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of Dissertations and Theses

Kinesiology
Abstracts

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UNIVERSITY OF OREGON
Eugene, Oregon
Kinesiology Abstracts

(Continuation of Health, Physical Education and Recreation, Exercise and Sports Sciences Microform Publications Bulletin: A Subject and Author Index of Dissertations and Theses including Abstracts)

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KINESIOLOGY ABSTRACTS 19, 1
This publication is a continuation of Health, Physical Education and Recreation, Exercise and Sports Sciences Microform Publications Bulletin: A Subject and Author Index of Dissertations and Theses Including Abstracts. This is issue 1 of volume 19 and represents microforms published in April 2006. In the past, bulletins were published every 5 years, except for bulletin 7, which covers two and a half years. Beginning with bulletin 8, there are two issues (nos 1 and 2) per annual bulletin. Each issue includes a section of theses and dissertation titles and abstracts, as well as a section of keywords.

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PART I: TITLES AND ABSTRACTS

PHYSICAL EDUCATION AND ATHLETICS

ADMINISTRATION

Barron, Mary J. Evaluation of an injury prevention program, 2006. Ph.D., Michigan State University (Cryzsa F. Branta). (4) App 5 fiche $30.00, PDF $35.70 F 4901

The purposes of this study were to (a) determine if time-loss injury rates (TLIR) and non-time-loss injury rate (NTLIR) in youth football were decreased by implementation of an injury-prevention program, (b) determine areas of first aid and injury prevention in which youth football coaches were proficient or lacking, (c) evaluate coaches' opinions of a "Pre-plan, Recognize, Emergency-plan, Principles of first aid, ABCs, Return-to-play, and Enjoy" program (P.R.E.F.A.R.E.), and (d) assess the decision-making ability of these youth coaches to determine if that ability is altered by their taking an injury-prevention program. There was a reduction of some of the injury rates during the 2005 season. The game TLIR and game NTLIR were significantly lower during the 2005 season compared to previous seasons. This reduction may be due in part to some of the coaches completing the entire P.R.E.F.A.R.E. program (PC) and to all of the coaches instituting six elements of the program. Twenty-five percent of the PCs failed the examination three months after they had completed the program. Apparently, some of the information gained during the program was not retained. Areas in which those coaches were lacking pertained to: heat and cold illnesses, emergency recognition, and warming up and cooling down techniques. There were significant differences, based on coaching group, in the coaches' knowledge of: adjustment to heat, ideal carbohydrate concentration, seizure, care for a dislocated tooth, and length of a cool-down. The PCs were satisfied with the program. They preferred the Web-based delivery method, learned some new information, and felt more prepared to handle emergency situations and prevent injuries. The majority of the PCs were interested in a football-specific injury prevention program. The National Center of Sports Safety should continue to pursue the development of sport-specific injury prevention programs. The information gained from this study should be used in the refinement of the P.R.E.F.A.R.E. program, development of a refresher course for coaches to take a year after taking the P.R.E.F.A.R.E. program, and the development of sport specific injury prevention programs. Continued research is needed to determine if the injury rates in youth football are consistently reduced by implementation of the P.R.E.F.A.R.E. program. Further research is needed to examine the impact of coaches taking and implementing the P.R.E.F.A.R.E. program on the reduction of injuries in other youth sports. Additionally, further research needs to be conducted on youth coaches from various other sport activities.

Carpenter, Aimee L. An analysis of institutional factors and their relationship with the number of NCAA major violations committed from 1994 to 2003. M.A., University of North Carolina, Chapel Hill (Barbara Osborn). 092pp: 1 fiche $6.00, PDF $19.60 F 4782

This study examined the relationship between eight institutional factors and the number of NCAA major violations committed by a Division I-A university between the period of July 1994 and June 2003. Institutional variables included academic quality, athletics success, and institutional make-up of the universities observed. Employing inferential statistics, it was determined that the factors defining success (i.e. athletics budget, Director's Cup points average) had a significant positive relationship with the number of NCAA major violations committed during the ten-year period. Other variables, including graduation rates, number of sports sponsored, and government funding of the university, had little or no relationship with the number of violations committed.

Frah, Jean M. The correlation of emotional intelligence, academic achievement, and clinical performance in undergraduate athletic training students, 2005. Ed.D., University of Virginia (Joe Gieck). 129pp: 2 fiche $12.00, PDF $61.00 F 4773

The purpose of this study was to determine if a relationship exists between emotional intelligence, as measured by the Bar-On Emotional Quotient Inventory (EQ-I), academic achievement, as determined by cumulative grade point average (CGPA), and clinical performance, as rated by athletic training educators. The subjects were seventy-seven students currently enrolled as juniors or seniors (third or fourth year) in an undergraduate athletic-trainer education program approved by the Commission on Accreditation of
Allied Health Education Programs. Correlation coefficients were calculated to assess the degree of relationship among the variables of Bar-On EQ-i scores, clinical performance rating, and CGPA. A linear regression was used to predict clinical performance rating from the predictor variables of CGPA and EQ-i scores. It was proposed that students who are more proficient in the emotional competencies, regarded as “core” abilities for health care professionals, which include interpersonal and intrapersonal skills, adaptability, stress management, and general mood, as measured by the Bar-On EQ-i, would receive higher ratings for their clinical performance. This study found no significant relationship between Bar-On EQ-i scores and clinical performance rating. CGPA was found to have a moderate relationship to clinical performance rating.


Today, most coaches are not provided a thorough or comprehensive education in the science of coaching. As research into coaching effectiveness continues, it is continually showing the complexity of roles and behaviors, addressing this lack of preparedness is even timelier. To accomplish a better understanding of coaching development, a season-long investigation of several inexperienced coaches could provide knowledge about how to better prepare coaches for their role. The importance of coaches’ efficacy and the ability of coaches to use feedback effectively have been shown to be important characteristics of successful coaches. The question of how new or inexperienced coaches develop the efficacious beliefs posed by Peltz et al. (1999) is Educational Psychologist, 34(4), 591-598, about the understanding of how to use feedback effectively, has not been addressed. Therefore, the purpose of this study was to investigate how coaches develop efficacy beliefs and feedback, and practice behaviors during the course of the season for inexperienced high school head coaches. Specifically, did time of season and season events affect the manifestation of these variables? An additional purpose was to examine how these changes in coaching efficacy and feedback were perceived throughout the season by coaches and athletes. Participants (N=3) were inexperienced high school varsity lacrosse coaches and, their respective teams. Coaches took part in pre-season and post-season interviews, a season-long systematic observation of practices, and measures of coaching efficacy at beginning, middle, and end of season. Throughout the season, athletes completed measures of coaching competency for their coaches. Selected athletes took part in post-season interviews. These developing coaches fluctuated in their confidence throughout the season, based on season events, and spent a large part of practice providing non-skill/non-sport related feedback to athletes. Further, these coaches did not take advantage of teaching techniques such as modeling and physical assistance. Athletes also fluctuated in their views of their coaches’ competency over the course of the season. Interviews with coaches and athletes revealed effective and ineffective strategies employed by their coaches related to the efficacy (competency subscales, views on coaching confidence and leadership, and the effect of coaching feedback on performance and satisfaction. Implications for coaching education are the development of season-long strategies for development as well as mentoring programs for inexperienced coaches.


The study was designed to examine the difference between coaching efficacy and affective commitment in male and female intercollegiate soccer coaches. Additionally, the nature and existence of a relationship between coaching efficacy beliefs and affective commitment to coaching was examined. Participants were female (n=42) and male (n=59) coaches of intercollegiate soccer teams attending a week-long coaching education course. The average age of female coaches was 28.07 years (SD=6.62), and of male 29.76 years (SD=4.04). None of the female coaches worked with men’s intercollegiate soccer teams; however, 31% of male coaches worked with women’s intercollegiate soccer teams. Head (41%) and assistant (59%) coaches from all NCAA divisions were represented. Gender differences were examined for coaching efficacy, as measured by the Coaching Efficacy Scale (CES; Feltz et al., 1999) and for affective occupational commitment, as measured by an occupational commitment measure developed by Meyer et al. (1993) in intercollegiate soccer coaches (Journal of Applied Psychology, 78, 538-551). No significant gender differences were found for coaching efficacy or for affective occupational commitment to coaching. Additionally, the researcher examined relationships between coaching efficacy and affective commitment. Positive significant (p<.05) relationships were found between coaching efficacy (including three subscales: game strategy efficacy, motivation efficacy, and teaching technique efficacy) and affective occupational commitment. No relationship (p>.05) was found between character building efficacy and affective occupational commitment.


