleges, and universities to help insure individuals with autism or ARS survive in an aquatic environment. Additionally, swimming instruction can offer autistic individuals the chance to learn 'life lessons' (activities of daily living), improve speech, social skills, self-esteem, cognitive processing and related fitness components. CDC reports autism and ARS are on the rise, further justifying the need for adapted aquatic programs.

Implicit Bias of Pre-Professionals in Kinesiology. Mindy Rice & Sharon Kay Stoll, University of Idaho; Jennifer M. Beller, Emeritus, Washington State University

Health professionals generally wish to help others meet their personal health/fitness goals. Unfortunately, research documents that health professionals are negatively biased towards overweight/obese individuals, and the longer professionals are in the field the more biased they become. Using the Anti-Fat Attitudes Questionnaire (the possible range of scores is 3-27), we surveyed 75 pre-professionals in two different college classes, to measure explicit fat bias. We analyzed the

results by gender and class. Unlike the present literature, we found no significant difference by gender or class on the dislike scale toward obese individuals. A significant difference was found by gender on Fear of Fat $F(1, 72) = 6.0, p = .016$. Females ($M = 17.0 + .86$) scored significantly higher than males ($M = 13.8 + .99$). A significant difference was found by class on Fear of Fat $F(1, 72) = 4.32, p = .04$. The 200 level class ($M = 16.79 + .91$) had significantly higher scores compared to the 400 level course ($M = 14.0 + .91$). In this population, women appear much more concerned and have a fear of being fat compared to men. It also appears regardless of gender in the 200 level class that they have an elevated fear of fatness. This presentation will examine this data in relation to the literature and offer possible solutions to address fat bias perspective in pre-professionals.

Faculty Poster Presentations

Relationship between Physical Activity Guidelines Knowledge and Physical Activity Behavior among College Students in South Texas. Soojin Yoo & Jung-il Oh, University of Texas, Rio Grande Valley; Bounjin Kang, Elizabeth City State University; Yoonsin Oh, University of Wisconsin, Eau Claire; Hosung So, California State University, San Bernardino.

Purpose: To establish a baseline of what the current knowledge of physical activity (PA) guideline and PA level are at based on a college-aged population in South Texas predisposed to obesity and diabetes. Chronic diseases such as coronary heart disease, stroke, type 2 diabetes mellitus, and obesity plague Americans and are linked with physical inactivity (Mokdad et al., 2004). The Southern region of Texas, specifically Mexican-American population, has been found to contain the highest percentage of the prevalence of obesity (Duran-Gonzalez, et al., 2011). **Methods:** Using a cross-sectional descriptive design, focus was on assessing PA guideline knowledge and PA level. Study participants were 151 Hispanic college students between the ages of 19-30 years of age. Participants completed a questionnaire designed to measure knowledge about PA guideline and their PA level. From the questionnaire developed and adopted by Morrow et al. (1999), 18 items assessed students' knowledge about PA guideline. Sample respondents were categorized based on PA level and PA guideline using correlations. All data analyses performed using Statistical Package for Social Science version 21.0 (IBM, 2012). **Results:** The relationship between PA guideline and PA level was investigated using Pearson product-moment correlation coefficient. There was a positive correlation between the two variables, $r = .28, n = 151, p < .01$, with high PA guideline knowledge associated with high levels of PA level. Also, correct answer rates were varied on each concept. Participants did not appear to know about PA guideline. The overall mean was 12.88 out of 18 (71.6%). **Conclusion:** The prevalence of diabetes and cardiovascular disorders is high in south Texas. To educate young Hispanic students that knowledge about PA benefit and regular PA behavior can reduce risks for the development of chronic diseases.

Pre-service Classroom Teachers' Pedagogical Content Knowledge for Teaching Fundamental Motor Skill. Seung Ho Chang & Jihyun Lee, San Jose State University.

The ability to transmit teacher's subject matter (Content Knowledge) to their students in various ways (Pedagogical Knowledge) is the most important component to be an effective teacher in physical education (Ayvazo, Ward, & Stuhr, 2010). Shulman (1987) blended the concept of content knowledge and pedagogical knowledge and defined those two concepts as pedagogical content knowledge (PCK). The findings from many studies supported the notion that content knowledge is strongly related to the development of PCK. Despite these research efforts, there has been limited research conducted with pre-service classroom teachers who want to add physical education as one of their subject areas and teaching basic motor/fundamental motor skills (FMS) a major content in an elementary PE setting,

specifically lower elementary. Therefore, the purpose of this study was to examine the effects of a course organized based on common content knowledge (CCK) and specialized content knowledge (SCK) for teaching FMS to improve PCK of pre-service classroom teachers. Descriptive statistics (i.e., means and frequencies) were used to analyze teachers' teaching behaviors. Cohen's "d" (1988) was utilized to report effect sizes of teachers' PCK. The results showed that teachers' PCK variables changed as a function of the teachers' CK (effect sizes ranged from 1.49 to 6.23) and changes of teacher's PCK such as task representations and demonstrations prior to and following the course will be discussed in the presentation.

A Study on Violent Crimes to University Students in America – What Contents Should Be Included in University Self-defense Curricula. Gong Chen, San Jose State University.

This study investigated violent crimes targeted at college students in America and the self-defense behaviors of these students during attacks. The purpose of this study was to provide a comprehensive view of crime patterns and to use the results as a new scientific base for designing self-defense curricula for students in universities. The content analysis technic was used as the research method to analyze cases that were reported in newspapers and on the internet in recent years, based on six categories: murder, rape, aggravated assault, robbery, kidnapping, and shooting. Each case was analyzed based on designed and open categories. The results indicated that violent crimes happened to college students in all academic status and age groups. About 84% of female victims and 61% of male victims were attacked when they were alone, and the top three consequences included death, rape, and severe injuries. Most attacks occurred on campus (43%), in their residence (32.3%) and on the street (17.4%). Many victims (59.3%) were attacked by a single attacker and 20.6% by multiple attackers. About 93% of attackers were males, including strangers, dates, classmates, and/or roommates. Attacking pattern used commonly was sudden attacks, firearms, knives, blunt objects, and strong arms. The results provided a scientific base for university self-defense education. Examples of recommended curricula contents based on this study included 1) mental strategies on prevention and on-site handling of different violent crimes, and 2) physical skills to counter sudden attacks, strikes, throws, grabs, floor attacks, and weapon attacks.

Market Valuation of Playing Talent as Learning Platform: Comparative Analysis of MLB and Korean Baseball Salary Arbitration. Sungho Cho, Bowling Green State University; Seok-Pyo Hong (Corresponding Author), Kangwon National University; Howon Jeong, Kyungpook National University; Jongyeol Lee, SBS Broadcasting Group.