The study was designed to determine the differences in the levels of self-efficacy among pre-service physical education teachers with regard to general teaching efficacy. Participants in the study were eight pre-service physical
education teachers in their first (n=20), second (n=20), third (n=20), fourth (n=20), and fifth (n=20) year of study.  The Physical Edu-
cation Teacher Effectiveness scale was used to measure self-effi-
cacy (1996: S. Biddle and M. Goudas, Exercise and Society: 
groups ANOVA was computed comparing mean total self-
efficacy differences and general teaching efficacy differenc-
es.  Fourth-year pre-service teachers reported significantly (p<0.01) higher scores than first-, second-, and third-year 
teachers with regard to self-efficacy.  No significant (F=7.26) 
mean difference was found with regard to general teaching 
efficacy.  The collection of experiences afforded by teacher 
education programs can positively affect the self-efficacy of 
pre-service physical education teachers at the conclusion of 
their fourth year of training.

Tagger, Ivy T. C. The effects of student teaching on teacher effica-
cy among pre-service physical education students, 2006. Ph.D., Michigan State University (Martha E. Swigg). (233pp: 3 fiche $18.00, 
PDF $25.63) FE 4807

The main purpose of this study was to examine pre-service 
physical educators' (n=31) teaching efficacy levels in the 
areas of instructional strategies, classroom management, 
and student engagement skills during sixteen weeks of 
a student teaching experience.  How pre-service physical 
educators constructed their sense of teaching efficacy was 
explored: whether identified sources of efficacy coincided with 
the research of Bandura (Self-eficacy: The Exercise of Control, 
1997), and how cooperating teachers (n=25) appraised teaching 
efficacy in comparison to the pre-service educa-
tors they mentored during the student teaching process. 
Data collection occurred in a three-phase series consisting 
of pre-testing, mid-testing, and post-testing.  The following 
assessments were employed: (a) Ohio State Teacher Ef-
cacy Scale; (b) Teacher Efficacy Scale; (c) Student Teaching 
Experience Questionnaire; and (d) demographic survey.  
Quantitative results indicated a significant difference in 
pre-test and post-test total teaching efficacy scores.  There 
were no significant differences found between subscales of 
instructional strategies, classroom management, and 
student engagement techniques at the conclusion of the 
student teaching internship. MANOVA revealed that 
female pre-service teachers possessed significantly higher 
levels of confidence in use of instructional strategies than 
did male pre-service teachers. Significant increases in Per-
sonal Teaching Efficacy (PTE) were also evident throughout 
the student teaching internship, and a decreased trend in 
General Teaching Efficacy (GTE) occurred; however, it did 
not reach a level of significance.  Comparisons of PTE and 
GTE found that PTE was significantly higher throughout 
the student teaching experience.  And cooperating teach-
ers rated their pre-service educators consistently lower in 
teaching efficacy levels than pre-service physical educators 
rated themselves.  Qualitative results of structured inter-
views showed pre-service physical educators identified 
multiple sources that contributed to their sense of teaching 
efficacy.  Bandura's sources of self-efficacy experience: viscero-
ous experience, personal/social persuasion, emerged as major 
themes, along with additional sources such as educational 
knowledge and personal/social identification.  Democo-
graphical information is presented with a discussion towards 
future directions for research and application.

Tweeter, Shane R. Barriers to including disabled students in 
regular physical education, 2005, M.S., University of Wy-
oming (Mark Byrue). (85pp: 1 fiche $6.00, PDF $19.25) FE 4766

The purpose of this investigation was to examine attitudes 
and beliefs of physical education teachers regarding in-
clusion of disabled students in regular physical education. 
Data were collected using an on-line survey targeted to 
physical educators throughout the states of Wyoming.  Par-
ticipants completed a thirty-five-question researcher-devel-
oped survey created using Microsoft FrontPage.  Individu-
als responded to Likert scale statements, on an open-ended 
response, and various demographic information.  The 
sample consisted of sixty-three physical educators from 
throughout Wyoming.  Data were analyzed descriptively 
(central tendencies), inferentially (t-tests), and qualitatively. 
Results suggest an overall positive attitude toward inclu-
sion and beliefs that favor its practice (M=3.10).  Factors of 
support (M=3.46) and specialized training (M=3.42) 
were the major influences on teachers' attitudes.  These 
findings were present in the scale item responses (higher 
means) and the theme categories (most prevalent) from 
the open-ended question regarding barriers.  Teachers who 
had specialized adapted physical education training (n=11) 
displayed significantly more positive attitudes (M=3.38) 
than teachers who reported (n=50) they did not (M=2.92) 
(459) - 3.75, p.<0.001. Teachers who indicated they had a 
great deal of experience (n=15) were also significantly more 
positive (M=3.25) than those (n=43) who had some experi-
ence (M=2.94). (459) = 2.66, p.<0.05. Teachers' attitudes and 
beliefs were generally positive and favorable.  In Wyoming, 
these results will raise awareness among teachers, adminis-
trators, and parents, as well as educate about the inclusive 
situation.  It may stimulate possible solutions to barriers of 
inclusion and guide a more effective system for all stu-
dents.

Wood, Kevin G. Opinion of Division III student-athletes and 
directors of athletics regarding the deterrent value of institutional 
drug-testing programs, 2006, M.S., Springfield College (Craig 
Poison). (152pp: 3 fiche $18.00, PDF $29.10) FE 4811

The current study was designed to determine if differences 
in opinion existed among student-athletes (SAAs) at five 
NCAA Division III (DIII) institutions with a drug-testing 
program (n=250), and five institutions without (n=225), 
regarding the deterrent value of institutional drug testing. 
Opinions of DIII Directors of Athletics (ADs; n=11) were 

3
also examined. Differences were examined using the Student-Adjusted Drug-Testing Questionnaire and the Athletic Director Drug-Testing Questionnaire, and analyzed using chi-square and Mann-Whitney U tests. SAs and ADS were surveyed about: (a) institutional testing, (b) current NCAA DIll Championship testing, and (c) hypothetical NCAA DIll year-round testing. AOs responded similarly to questions about the three testing programs. AOs responded similarly to questions about the deterrent value (person- ally) of the three testing programs, while drug-testing AOs responded significantly higher than non drug-testing AOs when asked about their own. Practical support was found for the use of drug testing as a deterrent to steroid use. As AOs and the NCAA consider increased drug testing in DIll, more research is needed to evaluate the strength of testing as a deterrent.

COACHING AND TRAINING

Hanson, Erik. "The acute effects of heavy- and light-load squat exercises on vertical ground reaction forces, 2005. M.A., University of North Carolina, Chapel Hill (Richard Mynarik)." 87p. 1 fig. 6.00. PDF $19.35 PE 4784

The purpose of this study was to examine the acute effects of heavy- and light-load squats on vertical ground reaction forces (VGRF), time to peak (TTP), and approximated power output (APO). Thirty-six subjects, all with prior lifting experience, volunteered for the study. Testing consisted of three separate sessions, one practice and two testing. Each testing session required two pre-test jump sets, a single squat set, and one post-test jump set. One jump set consisted of three countermovement jumps. Repeated measures ANOVA found no significant differences within the light-load condition in the variables of VGRF, TTP, and APO (p > 0.05). Significant decreases were found between pre- and post-test VGRF and APO values in the Heavy-load condition (p < 0.05). These findings suggest that, in the acute setting, 30% workloads and intensities of 40% and 80% do not successfully increase VGRF or APO, two factors that affect vertical jump height.