This project explores how sport science majors would learn the concept of market valuation by using baseball arbitration procedures. The study compares the Major League Baseball ("MLB" hereafter) and Korean professional baseball ("KBO" hereafter) salary arbitration systems and demonstrates how to incorporate them into learning environments. The MLB Salary Arbitration is governed by the MLB Collective Bargaining Agreement. The procedure has been regarded as one of the most crucial pieces of labor relations in the league. In the MLB arbitration, mostly, the players who have three or more years of service but less than six in the league are eligible. The system only determines one-single year salary. The KBO has also adopted an arbitration system to resolve impasses between teams and players. Because the system has not been settled between the league and players' association (not a certified union), there are various procedural ambiguities. Specifically, while the MLB system has provided parties with a set of procedural guidelines, the KBO system could not give such information. This project compares the MLB and KBO systems in terms of the procedural aspects and league-union dynamics. It expounds how the lack of market valuation methodology in the KBO system has resulted in unfair and arbitrary outcomes based on case analyses. Additionally, the study suggests how the

dispute resolution systems would be used as pedagogical platforms for sport science majors to learn the concept of market-based valuation.

An Analysis of Consumption Expenditure Determinants in Marine Sports. Euiyul Choi, Woojeong Cho, Haedong Ha, Shinbeum Kang, & Dahye Jang, Korea Maritime & Ocean University; Jeongwon Choi, University of New Mexico.

Purpose: Demand of developed countries for tourism shifts from land-based to marine tourism. This phenomenon occurs when GDP increases by more than \$ 10,000 to \$ 20,000. Based on recent domestic circumstances, government and municipalities are fostering the marine sports industry by recognizing marine tourism as a future growth engine. Purpose of this study was to analyze determinants of consumption expenditure in marine sports, which operationally includes 25 types of water based sports mentioned in the Water Leisure Act (2016) and provides fundamental marketing information that help attract consumers and increase profits for marine sports businesses. **Method:** Data from convenience sample of 303 consumers in B metropolitan city of South Korea were analyzed using a binary logistic regression method. According to Cho & Choi (2016), average consumption expenditure of a marine sports consumer was set at 43.5 dollars. Consumption expenditure (dependent variable) was analyzed as dichotomous data (more than 43.5 dollar or less than 43.5 dollar). Independent variables included gender, age, education, income and residence, and motivation for marine sports participation. **Results:** Age and residence were found to be the significant determinants of consumption expenditure. For age, 40s were 5.809 times more likely to spend more than 43.5 dollar in marine sports than 50s or older. However, other age groups such as 20s and 30s had no significant influences on the amount of consumption as compared to 50s. For residence, western residents, compared to easterners, were .261 times less likely to spend more than 43.5 dollar in marine sports.

Exploring motivation factors for university selection of non-revenue sports athletes. Wanyong Choi, Marshall University; Yong Chae Rhee & Tae Ho Kim, Washington State University; Min Kil Kim, Troy University; Wonyoung Kim, Wichita State University; Jinwook Chung, Winthrop University.

The purpose of this study is to determine the influential factors in the decision-making process recruited non-revenue student-athlete use as they select a university and athletic program to attend. Most previous researches on analyzing factors to influence on college selections was conducted via quantitative approaches; however, it failed to provide descriptive language or encounters that could be associated with personal values and motivations. Thus, the current study utilized a qualitative research design through semi-structured interviews to discover influential factors comprehensively. A total of 10 student-athletes who were recruited by multiple universities for playing to non-revenue sports in the Northwest region of the U.S. Upon the completion of the semi-structured interviews, all audio recordings were transcribed and categorized by utilizing the In Vivo Coding process. The influential factors discovered through this research were looked through the self-determination theory to determine if these influences stemmed from internal or external motivations. The results indicated the financial assistance (e.g., scholarships), athletic amenities (e.g., facilities, conference and big-time sport), academics (e.g., tutors, classes, degree and career), coaching style, team culture, familiarity, belonging, campus aesthetics and social atmosphere (e.g., welcoming, comfortable, campus, fun and being part of a team) were considered as critical motivational factors and could be classified as an internal and external factors. The findings of this research revealed how important and persuasive internal and external factors are for potential student-athletes when making their decisions to select a specific university for attendance.

University Students' (Sport Management Majors and Others) Perceived and Experienced Challenges and Benefits to Studying Abroad. Jinwook Chung & Seth Jenny, Winthrop University; Yong Chae Rhee & Tae Ho Kim, Washington State University; Min Kil Kim, Troy University; Wonyoung Kim, Wichita State University; Wanyong Choi, Marshall University.

Interest in studying abroad has grown amongst United States (U.S.) college students. In the 2013-2014 academic year, the number of American college students studying abroad increased 5.2% from the previous year; from 289,408 students to 304,467 students (NAFSA, 2016). Although study abroad experiences are continuing to grow in popularity, only about 1.5% of all U.S. college students study abroad (NAFSA, 2016). The U.S. government is attempting to increase the number of students studying abroad annually to one million by 2017 through a bipartisan federal commission established by President Bush and Congress in 2005 (Stroud, 2010). This study examined the perceived challenges and motivators to studying abroad for university students who had not previously studied abroad. Results indicated that "lack of interest", "lack of knowledge of opportunities", "being too far away from family", and "course requirements of existing curriculum" were significant perceived challenges, while "overall life experience", "personal development", "opportunity to live in a foreign country", and "support of academic advisor" were significant perceived motivators to studying abroad for participants with no study abroad experience. Group comparisons on gender, class year, and length of study abroad trips were also examined. Additionally, this study investigated the experienced challenges and benefits to studying abroad for university students who had previously studied abroad. "Finances" and "language" were biggest challenges for this group while "opportunity to live in a foreign country" and "personal development" were biggest benefits experienced from studying abroad. Implications and recommendations for study abroad organizers are discussed.

Purchasing Impulse of a TV Basketball Broadcasting Program. JoonYoung Han, Yeungnam University, S. Korea; Minyong Lee; North Carolina A&T University; Junyoung Cho, University of Connecticut; Jongyeol Lee, SBS Broadcasting Company, S. Korea.

Topic: People often experience purchasing impulse to a certain degree while they are exposed to certain media contents, and television commercials have been great tools to increase viewers' purchasing impulse. Previous research has found that sport contents generally increase purchasing impulse, and diverse TV advertisement forms including direct commercial advertisements, sponsorship signboards, endorsements of athletes, and indirect advertisements affect onto viewers' purchase behaviors. However, scarcity of research has reported findings focused on performance-oriented viewers who regularly participate in a basketball club with high loyalty, although previous studies have shown significant results related to general TV viewers. **Purpose:** To evaluate the purchasing impulse of TV viewers who participate in a basketball club. **Methods:** Eighty adult males participated in this study, and were assigned randomly into two groups: experimental ($n=40$) and control ($n=40$). Only the experimental group watched a TV basketball program; but the control group did not watch the program. Their purchasing impulse were examined before and after the TV program for both groups. Independent sample t -tests were conducted to verify differences between the groups ($\alpha=.05$). **Results:** There were no significant differences between the groups on the four factors of purchasing impulse which include indiscreet purchasing, impulse purchasing, planned purchasing, and unplanned purchasing. Also, no significant difference was found in pre and post comparisons on the four factors. The results show that a TV basketball broadcasting program did not have any impact on purchasing impulse of basketball club participants.

Exploring Middle Career Collegiate Physical Activity Instructors' Professional Development and Changes. Boung Jin Kang, Elizabeth City State University; Minhyun Kim, Bridgewater College; Jun-Hyung Baek, University of Maine.

Background/Purpose: The purpose of this study was to examine the process of professional development and collegiate instructors' change in relation to curricular and instructional reform through the introduction of *Siedentop's* Sport Education (SE) Model. **Method:** Five middle career collegiate PE activity course instructors', 2 female and 3 male instructors, participated in this study. All five instructors were interviewed four times individually, for this study in particular. The open-ended items (e.g. class observations, informal interviews, and teachers' journals) and formal interview data are analyzed using the constant comparative method. **Analysis/Results:** All of the instructors concurred that the SE workshop provided new ideas and improved their pedagogical knowledge. Every instructor recognized the benefit of the SE curriculum model (i.e. students' responsibility, leadership, and actual involvement). At the end of the season, all instructors pointed to some positive outcomes from the SE curriculum model such as student ownership in it, fitness training, and duty teams, but they also commented on negative aspects of the SE curriculum model that implementing the new model took too much time at the beginning of the season. **Conclusions:** Despite much positive evidence, the major finding was that every instructor recognized the positive aspects of the SE model: the pressure the students applied to each other to attend class, the increased levels of student participation, the students' improved social behavior and leadership, and the students' enjoyment of the unit. While all instructors were collaborative, reflective, enthusiastic, and more certain about the model and likely advocates of SE model.

Strategies to improve the quality of physical activity classes in college. Minhyun Kim, Bridgewater College; Boungjin Kang, Elizabeth City State University; Hosung So, California State University, San Bernardino.

Physical activity classes in college play an important role in teaching skills and strategies. Students can also improve fitness levels by participating in various sports. Therefore, it is important to provide quality physical activity classes. In addition, instructors are continually being asked to find effective ways to teach classes. The main purpose of this study was to provide detailed ideas to enhance the quality of physical activity classes in college. This study was done by interviewing 13 physical activity instructors who have been teaching at least four years in college. All interviews were recorded and the constant comparative method and coding method were employed. The study findings revealed several practical strategies to enhance the quality of physical activity classes. First, the main goal of the class was not only to improve students' motor and physical skills, but to promote affective and cognitive domains. Second, evaluation was derived from multiple resources, including attendance, physical skill test, presentation, writing paper, and exam. Third, there was an educational support for students with disabilities to participate in the class. Fourth, instructors ensure safety and risk-management issues by obtaining consent form and medical history form. The results can offer practical guidelines for those who prepare and teach physical activity classes as well as those who manage instructors.

A Therapeutic Exercise Program for Young Adults with Disabilities: Kinesiology Students' Service-learning Project. Jihyun Lee, San Jose State University; Trenton H. Stewart, San Francisco State University.

Health-related issues due to physical inactivity in adults with disabilities have been addressed in literature. Unfortunately, young adults with disabilities who are in community-based transition programs often do not have enough opportunities to participate in physical activity (e.g., physical education or adapted physical education). This presentation aims to introduce a university-based therapeutic exercise program, which was designed and used as a pilot service-learning project for undergraduate kinesiology students to achieve social justice by providing diverse movement experiences to young adults with disabilities. Eight participants took part in the program and all of them had developmental disabilities such as an intellectual disability, autism and orthopedic impairments. The program was held once a week for one hour in a large padded room. Undergraduate students worked one-on-one with the participants and were expected to learn: a) the importance of physical activity for this population, b) social justice issues related to physical activity of transition aged students, and c) how to motivate the participants to be physically active. This presentation will share diverse physical activity needs of the participants and types of physical activity that were helpful. Future recommendations were made to advocate physical activity for young adults with disabilities in community-based transition programs.

Pre-Service Physical Educators' Emotional Reaction to Challenging Behaviors. Hyun-Kyong Oh, California State University, San Bernardino; Jaewon Lee, Yong-In University

The purpose of current study was to examine predictors of Korean pre-service physical educators' emotional reaction toward challenging behaviors of students with disabilities. Participants were, 431 pre-service physical educators (319 males; 112 females; $M = 22.53$ years, $SD = 2.66$), asked to fill out the *Emotional Reaction to Challenging Behavior scale- Korean* (Oh, Seo, & Kozub, 2010). Prior to regression analyses, the exploratory factor analysis (EFA) was conducted to explore feasible factor structure and loading of the scale using SPSS 24.0. Following data reduction, the subscales identified as "Fear/Anxiety" and "Responsible" were regressed on key predictor variables (Behavior management class, APE related classes, Volunteer experiences, and Confidence) using multiple regression procedure. The EFA using principal component analysis method resulted in a five-factor (Depression, Positive, Fear/Anxiety, Confused, and Responsible) scale explaining 63% of the variability. The results of the regression of all four predictors produced $R^2 = .035$, $F_{(4, 426)} = 3.86$, $p < .05$ for "Fear/Anxiety" emotional reaction. Another regression results indicated that the overall model significantly predicts "Responsible" emotional reaction, $R^2 = .095$, $F_{(4, 426)} = 11.15$, $p < .01$. It was found that only Volunteer Experiences ($\beta = .125$, $p < .05$) statically predicted for "Fear/Anxiety" emotional reaction and Volunteer Experiences ($\beta = -.157$, $p < .05$) and Confidence ($\beta = .118$, $p < .05$) statically predicted for "Responsible" emotional reaction. Findings indicated that volunteer experiences are a predictor of negative "Fear/Anxiety" emotional reaction and confidence is a predictor of "Responsible" emotional reactions to challenging behavior.

Relationship of Psychological Needs to Exhaustion in Athletes with Disabilities according to Coaching Behavior. Hyun-Kyoung Oh, California State University, San Bernardino; Jae Won Lee, Yong-In University; Hunhyuk Choi, Dankook University; Jae Kwon Yoo, Kyonggi University; Jong Kyung Lee, Kyonggi University.

The purpose of this study was to examine the structural relationships of psychological factors perceived by athletes with disabilities, which were autonomy-supporting coaching behavior, controlling coaching behavior, basic psychological needs, self-determination motivation and exhaustion, on the basis of related sport theories and the results of earlier studies. The subjects in this study were 504 selected athletes who participated in the 34th National Para Games and the 12th National Winter Para Games (M age=31, $SD=5.17$, Female=142, Male=362). Participants were asked to

fill out the questionnaire (30-items on a 5-point Likert-type scale and 41-items on a 7-point Likert-type scale). A pilot survey was implemented, and then a main survey was conducted. Descriptive statistics, principle component analysis, Cronbach's alpha estimates for reliability analysis were conducted. Further, a confirmatory factor analysis (CFA) and the structural equation modelling (SEM) were used to evaluate the goodness of fit of a path model. The results of the CFA and the SEM showed acceptable model fit for a six-factor model based on commonly accepted fit indices including RMSEA (.07), CFI (.94), TLI (.93), and $df=153$. All indicated good fit of the model. The findings of the study that investigated the process of exhaustion among athletes with disabilities in association with the behaviors of coaches and from a psychological perspective are expected to make a contribution to the prevention of possible exhaustion and to provide useful information on how to bolster the athletic performance of athletes.