Howard, Heather. "Effectiveness of skinko field measurements as a marker of athletic stress in NCAA Division I female collegiate volleyball players, 2005. M.S., Portland State University (Gary Brodwick)." 54p. 1 fig. 6.00. PDF $17.70 PE 4763

Improving athletic fitness is often a primary goal of most competitive athletes and their coaches. Recently, coaches and athletes have been placing emphasis on the use of body composition in determining overall athletic fitness. With emphasis placed on body composition, opinions regarding it, when, how, and how often to measure body composition vary greatly. The purpose of this research was to evaluate the efficacy of frequent body composition assessments for the evaluation of sport-specific fitness in collegiate volleyball players. Twelve athletes from the Portland State University volleyball team volunteered to participate in this research study. All participants provided written consent. A Spearman's rank-order correlation, performed to evaluate the relationship between body composition and fitness, revealed no significant relationship between the two variables at any testing session. A Pearson's product-moment correlation performed between sum of skinko field score and product-moment correlation performed between sum of skinko field score and each independent fitness test revealed a statistically significant relationship between sum of skinko field score and the box drill (r = 0.804, p < 0.05), the side-to-side shuffle drill (r = 0.862, p < 0.05) and the push-ups drill (r = 0.723, p < 0.05) in the post-season testing session. One-way repeated measures ANOVA indicated no statistically significant differences in body composition over time. A Friedman's two-way ANOVA by ranks revealed no statistically significant difference in the fitness scores over time. To determine if the changes in each independent fitness test were significant over time, a one-way repeated ANOVA was performed for each independent fitness test. Two of the six fitness tests were found to have changed significantly over time. The number of push-ups increased significantly between the pre- and post-season testing sessions (F(1,11) = 5.104, p < 0.05) and the time for the shuffle test decreased significantly between the pre- and in-season and the pre- and post-season testing sessions (F(1,11) = 26.90, p < 0.05). These data contradict previous research on the relationship between body composition and overall fitness but agree with previous research on frequency of body composition testing.

Hughes, Michael W. Functional overhead pattern of motion in FreeMotion cable pulley exercise displays higher mean EMG activity than PNF proprioceptive neuromuscular facilitation and Thera-Band. 2005. M.A., University of North Carolina, Chapel Hill (William E. Prestice)." 107p. 2 fig. 12.00. PDF $20.35 PE 4793

The purpose of this study was to determine whether varying the mode of resistance in a functional multi-planar exercise would affect muscle average amplitude, peak amplitude, peak onset time, and segment of component to peak onset. Thirty healthy college students participated in random exercise selection of cable pulley, manual resistance, and rubber tubing. Shoulder and trunk EMG activity were measured simultaneously with an electronic goniometer to highlight activity through the range of motion. Statisti- cal analysis revealed significant interactions of exercise by muscles for average and peak muscle amplitude. Post hoc testing displayed higher output of average and peak am- plitude for cable pulley in four muscles versus the rubber tubing group, and in two muscles in the manual resistance group. No statistically significant interaction existed for
peak onset or percent to peak onset. Analysis of concomitant was statistically significant for agreement of rank-
ing order of percent to peak onset time across all exercise conditions.

Reynolds, Staci K. Effects of same-day strength training on serve performance in female collegiate tennis players, 2005, M.S., Brigham Young University (Shane S. Schultflies). (63pp: 1 fiche $6.00, PDF $18.00) PE 4770

The purpose of the study was to evaluate the effects of same-day strength training on velocity and accuracy of a tennis serve among five female NCAA Division I intercol-
legiate athletes at the second and sixth week of a strength training program. Velocity and accuracy of twenty tennis serves were measured approximately four hours after a
morning split-body (lower legs and trunk) strength train-
ing session, termed a lift-day (LD), and were compared to measures taken on days that no lifting took place, termed non-lift days (NLD). For each test day, velocity was multi-
plied by accuracy to provide an overall serve performance score for each NLD and LD. An ANOVA revealed that there was no significant difference in any of the measured variables between the NLD and the LD at any time period throughout the study. A mean serve performance score difference between NLD (77.56) and LD (78.05) of 0.49 was not statistically different (p=0.84). Results of this study suggest that collegiate tennis players may strengthen-train with no significant effect on same-day serve perfor-
ance following adequate recovery.

Wason, Carolyn F. The effects of Pilates training on the trans-
vensus abdominis, 2006, M.S., Western Washington University (Jerriene R. Brilla). (62pp: 1 fiche $6.00, PDF $19.10) PE 4775

This study was designed to examine the effects of Pilates training on the function of the transversus abdominis mus-
cle. Six females participated in a ten-week Pilates training program, while five individuals served as non-exercising controls. The training consisted of two sixty-minute Pilates reformat and mat workouts each week. The function of the transversus abdominis was assessed, prior to and following the ten-week training period, with a probe abdominal wall drawing-in test using a modified myohamameter known as the Stabilizer. Mean and standard deviation of the pre-test and post-test scores was calculated for each group. A two-way between-within analysis of variance (ANOVA) was used to determine the significance of Pilates training on transversus abdominis strength. Results of the ANOVA show there was a significant difference between the Pilates-trained group and the control group at the con-
closure of the study (p<0.05). It is concluded that ten weeks of Pilates training significantly improves the function of the transversus abdominis.

GROWTH AND DEVELOPMENT

Bauer, Jeremy J. Defining intensity of skeletal loading in children, 2000, Ph.D., Oregon State University (Christine Snow). (113pp: 2 fiche $12.00, PDF $25.65) PE 4753

While exercise can be prescribed for improving cardiovascular and muscle health, no prescription exists for increasing bone mass. Because bone deformation rate has been identified as an important variable related to osteogenesis, estimates of skeletal loading during human activities likely characterize the associated osteogenic stimulus. However, estimates of body segment parameters (BSPs) are needed to calculate skeletal loading. The preferred equations for cal-
culating pediatric BSPs are based on twelve boys and have not been validated. To validate these equations for girls, differences between equation-estimated BSPs and those derived using magnetic resonance imaging (MRI) were investigated. Further, the effects of BSP differences on cal-
culated joint kinetics during walking, running, and landing from three heights were also investigated. Finally, hip joint kinetics among activities were compared to those at the ground. Left leg BSPs were estimated from MRI and from using the equations in ten girls. Joint kinetics for each activ-
ity were calculated from recorded kinematics and ground reaction forces. With the exception of two Shank variables, BSPs differed between methods. However, while these re-
ults in statistically significant differences in joint kinetics for all activities, the differences were not sufficiently large to be of practical significance. Thus, equation-estimated BSPs appear suitable for use with gits. Significant relationships were found between peak forces and loading rates at the ground and at the hip, indicating that resultant hip loads can be predicted using forces at the ground. Walking and landings from 6cm had the lowest and highest forces, respectively. Forces during drop landings increased as height increased. Peak forces during running were not dif-
f erent from those for landings from 38 and 6cm. Loading rates at the ground during walking were less than for other activities, while those during running were less than for drop landings. There were no differences in loading rates among drop landings. Drop landings appear to have the characteristics most likely to cause osteogenesis. By quanti-
ifying ground forces and loading rates, we have provided a simple method for quantifying forces at the hip, a neces-
sary step toward a better understanding of the relationship between loading and changes in bone mass at this site.