Effects of a 5-week Summer Program on Total Antioxidant Status and Inflammatory Markers in Hispanic Adolescents. K.S. Park, Texas A&M International University.

The purpose of the study was to determine the effects of 5 weeks of summer school program including 2-hour exercise per day on total antioxidant status and systemic blood inflammation and in Hispanic adolescents. Fifty-three high school students were recruited. Twenty-seven students were assigned to the summer school attendant group (SA) and completed summer school program with 2-hour exercise daily for 5 weeks and 26 students were in non-summer school attendant group (NSA). Total antioxidants, plasma tumor necrosis factor alpha (TNF- α), and C-reactive protein (CRP) were measured immediately before and after summer break. One-way ANCOVA was used to determine differences in TNF- α , CRP, and total antioxidant changes between the groups. As compared to before summer break, total antioxidant concentration was elevated in the SA group after summer break, compared to the NSA (2.13 ± 0.4 mM/L vs. 1.84 ± 0.3 mM/L, respectively $P=0.011$). TNF- α was decreased in SA group, compared to the NSA (7.64 ± 2.1 pg/ml vs. 8.26 ± 2.1 pg/ml, respectively, $P<0.001$). CRP level was reduced in the SA group, compared with the NSA (7.5 ± 0.6 mg/L vs. 8.1 ± 0.6 mg/L, respectively, $P=0.0027$). The 5-weeks summer school program may enhance antioxidant defense system and ameliorate systematic inflammation in underprivileged Hispanic adolescents due to its structured environment, restricted food access, and scheduled time for exercise as well as by minimizing effects of their psychosocial outcomes. Results indicated that non-summer school attendants may need comprehensive intervention for psychosocial outcomes and nutritional education to maintain antioxidant defense system and immune function during the summer break.

Women Coaching Women - A Model of Sports(wo)manship? Heather Van Mullem, Lewis-Clark State College; Sharon Kay Stoll, University of Idaho.

The purpose of this poster on "sports(wo)manship" is to address the need for a care-giving women's coaching philosophy in athletics. The 1972 passage of Title IX changed the landscape of participation opportunity in athletics for girls and women. However, the change also negatively affected first, the number of women coaching and second, the moral development of girls and women. This poster reviews these issues as well as offers an action plan to address the need for a model of sports(wo)manship in education, training, and coaching.

Hemodynamics and Arterial Stiffness in Individuals with Down Syndrome. Sang Ouk Wee, California State University, San Bernardino; K. Bunsawat, A. Rosenberg, T. Baynard, & B. Fernhall, University of Illinois at Chicago.

Individuals with Down syndrome (DS), also known as accelerated aging condition, commonly exhibit autonomic dysfunction, which contributes to reduced peak aerobic capacity (VO₂peak). Low level of VO₂peak is related to further health issues and future CVD risk. Arterial stiffness, pulse wave velocity (PWV), is an independent risk of coronary artery disease and future cardiovascular disease (CVD). Autonomic dysfunction in DS may differentially affect arterial stiffness in DS. **OBJECTIVES:** The purpose of this study was to investigate the differences in hemodynamics and arterial stiffness in DS measured by ambulatory blood pressure monitor (ABPM). **METHODS:** 40 individuals with and without DS (DS=20) participated in the study. Participants were rested for 10 minutes in a quiet room before hemodynamics and arterial stiffness (PWV) were measured. Hemodynamics and PWV were measured using mobilograph ABPM. Peak aerobic capacity (VO₂peak) was measured by maximal exercise test on a motor-driven treadmill. One Way Analysis of Variance (ANOVA) was performed to investigate differences in hemodynamics and arterial stiffness between DS and non-DS controls. **RESULTS:** (See table) DS group has significantly shorter height, larger BMI and lower VO₂peak compared to control group. (p<0.05) However, there were no statistically significant differences in hemodynamics variables including SBP, DBP, and MAP. Furthermore, PWV was not different between DS and controls. **CONCLUSIONS:** The results suggest that individuals with DS do not differ in hemodynamics and arterial stiffness compared to non-DS controls.

The urgent needs and desire of students for self-defense education in Chinese universities.

Fei Xie & Jing Zou, Shandong University; Liu Liu, Shenyang Sport University.

The purpose of this research was to investigate university students in China on their real life experience of becoming victims of violent crimes, their awareness of becoming victims, their self-confidence on preventing and handling crimes and attacks, and their interest and desire in learning self-defense in physical education classes. A total of 644 college women and 288 college men in a comprehensive university, and 58 college women and 89 college men in a physical education college took the survey with the validity and reliability at .05 level. The results indicated that 5-10% of college students in China experienced different types of violent crimes and thefts, while about 70% of students had a lack of awareness on their own chances of becoming victims. Most female students did not have self-confidence on preventing and/or handling violent crimes and attacks. About 95% of female college students and 85-87% of male college students showed a desire and interest in learning self-defense. The results suggest that self-defense education is absolutely needed for university students in China, and self-defense classes should be offered as a part of higher education in China.

Student Poster Presentations

Research Critiques

Skin Tone Linked to Fruit and Vegetable Intake. Uyen Tang; La Sierra University. Dietary sources of carotenoids originate from fruit and vegetables, this increases the yellowness and redness in our skin color. The purpose of the reviewed study was to compare the color changes in the skin between the intervention group (carotenoid-rich fresh fruit smoothie) and the control group (mineral water).

Blood Flow Restriction Improves Vascular Circulation. Nicholas Ruelas, Rachele Rapanut; California State University, San Bernardino. Blood flow restriction (BFR) may improve vascular endothelial function and peripheral blood circulation in healthy elderly people. The purpose of the reviewed study was to compare baseline measurements with post-training measurements after 4 weeks BFR resistance training.

Effects of Motivational Music Video on High-Intensity Exercise. Gregory Huffman, Hosung So; California State University, San Bernardino. The combined effect of motivational music and video may have an ergogenic effect on high intensity exercise. The purpose of the reviewed study was to determine the effects of using a motivational music and video intervention during a high intensity exercise routine.

Dance Therapy on People with Parkinson's Disease. Ro-Anne Khrystel Galleta; San Jose State University. Participating in Dance Therapy (DT) classes may have a rehabilitation effect on motor functions, cognitive functions and mental symptoms of PD. The purpose of the reviewed study was to compare the impact of dance therapy in patients with symptoms of Parkinson's Disease (PD) when compared to PD exercise interventions and a control group by examining each participant's gait, balance, memory, execution, attention, motor imagery, and symptoms of depression and apathy.

Modifications on the Traditional Daily Undulating Periodization. Joseph Quiroga, G. Escalante; California State University, San Bernardino. This study compared the effects of a traditional daily undulating periodization (DUP) strength training program versus a modified DUP program on one-repetition maximum (1RM) strength in the primary powerlifting lifts (squat, bench press, and deadlift), total volume (TV) of weight lifted, and temporal hormonal response.

Decreasing Student Obesity through School-Based Intervention. Abraham Elizarraras, C. Gentry, Hosung So; California State University, San Bernardino. A decrease in student obesity has been shown in studies that have included school-based interventions focusing on health. The purpose of the reviewed study was to see if changes to a low-income school district's meal plan, physical education curriculum, and equipment would improve the students' weight status over a three-year period.

Physical Activity's Influence on Academic Performance. S.Y. Sanford, C Gentry, Hosung So; California State University, San Bernardino. Physical activity may improve some components of Executive Function (EF) in young children. The purpose of this reviewed study was to discover if the amount of time spent in Physical Activity (PA) compared to sedentary behavior effects inhibition, working memory, cognitive flexibility, and planning processes.

Reduced Falls Risk in Elderly with Osteoarthritis by Aquatic Exercise. M. Luscombe, Hosung So, C. Gentry; California State University, San Bernardino. The purpose of the reviewed study was to investigate the effectiveness of a water-based exercise program (WBE) specific to training the balance of older adults with osteoarthritis (OA) to improve falls risk while improving measures of balance and general physical competence.

Knowledge and Value Improvement in Physical Education. L. Marin, C. Gentry, Hosung So; California State University, San Bernardino. Using Physical Best concept-based units may be an effective way of promoting exercise principles and knowledge of energy balance in physical education (PE). The purpose of the reviewed study was to examine the effects of using physical best lessons to promote adolescent knowledge of energy balance and exercise principles, as well as their perceived task values of PE.

Literature Reviews

Psychological Health after Abortion. Rachel A. Scales, Lydia Boampong; La Sierra University. There is much debate regarding the psychological effects of abortion. Recent research suggests that abortion

does not yield negative psychological effects and can even improve quality of life, specifically self-esteem. This review will examine the relationships between abortion experiences (a situation in which one seeks an abortion) and quality of life. Additionally, it will discuss the possible sources of the negative psychological effects that may accompany an abortion experience.

The Dangers Pesticides on Children. Brittany Whitney, Arlyne Flores; La Sierra University. Children in the United States are taking in higher levels of pesticides while their bodies are still developing and are unable to protect themselves. This causes problems such as autism spectrum disorder (ASD) and developmental delay (DD) due to agricultural pesticides, neurodevelopment issues, and an increased risk of ADHD.

Cell Phone Electromagnetic Radiation Risks. Linda Machen, Alexis Robles; La Sierra University. It is important to raise awareness of the risks of cell phone usage due to the increase of internet connectivity. The research review focused on three areas: cell phone usage and Electromagnetic radiation (EMR) exposure in passive use, glioma risk in different age groups, and child growth impairment and brain tumors.

Effects of Melatonin Supplementation. Eric Chen, Christian Zane; La Sierra University. In America, over 40 million people suffer from sleep and wakefulness disorders. Due to the high volume of sleep disorders present in society, over-the-counter melatonin has shown promise in effectively treating sleep-wake cycle disorders. The purpose of this review is to identify the effects of melatonin created in the body, determine if supplementing melatonin aids sleep, and recognize health and behavioral benefits.

Effects of Lycopene on Prostate Cancer. Samuel Bolivar, Johannah Macy; La Sierra University. Prostate cancer accounts for 10% of all cancer diagnosed in the United States (National Cancer Institute, 2016). Lycopene, a carotenoid found in tomatoes, has become a focal point in the prevention of prostate cancer. This review examined how prostate cancer can be affected by lycopene through apoptosis, proliferation, adhesion, inhibition, and diet

Biological Factors Correlating to "The Zone." Ivan Vegar, Jason Daniel, La Sierra University. The human body is capable of many fascinating endeavors. In sports, the limit of human possibility is challenged and is passed with the upmost focusing on a state of mind known as "the zone." Many biological factors researched have been found to influence an athlete's ability to surpass their limits and achieve this state of mind.

The Effects of Weather on Mood Changes. Hannah Loaisiga, Daniel Flores; La Sierra University. Weather has seemed to play an important role in how people feel throughout the day. People expect to have a positive mood on warm and sunny days, while rainy and cloudy days seem to bring out negative moods. This review will investigate how does weather affect a person's mood.

Nutritional Value: Whole Fruit vs. Fruit Juice. Natalia Gallo, Cassandra Savala; La Sierra University. Americans consume fruit in two major ways: whole fruit and fruit juice. There are outweighing benefits of whole fruit over fruit juice. These benefits include higher nutritional value, higher quality, and decrease risk of health implications. This review will compare the differences between whole and regular fruit and its impact on overall health.

The Effects of Music on Exercise Performance. Leena So, Seoyoon Jeon; La Sierra University. Numerous studies have determined the correlation between music and exercise. Music have been found to positively affect the individual's exercise experience. This review addresses the impact music has in enhancing exercise performance and perceived enjoyment, and discusses three musical attributes: tempo, genre, and rhythm, that would further reinforce one's exercise experience.

Variations of Student Health and Wellness. Shawna Roderick, Hannah Yaghoubian; La Sierra University. Many studies have been conducted to determine the overall health habits and physical wellness of university students. When comparing health-related majors (HM) and non health-related majors (NHM), significant differences were not found in the overall wellness between students enrolled in HM or NHM. These differences are evident when comparing the body mass index (BMI), daily recommended fruit and vegetable intake, and physical activity of the two groups.

The Effect of Outdoor Exercise on Performance and Health. Kristy Elliott; University of Wisconsin Whitewater. Aerobic exercisers consider a variety of factors to choose their regular workout environments. However, choosing an outdoor environment over an indoor environment has been shown to be a more effective option for these athletes both physically and psychologically. Therefore, this review will focus on the effects of outdoor exercise and its impact on performance and health.

Benefits of Yoga on Exercise Induced Asthma. Alexa Dralle; University of Wisconsin Whitewater. Exercise-induced asthma is a disease that affects breathing during activity and is accompanied by a variety of symptoms including bouts of coughing, wheezing, shortness of breath, and chest tightness. Studies have shown that yoga can act as a supplemental treatment for improving pulmonary functions, reducing asthma symptoms, and decreasing the need for drugs. Therefore, this paper will review the impacts of yoga on symptoms of exercise induced asthma.

Causes of Tooth Decay of Young Children. Boram Seo, Jihyun Yi; La Sierra University. The studies examine the role of sugar consumption and of bottle feeding in the etiology of dental caries in children. It is easy to find many children who struggle from dental decay. Obese children who tend to take more sugar than others do not associate it with dental decay (Goodson et al., 2013). Solely bottle-fed children marked the highest percentage (33.3%) among caries affected children while breastfeeding and mixed feeding was 15.7% and 25.3% respectively.

Effective Teaching for Martial Arts in Physical Education Class. Taemin Ha, H.K. Oh, Hosung So, E.O. Baek; California State University, San Bernardino. Students can benefit from participating and learning in martial arts that enhances various psychological variables while reducing some negative factors. Behavior problems and physical inactivity of students are physical education teachers' primary concern. Teaching martial arts in both elementary and secondary physical education classes would be one of the promising activities in school physical education to help school aged students physically active and socially-personally responsible. Therefore, the purpose of this paper is to review the issues and discuss about ways to minimize the violence and injury in physical education classes.