HISTORY AND PHILOSOPHY

Pickar, Matt S. Vincer McMahon / Mister McMahon: the WWL XFL, and the development of sports entertainment, 2005. M.A., University of Colorado (Olive Gerlands). (125pp: 2 fiche $12.00, PDF $24.0) PE 4757
It is difficult to share a passion both for theatre and for sports. It is even more difficult to convince fans of either genre that the two actually share much in common. Yet the evidence is there and can be found in the unique sports/theatre hybrid known as sports entertainment. This thesis is a study of Vince McMahon and his role in creating and developing this performance genre. Through his wrestling company, World Wrestling Entertainment (WWE), McMahon single-handedly transformed the sport from a carnavalesque sideshow into an international empire. Essentially, he turned professional wrestling into choreographed entertainment. Despite the fact that, on the surface, the WWE contains a mixture of sex and violence, underneath that surface lie conservative family values. These conservative values may be attributed to McMahon’s childhood, as he grew up in a lower-class trailer park with a mother and many different step-fathers who physically and sexually abused him. McMahon’s WWE stresses loyalty, family, and togetherness in a world where, in the end, good always triumphs over evil. It is evident that McMahon has molded the WWE into a blend of athletics and performance art, and therefore we can classify him as an artist who uses professional wrestling as a vehicle for promoting his personal beliefs. This thesis also examines the brief history of McMahon’s football league, the XFL. McMahon hoped that his version of football would appeal to mass audiences, but, after one season, the league folded due to lack of interest. Through sports entertainment shows such as the WWE and the XFL, McMahon creates an environment of comfort and togetherness among his fans, while at the same time providing an avenue of entertainment and enough twists and turns to satisfy even the most dedicated soap opera viewer. Ultimately, the sports entertainment genre allows McMahon the opportunity to create a sense of purpose for his personal life while enabling each audience member to create his or her own individual meaning. Study of McMahon and his artistic intentions expressed in the WWE and XFL, can foster a greater understanding of the relationship between sports and theatre.

PEDAGOGY AND CURRICULUM

Davis, Amy K. Dance-making online: teaching choreography in virtual space, 2006, M.F.A., Texas Woman’s University (Linda A. Caldwell). (59pp. 1 fiche $6.00, PDF $16.75) PE 4777

This paper looks at how the dance discipline is currently exploring on-line education as a creative force and reports the results of an initial study of six undergraduates and four graduate dance majors studying choreography through 100% on-line choreographic assignments. To gather data for this study, a week-long on-line choreographic teaching unit was developed, choreography students were recruited to complete the on-line teaching unit, and a series of questionnaires was distributed to the participants. The author’s personal narrative as the designer of a semester-long on-line choreography course is woven throughout the text. Part one of the paper explores the current implications of the development of on-line courses in higher education dance programs. The relationship between inherent features of the virtual classroom and the pedagogy of dance choreography in higher education is also examined. Part two explores organization, language, and creative potential of on-line choreographic assignments as experienced by students who have participated in a week-long on-line choreographic teaching unit.

Cazabé, Kelly M. The effect of priming on performance of a closed motor task, 2006, M.S., Ball State University (Roch A. King). (59pp. 1 fiche $6.00, PDF $19.75) PE 4794

The purpose of this study was to determine the effect of priming on performance of a closed motor task (dart throwing). The priming task involved either reading or listening to one of three different sets of instructions explaining the mechanics of dart throwing, positive (emphasizing what to do or focus on), negative (emphasizing what not to do or focus on), and neutral. 124 participants were randomly assigned to four experimental groups (n=21 for each) and two control groups (n=20 for each) based on media (oral or written) and direction of script (positive, negative, control). Each participant completed a total of six blocks (three dart-throwers per block). In subsequent on-line participants completed Blocks 1 and 2 (practice trials), the priming task, and then Blocks 3 through 6 (experimental trials). A 2 x 2 x 6 mixed ANOVA with repeated measures on the last factor found only a significant main effect for Block. However, tests of within-subject contrasts indicated a Block x Direction interaction from Block 1 to Block 2 and from Block 2 to Block 3, with the most dramatic change in performance seen in the group receiving the negative instructions. The results indicated that negative instruction can have an immediate negative impact on performance that is not seen with positive instruction. This negative impact can be overcome, however, if the performer is left alone to practice after receiving the negative instruction. This study has provided additional evidence that priming can influence motor responses.

Halstead, Jason A. An A-E-B physical education curriculum based on current test practices, 2006, M.A., Ball State University (Marianne L. Wool). (59pp. 1 fiche $6.00, PDF $19.05) PE 4795

The purpose of this project was to summarize current best practices in physical education. Following a literature review, a detailed kindergarten through eighth-grade curriculum was developed to encompass each of the key components and best practices drawn from the review. It
includes a kindergarten through eighth grade scope and sequence and a sample using the appropriate developmentally appropriate instructional progression, learning activities, and assessments.

Harvey, Stephen. Effects of Teaching Games for Understanding on game performance and understanding in middle school physical education, 2006. Ph.D., Oregon State University (Hans van der Mars). (284p: 3 videodiscs $18.00, TDF $92.20) PE 4799

Most students arrive at game-focused physical education (PE) with neither the skills nor the tactical knowledge to be successful. Although the Teaching Games for Understanding (TGCU) approach can enhance both on- and off-the-ball skills in game play performance, results from previous research examining TGCU's effectiveness in PE settings have been equivocal. The present study was conducted to a) examine whether an 11-13 lesson unit of soccer taught using the TGCU approach would improve the game performance (GP) and game understanding (GU) of grade six PE students; and b) assess the relationship between GP and GU. Using a single-subject delayed-multiple-baseline design, three students (a higher-, a moderate-, and a lower-skilled student) were randomly selected from four different grade six (11-12 years) PE classes (n=12). Data were collected on eight measures of GP (using the Game Performance Assessment Instrument, GPAI) and three measures of GU (using a modified version of the Verbal Protocol Analysis [VPA] technique). Differences of GP were formulated into four indices: Decision Making Index (DMI); Skill Execution Index (SEI) overall Game Performance Index (GPI); and Game Involvement (GI). The latter was further divided into four indices: inappropriate on- and off-the-ball actions. All GP data were plotted graphically and analyzed using standard analytic criteria. Developments in the total, variety (i.e. 'goal', 'condition', 'action', etc.), and level of sophistication (i.e., '1', '2', '3', and '4') of coded verbal statements from the VPA GI task were assessed using a series of twelve separate repeated measures ANOVAs. The relationship between the GP and GU was also assessed using a Pearson correlation. All GP indices and GI remained somewhat variable between the baseline and intervention phases of the study and no individual participants improved on all GP and GI indices. However, ten of the twelve participants in the intervention group showed at least one aspect of their GP, with seven improving their SEI four their DMI and six their GPI, when compared to baseline. Furthermore, none of the twelve participants improved either their appropriate GI or reduced their inappropriate GI when compared to baseline, with ten of the twelve participants improving their on-the-ball GI and five of their off-the-ball GI, when compared to baseline. In the VPA GU task, findings were also variable. Participants significantly increased the total number of coded verbal statements, and the use of condition 'if' and 'then' statements. In addition, they significantly decreased their use of affective 'opinion' statements. However, participants also demonstrated minimal improvements in their use of more sophisticated descriptions of the game play actions. Finally, there appears to be no strong link between the way in which GP and GU emerges and/or develops, at least within the limitations of this study (i.e., such as the small sample size and the short duration of the learning period). However, a TGCU-based unit of soccer, focused on teaching both on- and off-the-ball elements of game play, is associated with developments in participants' GP and GI indices across participants from high, moderate, and low skill levels. Moreover, although some improvements in GU were also observed (i.e., in terms of the variety, level of sophistication, and total numbers of coded statements), these were less likely to discriminate skill levels than measures of GP.

Pratt, Erica A. The perceptions of a secondary physical education teacher about the content to be taught in adventure education, 2005. M.S., Springfield College (Mary Ann Coughlin). (127p: 2 files $12.00, PDF $21.35) PE 4805

As the popularity of integrating adventure education into physical education classes increases, the recognition and acceptance of instructional alignment in adventure education is necessary. Instructional alignment is apparent in physical education instructional models and can be used to foster student learning. The purpose of this research study was to determine how a physical education teacher perceives the content to be taught in adventure education. A case study design was employed to examine perceptions of one secondary physical education teacher. Data were collected through field notes, informal and formal interviews, and lesson planning documents. The researcher noted problem solving, knowledge, and teamwork to be major content areas identified by a secondary physical education teacher in an adventure education unit in physical education. Content identification, in combination with instructional alignment, supports adventure education as an instructional model in physical education.

Underwood, Malatika M. Student-Athlete Resource Program (STAR): a curriculum designed to provide recruiting and academic resources to underprivileged college-bound student-athletes, 2005. M.A., University of North Carolina, Chapel Hill (Barbara Osborne). (108p: 2 files $12.00, PDF $20.40) PE 4798

The 2003-2004 statistics from a National Federation of State High School Associations survey show that there are more than 6.9 million high school student-athletes-a high percentage of whom are minorities and students from low-income families. These at-risk athletes are often isolated from resources. Recruiting services, services that claim to help student-athletes continue their athletic career in college, do exist. However, two key factors prove these services inadequate for high school student-athletes-cost and effectiveness. In addition, for those athletes who do make
it to college, it is not uncommon for academic skills to be
behind those of the rest of the student body. This study is
predicated on identifying the unique needs of high school
student-athletes and evaluating existing recruiting and aca-
demic resources, in order to develop a more accessible
and effective program for providing tools for the athletic
and academic success of underprivileged student-athletes.

SOCIOLOGY AND
CULTURAL ANTHROPOLOGY

Arthur-Banning, Skye. The effect of referees' prosocial behavior
techniques on promoting sportsmanship and fun in youth bas-
kett ball players, 2005. Ph.D., University of Utah (Kevin Paisley).
(244pp; 1 fiche $12.00; PDF $22.20) PE 470

This study examined the effects of referees' prosocial
behavior techniques on promoting sportsmanship and
increasing fun among youth basketball players. Particip-
ants included ten teams of 3rd- and 4th-grade students
and seven teams of 5th- and 6th-grade students involved in
a youth basketball league located at an urban community
center. Two sets of referees oversaw the game environ-
ments. Control referees were either hired from the local
referee association, or from the local community center.
Tournament referees were trained in techniques consistent
with prosocial behavior and, more specifically, with norm
reactivation. Observers collected data on sportsmanship
behavior exhibited during treatment and during control
situations. Participants were also asked how much "fun"
they had following each game. Data were analyzed using
hierarchical linear modeling techniques, revealing that
teams who participated in games where treatment referees
oversaw the environment demonstrated more positive be-
haviors (r=4.33, p<0.01) and fewer negative sportsmanship
behaviors (r=2.25, p=0.03) than those teams being effi-
cient by control referees.

Bagley, Meredith M. The beauty of basketball: the WNBA,
leisures, and discourses of deflection, 2005. M.A., University
of Washington (David Domke). (112pp; 2 fiche $12.00, PDF
$20.40) PE 479

This study traces strategies used by the Women's National
Basketball Association (WNBA), in its public communi-
cation, to control and deflect any negative associations
between its league and assumptions of lesbianism among
sportswomen. Women in sport have long struggled to
overcome assumptions of sexual deviancy and, as the
longest-running professional women's sports league in his-
tory, the WNBA is a strong case for extending the study of
these efforts. From an examination of newspaper coverage
of the league, and from six interviews with journalists and
WNBA officials, four discursive strategies are proposed:
inversion of the private sphere, emphasis on feminin-
ity, distinctiveness within similarity, and promotion of
purity. Based on these findings, a fifth discourse is pro-
posed: responding to the public. While the privatizing
and feminizing of WNBA players has deflected public attention
away from assumptions of lesbianism, thus reinforcing
heteronormative notions of female athletes, the league's empha-
sis on the distinctiveness and purity of WNBA players has
offered new means to understand women in sport. Finally,
a trend of responding to the public may increase in WNBA
discourse as commercial pressures intensify in professional
sports.

Bibbino, Karen L. An exploration of graduate students' percep-
tions of diversity in the therapeutic recreation curriculum, 2005.
Ed.D., University of Rochester (Harold Wechsler). (246pp; 3
fiche $18.00, PDF $26.30) PE 4772

The purpose of this study was to examine graduate stu-
dents' perceptions of diversity in therapeutic recreation
curriculum. Students, faculty and program coordinators were
surveyed to identify demographic characteristics, status,
and level of diversity training in twelve master's degree
programs. In this study, "diversity" includes: women, race
and ethnicity, gays, lesbians, and bisexuals. Students' and
faculty's backgrounds, behaviors, skills, knowledge, and
comfort levels with issues of diversity were assessed
through responses to a survey. Students and program
coordinators completed the Survey of Diversity Cur-
rricula and Training. Of 130 possible student respondents,
70 (61%) returned surveys; of 52 possible faculty respon-
dents, 28 (54%) returned surveys. Faculty and students had
low knowledge scores regarding issues of diversity, but
relatively high skill and comfort scores. Level of comfort
differed across programs, but not significantly. Scores were
highest on items regarding women, and lowest on items
related to gays, lesbians, and bisexuals. Student responses
to semi-open-ended questions revealed that there is a
need to offer more cultural diversity within the current
courses, or to offer specific courses in cultural diversity
in therapeutic recreation. Level of curriculum integration
was evaluated from the responses to the Survey, and from
student responses to the semi-open-ended questions. The
three courses evaluated were: Principles and Techniques
in Therapeutic Recreation; Evaluation and Assessment in
Therapeutic Recreation; and Issues, Trends and Admin-
istration in Therapeutic Recreation and the Practicum/
Internship. Diversity was assessed in one or two class
sessions, but hardly ever addressed in the internship ex-
pertence. Programs whose faculty were more comfortable
with diversity had the lowest diverse student bodies, and
had lower scores on the knowledge scale. Faculty who had
lower comfort levels with diversity had the most diverse
student bodies and were more knowledgeable. Students in
programs with a diverse student body tended to have more
knowledge, skill, and comfort with issues of diversity. Students in programs with no diversity in the student body reported lower levels of knowledge, skill, and comfort with issues of diversity.


Current sport policies in many developed countries are often dominated by neo-liberal ideologies, encompassing elite-based conceptions of sport, focusing on values such as individualism and performance in lieu of participation and community development. Sport for development (SFD) is concerned with reducing social, economic, and health disparities, while focusing on a sport that is available and accessible to all. Sport for development non-governmental organizations (SFD NGOs) are trying to change contemporary focusing of sport around the world to encompass these concerns, especially through sport policy influence. Recent studies have indicated that influencing policy is one of the major functions of NGO activity. This research aimed to reveal key issues pertaining to sport for development theory and policy influence using an inter-organizational theory lens. The purpose was to conduct two case studies of how Canadian and Swiss SFD NGOs attempted to place SFD on the policy agendas of their key national sport partners. The specific research questions were: i) What do Swiss and Canadian SFD NGOs see as their key policy imperatives? ii) Whom do they see as their key national sport partners? iii) What strategies are SFD NGOs using to promote SFD to these key national sport partners and what is the nature of these partnerships? and iv) What role does the presence of the SFD NGOs in the International Platform on Sport and Development Network (IPSDN) play in their ability to place SFD on the policy agendas of these key sport partners? Qualitative research methods were used, including documents analysis and interviews, as these data collection strategies were consistent with a case study research approach. A content-analysis of Web sites used to display information about both Swiss and Canadian SFD NGOs was conducted and interview data were analyzed, including annual reports, mission statements, and policy documents. From each of the two SFD NGOs, four key staff members were interviewed (one staff member twice). Findings revealed a need for a coherent SFD policy to be developed in both Switzerland and Canada, and that more concrete policy procedures are required to guide partnerships between elite-based sport organizations and SFD NGOs. Personal connections between SFD NGOs and their key national sport partners contributed to the ability of the former to influence the policy agendas of the latter. Competition and collaboration existed within the PSDN that both enhanced and constrained the ability of SFD NGOs to influence their key national sport partners. This study contributed to understandings of: i) how inter-organizational theories are useful in drawing attention to the underlying relationships between and amongst SFD NGOs and their partners, and ii) how these relationships are shaped and articulated and in line or dislocated with policy concerns. Further research in this area might examine how partnerships and networks can work more towards enhancing the ability of citizens to influence and contribute to sport policy formation.