Most Appropriate Physication for Students with Disabilities. Ayendo-Vela, H.K. Oh, E. Reyes; California State University, San Bernardino. Many students with disabilities enter the educational system and the belief from their families is that they will receive the same educational opportunities as their peers without disabilities. Many of them will be part of a general physical education (GPE) class and be successful in it. However, based on the severity of their disability or disabilities, some students

will have challenges to succeeding in the GPE class. Determining the most appropriate physical education (PE) setting for students with disabilities is still a challenging issue.

Physical Education for Students with Severe Disabilities. E. Reyes, H.K. Oh, F. Avendo-Vela; California State University, San Bernardino. Federal law mandates that students with disabilities should receive appropriate physical education services. However, including students with severe multiple disabilities (SMD) in general physical education (GPE) is a controversial issue. Some physical education teachers agreed to include students with SMD in the notion of providing equal opportunities, while others argue that students with SMD should be excluded from GPE.

Muscle Strength and Endurance in Patients with Cystic Fibrosis. M. Serrano, Hosung So; California State University, San Bernardino. More than 30,000 people in the U.S. live with Cystic Fibrosis (CF) that is a known and non-contagious medical disease characterized by its inability to maintain a clear air pathway due to the loss of pulmonary function caused by abnormal production of mucus. Recent studies examined health individuals and CF patients' muscle strength and endurance by measuring respiratory and peripheral muscle strength, examining other pulmonary function parameters such as FEV₁, total lung capacity, residual volume (RV), and airway resistance. However, individuals with *Pseudomonas aeruginosa* and reduction of FEV₁ show no difference when resembled with healthy subjects.

Impact of Dance Therapy on Skills Learned in Pediatric O.T. Tami Williams; University of Wisconsin Whitewater. Many conditions require a person to need occupational therapy, and rehabilitation takes time. Current studies illustrate that dance therapy, when used in tandem with occupational therapy, has positively impacted many factors. Very few studies, however, consider differences in proficiency, rate, and retention of skills learned. Moreover, such considerations for pediatric patients do not exist.

Original Research

Enhancing Quality of Life via Health Promotion Programs for Older Adults. Bora Jin; Texas A&M University. Physical function, perceived health, education, social contacts/social support, and housing quality were found to be determinants of older adults' life satisfaction. The purpose of this study was to explore impact of the participation in physical activity, health and wellness, and health screening and maintenance programs on older adults' life satisfaction within their socio-cultural contexts of home, community, and educational place. The following research guided this study: (1) What motivates older adults to participate in the health promotion program in the senior center and (2) How does participation in physical activity programs, health and wellness programs, and screening and maintenance affect older adults' quality of life.

A Study on Golf Docents in Korean Professional Golf Tournaments. Seolhee Han, Sungyoun Won; Chung-Ang University, Korea. A docent is a professional guide, which was derived from the Latin word *Docere*, which means "teach", and refers to a person who guides visitors or explains exhibits in an art museum or museum. The docent is not known to many people in Korea, but recently, docent can be found in various fields such as motor shows, zoos, and local public relations. Therefore, this study aimed to provide basic information required for the docents in golf in the future.

An Analysis on the Difference in Recognition of Fine Dust Problem Depending on the Type of Participation in Leisure Activities. Jeonghyung Cho, Eunjoo Cha, Youngjae Kim, Chung-Ang,

University, Korea. Fine dust and ultra-fine dust were added to the 'Agents classified by the IARC monographs' as 'Group1' carcinogen by International Agency for Research on Cancer (IARC) under WHO in 2013. Group 1 carcinogen indicates that there is a sufficient scientific evidence to prove that it may cause cancer. So special management measures on such carcinogens are required. However, there is insufficient emergency preparedness for fine dust and ultra-fine dust in leisure activities that are directly exposed to fine dust. Especially leisure activities are divided into indoor and outdoor and accordingly the degree of exposure to fine dust also differs. Despite this, 2010-2016 survey on national leisure activity showed that there was an increase in participation in leisure activities regardless of type of leisure activity. Therefore, this study aims to draw the recognition of fine dust problem by setting up the null hypothesis that there will be no difference in recognition of fine dust problem despite the difference in degree of exposure to fine dust depending on type of leisure activity.

Deviant Behavior of Female Pro Players Due to the Influence of Media (drug taking). Yeon Kim, Eunjoo Cha, Youngjae Kim; Chung-Ang University, Korea. Deviant behavior refers to all behaviors that diverge from the sociocultural norms that are generally accepted. Deviant behavior in sports means a thing that violates the sportsmanship and includes match-fixing, violence during the game, bad manner, doping. Recently, media has been executing its big influence on club and players, fans, and even the entire Korean sports. Accordingly, female pro players focus on their looks and thus spend a lot of time and money on appearance. The purpose of this study was to identify how female pro players are managing their appearance and its influence on players themselves.

A Comparative Analysis of the Professional Skill Test. Peng Su, Quihan Zhu; Yeungnam University, South Korea. Professional skill test results of male players who attended Chinese National U17, U15, U14 basketball match were comparatively analyzed via paper mining, interview, test and statistics. The overall state for professional skill mastery as well as pros and cons of different age stage were figured out. The professional skill for male basketball player was primarily classified as factors of 'basketball steps' and factors of 'basketball handling', furthermore, professional skill feature factors of different ages were analyzed in dynamic view, to unveil objective laws of development. Finally, the purpose of this study was to examine suggestions with regards to the administration, training methods and logistical support, aiming to offer reference for reserve basketball player culture of China.

Use of Back Translation Method in Korean Social Sciences of Sport. Bo Chen, Peng Su; Yeungnam University, South Korea. Survey Research is one of the most used method in social sciences of sport. Also, there are many survey questionnaire and scales that originally were designed from a language, and then translated to other languages. Because of difference point in culture and language, the availability and the clarity of translated questionnaire had been declined. Thus, back translation is a method that can impactful improve this situation. However, many previous studies using questionnaire developed in another language tend to omit a necessary procedure to increase the reliability of the research, which is back translation. So, the present research aimed to find a frequency of using or not-using back translation technique in diverse academic journals of sport social sciences published in a different country where use different native language. Thus, this research intends to find out an important lesson of back translation now which we often forget to teach and learn in our discipline. The purpose of this study is to grasp the used status of questionnaire and back translation in Korean sports social sciences journal.

Projectile Motion in Relation on how to Optimize Soccer Kick in Youth Collegiate Soccer Players. Alexandar Wise, Nelson Wise, Lawrence E. Pabalinas; University of Texas of Rio Grande Valley. Projectile motion can be seen in many sports, one example in which it is seen is in the sport of soccer,

when a player kicks the soccer ball into the air to reach a teammate down the field. To understand projectile motion, it must be defined. The purpose of this study was to dissect and analyze the components associated with projectile motion in relation to what projectile angle is needed for a soccer player to kick a pass to a teammate down the field to have the furthest range.

Blood Pressure Related to Body Weight to Body Frame Ratio. Richmond Lin, Jefferey Chen; La Sierra University. Today, rates of obesity and heart disease are increasing. If the current trend continues, it is estimated that 75 percent of the American population will be overweight or obese. The main purpose of this research was to divide the participants into two groups, one group was labeled with high body weight to normal body frame with higher lean mass, and the other group was labeled with high body weight to normal body frame with higher fat percentage.