Spielbauer, Sue. Becoming an intercollegiate athlete: an investigation into the process of role transition experienced by freshman athletes, 2005. M.S., Northern Illinois University (Neira Sharr). (117pp: 2 figs $12.00, PDF $20.95) PE 671

This study examined the transition student-athletes experienced during their freshman year of college. The following questions guided the study: 1) How do the athletes perceive their transitional experience? 2) What are the athletes' experiences with role clarity and role acceptance during their freshman year? and 3) What are the coping resources that the freshman athletes used to handle the transitional process during their first year of college? Participants (N=12) from a National Association of Intercollegiate Athletics Division II institution included ten sophomore athletes and two coaches (head men's and women's basketball coaches). Two players were interviewed from each of the following sports: women's basketball, men's basketball, baseball, softball, and football. These athletes often experience a change in roles from high school to college. Five higher order themes emerged from the interview data. They were (a) expectation of becoming a collegiate student-athlete; (b) the general transition; (c) the sport transition; (d) roles and role acceptance, and (e) coping. Student-athletes felt their involvement in sport eased their transition. Specifically, they counted on their teammates and coaches as coping resources and also relied on others outside of the sport environment. A significant factor in the transition was adaptation to increased demands of playing college sports, particularly playing with and against players who were much more talented than participants' high school competitors had been. Those interviewed recognized they went through a transition during their freshman year. The transition was challenging for the student-athletes; however, they seemed to have persevered through these challenges.

Werner, Erika A. A fan's life: sports fandom, autobiography, and the production of self, 2006. M.A., University of Virginia (Tommy Nudelmann). (51pp: 1 fig $6.00, PDF $17.55) PE 479

The "fan autobiography" is a curious, but increasingly popular, species of life writing in which the author structure a bio of her life story around the consumption
SPORT'S MARKETING

Duncan, Sarata J. Factors affecting institutional funding of NCAA Division I athletic programs, 2005. M.A., University of North Carolina, Chapel Hill (Barbara Osborne). (68pp: 1 fiche $6.00, PDF $5.80) PE 4783

This study presents data collected from eighty-four National Collegiate Athletic Association Division I universities. Financial information was requested from schools regarding revenue from public sources, or from institutional support. These revenues were categorized and compared according to division, conference affiliation, and state of residence. While institutional support was not found to be significantly different between the two subdivisions, it was found to be significantly lower in the major conferences as compared to those considered mid-major. Revenues were correlated to nine proposed contributing factors: number of athletes, number of teams, site feedback, amount of athletic revenues and expenses and profit/deficit, and amount of university revenues and expenses and profit/deficit. None of the contributing factors was found to have an overall effect within Division I. However, in subdivisions I-AA and I-A the contributing factors had strong positive relationships to amount of student fees and total institutional support received by the schools.

Galley, Kevin R. Permanent corporate signage at the University of North Carolina—Chapel Hill is a survey of student and faculty opinions, 2004. M.A., University of North Carolina, Chapel Hill (Nathan Tomasini). (145pp: 2 fiches $12.00, PDF $22.25) PE 4791

This study determined University of North Carolina student and faculty opinions about installing permanent signage in the Smith Center and in the Kenan Stadium, and whether signage could affect future attendance and donation behaviors. The study provides objective information on this topic, was designed to be used by athletic administrators when considering signage issues and provides a model for similar studies of other populations on that campus. Analyses indicated most student respondents were likely to attend games in the future, regardless of prior attendance habits or the installation of signage. Faculty respondents were not likely to attend games on a frequent basis prior to the introduction of signage. Findings suggest prior study, asserting students' loyalty initiates emotional attachment, commonly transcending perceptions of ethics or tradition.


The purpose of this case study was to examine organizational and employee values in order to understand the effects of values and value congruence on employee behaviors within the context of a large Canadian sport organization. The importance of values and value congruence has been emphasized by many organizational behavior researchers; however, emphasis on value studies remains fairly stagnant within the sport industry. In order to examine realities constructed by the participants in
This study is predicated on the need for collegiate athletics administrators to better understand the factors that would impact the Bowl Championship Series (BCS) has had on NCAA Division I-A college football. The changing economic climate of college athletics, as well as the apparent separation among Division I-A athletics programs along BCS affiliation lines, makes it essential for today's college athletics administrators to understand factors influencing the economics of college football. This study examines factors that are most likely influenced by the changing economics of postseason college football. More specifically, the purpose of this study was to examine the differences in average athletie department revenues, average athletic department expenses, average football program revenues, average football program expenses, and average home game attendance between BCS-affiliated programs and non-BCS-affiliated programs from implementation of the BCS in 1998 through the 2003 season.

Sierer, Shelby P. The NFL combine: physiological differences between drafted vs. undrafted players during the 2004 and 2005 drafts. 2006. M.A., University of North Carolina, Chapel Hill (Ed Shields). (50pp: 1 fiche $6.00, PDF $17.75) PE 4797

The purpose of this study was to examine differences between drafted and non-drafted athletes (N=321) for each of three position groups for selected 2004 and 2005 National Football League (NFL) Combine tests. The tests included: 40-yard dash (40-YD), 225-lb bench press test, vertical jump (VJ), broad jump, pro-agility shuttle (PAS), and 3-cone drill (3-C). The three position groups were: Skill (wide receiver, corner back, free safety, strong safety, running back), “Big Skill” (full back, line backer, tight end, and defensive end), and “Linemen” (center, offensive guard, offensive tackle, defensive tackle). Statistical significance was found between drafted vs. non-drafted “Skill” players for the 40-YD (p<0.01), VJ (p<0.03), PAS (p<0.00), and 3-C (p<0.001): between drafted vs. non-drafted “Big Skill” players for the 40-YD (p<0.001), and 3-C (p<0.005); between drafted and non-drafted “Linemen” players for the 40-YD (p<0.01), 225-lb bench press test (p<0.001), and 3-C (p<0.005).

DANCE
Costrino, Michelle R. Contemporary dance practice: a philosophical and pedagogical approach to teaching contemporary dance to incoming dance majors, 2006. M.F.A., Texas Woman’s University (Linda A. Caldwell). (38pp: 1 fiche $6.00, PDF $16.80) TE 4776

This paper proposes to examine how a more comprehensive approach to teaching contemporary dance will benefit incoming freshman dance majors. Beginning with a
definition of contemporary dance, this paper analyzes the typical incoming freshman dance major's and the disjunction of expectations based on students' previous dance experi-
ence. Researching how contemporary dance is introduced to new students is the core of this paper. Using philo-
osophical inquiry, this study investigates pedagogical theories of teaching contemporary dance technique in higher education and poses questions concerning these methods. Through personal experience and observations as a student and educator, the researcher explores teaching contempo-
raty dance as a way of working, addressing what knowledge-
dge shapes dance praxis, what content emerges from this analysis of contemporary dance as a way of working, how these ideas shape the teaching and learning process for the introductory-level student, and why this is important to the development of the students. A sample lesson plan for a comprehensive approach to teaching dance to incoming dance majors is presented.

Gray, Jennifer L. Who's team is it? Redefining the pedagogy of drill team. 2006. M.A., Texas Woman's University (Linda A. Caldwell). (57pp: 1 fiche $6.00, PDF $16.45) PE 4779

The purpose of this professional paper is to launch new creative processes that foster personal and artistic growth, while producing outstanding routines, in drill team-rout-
tines that may take differing forms from those traditionally performed. This goal is addressed in a twofold manner: to explore new pedagogical methods that may also result in new and creative products, and to inspire practicing and future directors to discover new methods for match-
ing drill team with creativity and enhanced possibility. To make sense of the world of drill team, and to determine which questions to pose, philosophical inquiry is employed throughout the paper in order to explore how the pedagog-
ical view of drill team can evolve. The author draws from personal values, beliefs, and experiences in the discipline of contemporary dance and in search of dance pedagogy to shape this new vision. The research aims to define a new pedagogical view that will allow broader education strategies for enhancing the experience of young women participating in high school drill teams. Specific exercises to achieve the stated aims are woven throughout the text.