An analysis of 'Yolo' Trend Discourse in Korean by Textmining. Cha Yoon-Suk, Kim Young Jae; Chung-Ang University, Korea. The newly coined term 'YOLO' emerged as a new trend in Korea, as high growth era ended and the transition to the deflation period began to rise. It is the specific of consumer life style. Commerce industry, social networking sites, and contents creators providing instant benefit instead of future planning are growing, because of the consumption style of 'YOLO' that have egocentric and present-oriented character. The purpose of this study was to find out how the Discourse of new trend in Korea is shaping up to build the story and discuss the direction of future deployment.

Effects of Caffeine on College Students' One Repetition Maximum. Daniel Flores, Roland Manurung; La Sierra University. Many supplements claiming to enhance performance and power output during exercise contains caffeine. The purpose of the study was to examine the effects of caffeine ingestion on college students' one repetition maximum (1RM). The null hypothesis for this study is that there will be no significant difference between the 1RM results when performed with, or without caffeine.

Dose-Response Association Between Exercise Intensity and Manual Motor Performance in Individuals with Down Syndrome: A Preliminary Study. Chih-Chia Chen, Mississippi State University. Background: Manual motor deficits is a significant issue in individuals with Down syndrome (DS). This study was aimed at investigating the dose-response relationship between the intensity of acute exercise and its effects on manual motor control in this population. Methods: Grip force, measured as handgrip test and manual dexterity, measured as the Purdue Pegboard Test, were conducted in the current study. Twenty – eight participants were randomized into vigorous-intensity exercise (i.e., 75-85% of predicted maximum heart rate), moderate-intensity exercise (i.e., 50-75% of predicted maximum heart rate) or attentional control groups. The two exercise groups performed an incremental walking protocol on the treadmill and the attentional control group watched a video for 20-min. Measures of manual motor performance were tested pre and post- intervention respectively. Results: A quadric trend was seen in grip force, such that the moderate-intensity exercise was beneficial for the performance of grip force production. However, inconsistent with previous studies, neither a quadric trend nor a liner trend was evident in the performance of the Purdue Pegboard Test. Conclusions: It was speculated that acute treadmill walking exercise may alter peripheral sensory input to motor areas that further caused improvement in grip force. However, its motor speed was not sufficient to enhance manual dexterity. Future research is needed with a larger sample size and brain imaging measures to explore the mechanisms involved in the association between exercise intensity and manual motor performance in individuals with DS.

The effects of topical aminophylline, yohimbe, L-carnitine, caffeine, and gotu kola on thigh circumference, skinfold thickness, and fat mass in sedentary females. Guillermo Escalante & Hosung So, California State University, San Bernardino. Aminophylline, l-carnitine, gotu kola (*Centella asiatica*), yohimbe, and caffeine may aid in reducing body fat. Lipoxyderm™ (LD) contains these ingredients and was used to test if regional fat loss of the thigh was facilitated via the topical application of this lotion. This was a double-blind, placebo controlled study that investigated the effects of LD on thigh fat mass (TFM), circumference (TC), and skinfold thickness (SKF). Seven participants underwent pre/post exercise testing for weight, bilateral TC/SKF, and body composition/TFM assessment via Dual Energy X-ray Absorptiometry (DXA). Participants followed a hypo-caloric diet, walked a minimum of 150 minutes/week, and were randomly assigned to apply a placebo (PLA) to one leg and LD to the other leg for 28 days. Separate two-way mixed factorial repeated measures ANOVAs were used to compare the effects of LD to the PLA on TC, SKF, and TFM. A significant time x group interaction was found for TC ($F_{1,6} = 18.2, p = 0.005$), TSF ($F_{1,6} = 14.6, p = 0.009$), and TFM ($F_{1,6} = 37.1, p = 0.001$). A topical application of LD compared to a PLA, combined with exercise and restricted calories, is more effective at facilitating region specific decreases in TC (1.2 vs 0.8 cm), SKF (3.7 vs 2.0 mm), and TFM (100.0 g vs 57.3g).

Utilization of TESTWELL: A Health Practices Survey to Target Student Needs. Kim Knowlton, William C. Andress, Sejal Madhani, & Rob Thomas, La Sierra University; Walter Wright, National Wellness Institute. At our university, all students are required to take an undergraduate course in health and wellness with an emphasis on physical activity. As part of the course they complete TESTWELL, a comprehensive 100 - point questionnaire developed by the National Wellness Institute that targets behaviors in 10 different dimensions of wellness. In this study, 2700 students, covering a 6-year span (2010 - 2015) were analyzed and compared with a national data bank of 103,000 respondents. This presentation reports our findings, some of which were unexpected as well as disturbing. For example, when looking at health status of various majors, those in the field of health or exercise science did not have the best profile. And in both our study and the composite national data, the dimensions of nutrition and physical exercise scored the poorest. This data is now being used to determine how best to modify our Lifetime Fitness courses to better meet student needs and thus improve their overall health profiles. The presentation will conclude with suggestions as to how other universities can use this tool to maximize the effectiveness of their wellness classes.

High Impact Educational Programs at Undergraduate Teaching Universities. Jennifer J. Sherwood, Vanessa R. Yingling, Jenny O, & Penny McCullagh, California State University, East Bay; Helen Brown & Grace Goc Kar, University of Idaho. High-impact educational practices have been shown to contextualize content and encourage active learning, thereby enhancing student engagement and improving student retention. For the past ten years, high-impact educational practices such as student internships, service learning, learning communities and undergraduate research, have been heavily promoted in higher education. But at teaching universities, faculty are challenged to balance high impact practice with heavy teaching loads, limited funding, scarce resources and inadequate infrastructure to provide authentic, undergraduate research experiences, discipline-specific, service-learning opportunities and to maintain relationships with high quality and engaging field sites. In this session, California State University, East Bay (CSUEB) faculty from the Department of Kinesiology and the Director of the Center for Student Research, and faculty from the University of Idaho (UI), Department of Movement Sciences, will share their models of high impact student programs for course credit. Faculty from CSUEB will describe implementation and assessment of the Kinesiology Research Group, a faculty-student group designed to encourage and support student-generated research projects to publication and the Get Fit! Stay Fit! Program, a wellness

program in which Kinesiology students gain professional, discipline-specific experiences while working with CSUEB faculty and staff. Faculty from UI will describe how they integrated a public health model into the course instruction, teaching, project development, evaluation and impact dissemination of a student-led healthy active lifestyle (HAL) assessment and intervention course that develops HAL projects reaching in schools, the UI campus and the community. Join us to learn more about these collaborative models of teaching, research and scholarship.