Kaplan, Jeffrey L. Metaphor and semiotics in text and move-
ment since performance. 2006. M.A., Texas Woman's University (Linda A. Caldwell). (153pp: 1 fiche $6.00, PDF $16.75) PE 4780

This study attempts to develop a visual philosophical mod-
el for meaning-making is performance involving move-
ment and text. How do audiences synthesize simultaneous auditory and visual streams of information? To what do they attend? To explore these and related questions, I have conducted a review of relevant theory in metaphor, cogni-
tive linguistics, philosophy of language, and the philoso-
phy of dance. In particular, I worked with theories from Susan Leigh Foster in dance, Gemma Pizzarei in metaphor, William Herodick in cognitive linguistics, and Rolf Barth at the university of language. I synthesized ideas from each of these fields into a visual language developed by semiotician Lloyd Morrell. As a result of this process, I was able to conclude that text-based contemporary dance performance communicates a sense of itself to the audience by drawing attention to the distinctiveness between its verbal and physical domains. Once established as separate, these domains may then combine to form metaphors. These domains may also be read as texts. The body text and the spoken text are the most significant scripts in this type of performance, although all aspects of theatricality may be read as narratives. Analyzing the interweaving of theoretical texts is simply a different way of describing the same phe-
nomenon. In the reading of relationship between body text and spoken text, iconic relationships between words and movement tend to give a work a sense of literalness, but also a feeling of obviousness. Alternatively, a high level of disconnection between body and speech reads as abstraction, but can also confound audiences. Successful work negotiates the degree of literalness or abstraction based on the needs of the work.

Kennedy, Sandra L. Energy expenditure in Scottish highland

The purpose of this study was to determine the energy expenditure of different Scottish highland dances. Female Premier level Scottish highland dancers (n = 9) had their oxygen uptake (VO2) and heart rate (HR) measured during the Flings, Sword, and Seana Truibhas dances. The VO2 were different between dancers (p<0.0001). The VO2 were highest during the Sword (31.9±5.4 ml/kg/min), followed by the Seana Truibhas (30.1±4.5 ml/kg/min) and Flings (28.6±4.4 ml/kg/min). Heart rates followed the same trend: Flings (168±3 bpm), Sword (175±11 bpm), and Seana Truibhas (175±11 bpm). The overall metabolic equivalent (MET) value for all three Highland dances was 8.6 METs, suggest-
ing that the exercise intensity of these dances is vigorous and potentially improves aerobics fitness.

BIOMECHANICS

Bartlett, Christopher. Effect of orthotic intervention on lower extremity kinematics and ground reaction forces in subjects with extensor posturosis. 2004. M.A., University of North Caro-
olina, Chapel Hill (Darin Padua). (114pp: 2 fiche $12.00, PDF $22.20) PE 4786

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Excessive pronation has been linked to several lower-extremity injuries in athletes. Orthotic intervention is widely used by health care providers in an effort to reduce symptoms of those injuries by reducing the amount of pronation. Seventeen marathon runners were recruited, who displayed greater than nine milimeters of navicular drop, performed walking, drop-jump, and jump-landing tasks under both barefoot and orthotic conditions. Kinematic and kinetic values for the lower extremity were collected. During the drop-landing task, knee valgus maximal angle and hip adduction range of motion were significantly increased, and time to peak ground reaction force was significantly decreased after orthotic intervention. Results from this study suggest that acute effects of orthotic intervention are minimal. Orthotic intervention is effective in reducing symptoms of lower extremity over-use injury, but cannot explain the initial effects of intervention on kinematics of the lower extremity.

Beavers, Jeffrey T. Coordination of the swing limb during obstacle crossing: a comparison between young and elderly adults, 2006. M.S., University of Oregon (Lili-Shan Chou). (97pp: 1 fiche $6.00, PDF $19.60) PE 4760

The purpose of this study was to examine age-related differences in joint coordination during obstructed gait. Gait analysis was performed on eleven young and eleven elderly subjects while they were crossing, in a self-selected manner, a square-shaped, 9-inch, 90° obstruction placed 15 inches above the ground. Temporal-distance measurements of body motion were measured, and a new variable, KPA/HFA ratio, was calculated to quantify knee and hip coordination. This ratio was the slope of the linear regression line used to fit the change in knee flexion with respect to hip flexion during the foot-accelerating period. When crossing a higher obstacle, leading limb KPA/HFA ratio significantly decreased from the unobstructed condition (1.54±0.03). However, the trailing limb ratio significantly increased as the obstacle height increased. Elderly individuals were found to use a significantly higher trailing limb KPA/HFA ratio as a result of closer foot placements to the obstacle and of higher foot elevation.

Ehlers, Julie. A kinematic comparison between young and elderly women during treadmill walking with partial body weight support, 2005. M.S., University of Nebraska, Omaha (Nick Stergios). (97pp: 1 fiche $6.00, PDF $19.65) PE 4761

The following study compared the sagittal plane angular kinematics of the lower extremity joints between young and elderly healthy females at changing levels of body weight support (BWS) during treadmill walking. The purpose of this study was to improve our understanding of the BWS effect on lower extremity kinematics and our understanding of the variability of these parameters due to the aging process. It was hypothesized that increased levels of BWS could affect the range of motion of the hip, knee, and ankle angles. It was also hypothesized that this effect would be greater for older females than for younger. Twenty-five females (ten women aged 20-35 years, ten women aged 70-75 years) participated in the study. Subjects were asked to walk on a treadmill at their self-paced pace at levels of 50%, 10%, 20%, and 30% BWS. Videotaped data were captured using a three-camera system. Results of this study indicate BWS has a significant effect on lower extremity kinematics. More differences were seen at the hip than at the knee and ankle. Significantly more variance was seen in the elderly, and it was concluded that this might be due to the aging neuromuscular system. Age also had a significant effect on gait speed, slower in the elderly. No significant interaction between BWS level and age was found.

Henrichs, Deborah K. A biomechanical comparison of ground reaction force and wrist hyperextension during hand contact phase of the front and back handspring in gymnastics, 2005. M.S., Western Washington University (Kathleen Krouten). (146pp: 2 fiche $12.00, PDF $22.30) PE 4756

The purpose of this study was to compare ground reaction force and degree of wrist hyperextension during hand contact phase of the front and back handspring when performed as part of a tumbling series. Sixteen female gymnasts (level 5-9 and high school) participated in the study (mean age 13.5 years; mean hand height 157 cm; mean body mass 45.5 kg). Active range of motion was measured with a universal goniometer before tumbling and averaged 74° and 74.3° of hyperextension for the left and right wrist, respectively. Digital video cameras and a force platform were used to capture kinematic and kinetic data. The back hand spring generated significantly more wrist hyperextension (back: 8.99 degrees; front: 7.41±0.02) and significantly more maximum vertical force (back = 967.16 N/hand; front = 744.30 N/hand or 1.53 x BW/hand; p<.002) than the front hand spring. The back hand spring also generated significantly more wrist hyperextension than gymnasts were able to obtain during the active range of motion measurement. The time of maximum vertical force occurred almost simultaneously with the time of maximum wrist hyperextension during the back hand spring (20% and 21% of time into hand contact, respectively; p=.002). The time of maximum vertical force occurred significantly earlier than the time of maximum wrist hyperextension during the front hand spring (23% and 58% of time into hand contact, respectively; p<.002). These findings may help to explain why some gymnasts experience more wrist pain during back hand springs than during front hand springs. This study also may have implications for training progression and injury prevention.