The Right to Mobility: Modified Ride-On Cars for Exploration and Play. Samuel W. Logan, Oregon State University. Children with disabilities deserve equitable and inclusive opportunities to engage in self-directed mobility at a similar age as their peers without disabilities. For the purpose of this paper, self-directed mobility is defined as mobility that is controlled by an individual and may include (a) ambulation, such as walking, (b) use of non-powered technology, such as gait trainers and standers, or (c) use of powered technology, including motorized wheelchairs, battery-operated ride-on toy cars, or similar devices. Over 30 years of research has demonstrated that young children with disabilities can use powered mobility devices for self-directed mobility and developmental gains (see Livingstone & Field 2014 for a review). An emerging powered mobility device for young children with disabilities includes modified off-the-shelf, battery-operated ride-on cars. Modifications include installation of a large, easy-to-press switch that has a large surface area and responds to a light touch for activation. Common materials, such as PVC pipe, swimming kickboards, and Velcro are used to build a customized supportive seating system. Evidence suggests that modified ride-on cars are a feasible and fun option for exploration, play, and function for children with disabilities. While the current evidence is promising, it is necessary to continue examining the effect of modified ride-on cars with more rigorous research designs and larger cohorts of children of varying disabilities to contribute to the generalizability of findings.

Oral Presentations. Friday, October 13th

The outcomes and reflections of Kinesiology and Exercise Science majors on the application of Service Learning through teaching physical activity classes to elderly participants in a long term care and assisted living facility. Lee Anne Wiggin, Lewis-Clark State College.

The teaching method of Service Learning (SL) is described as student activities providing a specific service that meets the needs of the community while also meeting specific course or curriculum objectives. The application of service activities in coordination with an institution of higher education are integrated and incorporated into specific learning objectives and include a fostering of civic responsibility and reflection on the SL experience (Cashman & Seifer, 2008). Service Learning is more commonly applied to the fields of public health, nursing, occupational therapy, pharmacy, and physical therapy (Brush, Marker, & Lazarus, 2006). Physical therapy (Hoppe, Bender, & DeGrace, 2005) and occupational therapy (Beling, 2003) skills have been incorporated into SL activities including screening and assessment skills. Communities and groups served by students often include patients and communities at risk of or diagnosed with chronic diseases (Juller, Alexander, & Hardeman, 2006). Colleges and universities have increasingly incorporated SL into allied health and general curricula (Campus Compact, 2009). In an attempt to enhance program planning at a small Northwest college, a survey was given to 36 Kinesiology and Exercise Science majors over 2 semesters, in an attempt to determine whether there was a need for more courses within the program that included SL as part of the curricula. In this presentation you will learn the outcome and personal reflections gained from

surveys administered to students after the completion of an applied SL physical activity program with elderly participants at a local long term care and assisted living center.

Validation of GymAware for Measuring Muscular Velocity in Healthy Older Adults. Jennifer J. Sherwood, Shannon Webb, Tori Coleman, Nicole Spink, John Adams, Michele Ossene Mintsu, Pavel Romanovski, Ranier Castillo, Connie Fok, & Trenton Ashizawa, California State University, East Bay.

Topic: Key to maintaining independence is the ability to generate adequate muscular power to carry out activities of daily living (ADLs) and reducing risk of injuries due to falls (Gray et al., 2014), while muscular power declines faster with age than either strength or endurance (Heyward and Gibson, 2014). The sit-to-stand (STS) is a timed functional movement test that represents an ADL and can be administered in multiple settings, however direct velocity and power measures generated during this test have not been previously quantified using a linear position transducer (GymAware). Purpose: To validate the use of GymAware in measuring velocity and calculated power during a STS test in healthy older adults. Methods: Participants were healthy older adults between the ages of 60-95. Velocity produced during the STS test was measured using: 1) GymAware and 2) a video motion analysis software, Dartfish. Additional measures included: Hand grip dynamometer, Blood pressure (BP), resting heart rate (HR), and body mass index (BMI). Statistical analysis: paired t-test was used to assess significant differences between velocity measures for GymAware and Dartfish. Results: Paired Student's t-test results show no significant difference between velocity measures with Dartfish and GymAware during a STS (n = 6). Conclusion: Preliminary results indicate that GymAware is a valid measure of measuring velocity and calculated power in older adults. Next phase will be to expand the sample size and compare STS power to bone strength and cognition.

International Service Learning for Kinesiology: Sharing Procedures, Reflections, and Outcomes. Hosung So, Steven Doherty, Larry McMillen, Luis Lua, & Taemin Ha, California State University, San Bernardino.

Service learning can be conceptualized as a pedagogical model that connects meaningful community service experiences with academic course learning. Service-learning is a method of teaching, learning and reflecting, frequently youth service, throughout the community. As a teaching method, it falls under the philosophy of experiential education. More specifically, it integrates meaningful community service with instruction and reflection to enrich the learning experience, teach civic responsibility, encourage lifelong civic engagement, and strengthen communities for the common good. Our schools become more diverse culturally and ethnically. In 2008, the California Commission on Teacher Credentialing (CTC) developed the Teaching Performance Expectations (TPEs) to describe the set of knowledge, skills, and abilities beginning teachers should have and be able to demonstrate. According to the TPEs, prospective physical education teachers should demonstrate sensitivity to students' cultural and ethnic backgrounds and include activities of global interest in the curriculum. To provide future physical education teachers with multicultural/ethnic awareness and experiences, the department of Kinesiology at California State University San Bernardino has launched international service learning projects. The purpose of this presentation is to provide and share the critical components of the project's preparation, implementations, and outcomes. In addition, the presenters will share and discuss benefits of SL in Korea that enriches student learning of course material, engages students in active learning that demonstrates the relevance of academic work for their lives and career choices, and increases awareness of current societal issues as they relate to academic areas.

A University-based Therapeutic Exercise Program for Young Adults with Disabilities. Jihyun Lee, Trenton H. Stewart, & Ryan C. Taylor, San Francisco State University.

Health-related issues due to physical inactivity in adults with disabilities have been addressed in the literature (e.g., Carroll et al., 2014). Unfortunately, young adults with disabilities who are in community-based transition programs often do not have enough opportunities to participate in regular physical activity (e.g., physical education or adapted physical education). More physical activity opportunities and movement experiences should be provided to young adults with disabilities to help them maintain their physical functions and health. This article introduced a university-based therapeutic exercise program for young adults with disabilities who have sensory needs and movement delays, using low cost and accessible equipment and activities. Diverse physical activity needs of the participants and types of physical activity that are helpful were described. Future recommendations were made to advocate for physical activity for young adults with disabilities in community-based transition programs.

Identity in Escrow: A Case Study of a Professional Golf Management University Program. Cole G. Armstrong, San José State University.

Presentation of a case study focused on a group of individuals moving through a University-based golf-specific education program sanctioned by the Professional Golfer's Association of America. Informed by theories of identity (i.e., Social Identity Theory and Identity Theory), an 18-month active participant observation was conducted, including ten semistructured interviews with participants of a Professional Golf Management program located at a large University in the American Southeast. Results showed participants developed social mobility via their time in the PGM program, and the Playing Ability Test was a significant hurdle in the development of their perceived group membership and golf professional role identity. In addition, it was found that the identity of the participants was essentially held in escrow by the PGM program and the PGA of America until completion of the symbiotic programs at which time participants could garner external affirmation of their group and role identity through PGA Class A certification.