Hills, Julia. Hip range of motion asymmetries in female hitters, 2005. M.S., University of Toledo (Charles W. Armstrong). (67pp: 1 fiche $6.00, PDF $18.35) PE 4762

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Hitting a baseball requires significant rotational motion at the hips, and involves substantial corresponding contraction of the surrounding musculature. Baseball hitters typically repeat this hitting motion frequently and this constant repetition may contribute to the development of side-to-side asymmetries between the lead and back hips, based on previous research linking asymmetry to low back pain; this hip asymmetry could eventually lead to low back pain in these hitters. Forty-one male baseball players underwent hip internal/external range of motion (ROM) assessments both in prone and in weight-bearing positions. For weight-bearing measurements, subjects stood on a disk mounted to freely rotate from the base, with a 360°-degree scale placed around the perimeter of the disk. Rotation of the leg and foot was then measured in degrees. Assessment of ROM in the prone position was made using a manual goniometer. There were no significant differences in internal rotation between the lead hip and the back hip. There were significant differences in external rotation and total ROM, with the back hip having greater amounts of both. In general, the weight-bearing test produced greater ROM than the prone test. Additionally, individuals who complained of low back pain had more external rotation in their back hip during weight-bearing, but more external rotation in the lead hip during the prone test. Finally, there did not appear to be a strong relationship between the length of time players had participated in baseball and the presence of low back pain. Overall, there were significant differences in external rotation and total ROM, with the back hip evidencing greater range of motion than the lead hip. This increased amount of external rotation in the back hip may be related to the specific motions that occur as part of the hitting mechanism. Due to the constant rotational demands placed on the body, especially on the hips during the hitting mechanism, side-to-side differences are apparent and could potentially lead to injuries in the future.

Mandelwein, David S. The effect of total knee replacement on measures of gait and stair ascent, 2006. Ph.D., University of Oregon (U. of Oregon). (120pp: 2 fiche $20.00, PDF $21.00) FE 4756

The purpose of this study was to assess gait compensation in total knee replacement subjects (TKR, n=22) compared to age-matched controls (CON, n=22) during level walking, obstacle crossing, and stair ascent. TKRs were tested pre-operatively and six months following surgery. CON were tested twice, separated by six months. An eight-camera motion analysis system, force plates, and a three-step staircase were used to assess spatio-temporal and kinetic measures. Six months post-operation, TKRs walked faster compared to their pre-surgery gait. A feature of the TKR gait at both testing periods was a stiff attitude of the knee, which may be protective of the quadriceps, as significantly decreased knee extension moments were found when compared to CON. The TKR hip extensor moment contribution to movement of support appeared to compensate for the diminished knee extensor moment contribution during level walking and stair ascent. For level walking and obstacle crossing, TKR showed similar gait stability to CON at both testing periods. Changes in frontal plane COM excursion appeared to be associated with step width. The Western Ontario and McMaster Universities Osteoarthritis Index, Visual Analog Scale (WOMAC/VAS) activities of daily living (ADL) disability score was moderately related to frontal plane COM kinematics and showed a stronger relation than did pain scores. The TKR knee varus moment was restored to CON level post-operatively due to surgical realignment of the tibio-femoral joint. The frontal knee angle and knee moment were found to be strongly correlated. The clinical WOMAC/VAS outcome was not significantly correlated to the frontal plane knee variables, suggesting that subjective measures and objective measures captured different dimensions of the TKR experience. Nine variables were entered into a principal components analysis which extracted three principal components for the P1 and P2 data sets. A discriminant function analysis assessed which principal component best distinguished between TKR and CON. Results of this study suggest that end-stage knee osteoarthritis rehabilitation should prioritize maintenance of quality of life and symptom management and minimize knee varus moment. For six month post-TKR, priorities include lower extremity muscle strengthening, normal gait patterns for thigh musculature, and symptom management.


The purpose of this study was to investigate the effects of external shoulder torque alteration on joint position sense accuracy in healthy and unstable shoulders. Subjects were actively presented with a shoulder position and asked to concentrate on it. After returning to the starting position arm at side), subjects attempted to replicate the position with respect both to plane and to elevation angles without the benefit of visual feedback. Joint position sense (JPS) accuracy improved as the elevation angle of the target position approached ninety degrees, but was unaffected by changes in the plane angle. This result may indicate that JPS improves with increases in external joint torque and, therefore, muscle activation levels. The effect of muscle activation levels and the role of muscle in the feedback process may take on a more predominant role in providing sensory feedback during functional movements. This result was corroborated when shoulder JPS was observed to improve with increased external load, which also indicated that JPS can be enhanced under loaded conditions / sense-of-effort cues matched those from afferent feedback. JPS accuracy was not different in shoulder instabili-
ity patients and age-matched healthy controls, and did not change with alterations in elevation angle for either group. These results may indicate that individuals with unstable shoulders rely more heavily on musculotendinous receptor function for feedback under conditions of diminished capsuloligamentous receptor activity. However, these results may also reflect the wide age range of subjects.

Tokuno, Craig D. Postural and movement adaptations by individuals with a unilateral below-knee amputation during gait initiation [postural and movement adaptations during gait initiation by individuals with a unilateral below-knee amputation], 2002. M.S., University of British Columbia (David J. Sanderson). (117pp: 2 fiche $12.00, PDF $20.85) PE 4808

Gait initiation, the transition from upright stance to steady-state gait, requires asymmetrical use of the two lower limbs. The initial stepping limb, called the lead leg, is mainly used to generate forward thrust, while the non-stepping trailing limb is initially responsible for the generation of forward propulsion and the maintenance of body stability. For individuals with a unilateral below-knee amputation (BKA), this unequal sharing of responsibilities poses a potential conflict, as the prosthetic limb is known to have imitations in both stability and propulsion. Because the magnitude of this effect may differ depending upon the roles of each limb, the study hypothesized that individua lso with a unilateral BKA would undergo unique postural adaptations, dependent on the choice of leading limb. Eleven individuals with a unilateral BKA and eleven control subjects were recruited for this study. From a standing position, each individual initiated gait at three step-length conditions (+0%, -25%, and +50% of preferred step length). Half of the trials were initiated with the right limb, while the other half were initiated with the left. It was found that the amputees underwent postural and movement adaptations due to the presence of the prosthetic limb. The amputees required more time to initiate gait, applied a smaller magnitude of peak propulsive force, and exhibited a smaller displacement of the center of pressure. The magnitude of these changes was, however, found to be dependent upon the choice of the leading limb, as greater compensations were observed during the postural task limb condition. These conclusions were made from this study. First, the prolonged task duration allowed the amputees to apply a larger horizontal impulse, such that they were able to partially compensate for the decreased propulsive ability of the prosthetic limb. Second, the slower rate of initiation and the decrease in displacement of the center of pressure indicated that the amputees became more stable throughout the entire task. Finally, it appeared that the role of the trailing limb had a greater impact during gait initiation, and thus leading with the prosthetic limb resulted in fewer postural and movement adaptations.


The purpose of this study was to study the effect of a locally manufactured prefabricated foot orthotic on the rate of force distribution through the plantar forefoot. It is theorized that an equal distribution of plantar pressure is desired, to reduce the incidence of forefoot overuse injuries. Plantar pressures were analyzed with an in-shoe device called the Parosys System. Forefoot pressure distribution was calculated by averaging plantar pressures and calculating a lateral medial ratio. Results indicated that plantar pressures were significantly reduced in the lateral forefoot, and that there was a significant medial deviation in plantar pressure ratios, with use of the orthotic. It was concluded that although pressure deviated medially in the midfoot, it should not be seen as a negative outcome. This was due to a significant reduction in lateral pressures due to the high arch support in the orthotic. Additionally, the orthotic appears to be effective tool in reducing lateral forefoot pressures, potentially reducing the incidence of fifth metatarsal stress fractures.


Lateral heel wedge orthotics are designed to reduce medial tibiofemoral joint loading and pain in patients with knee osteoarthritis (OA). To date, the efficacy of long-term lateral heel wedge orthotics use among OA patients has not been determined. This study evaluated the extent to which lateral heel wedge orthotics reduced medial knee joint loading during walking and stair descent in knee OA patients. A secondary purpose was to measure the effects of lateral heel wedge orthotics on selected health-related quality-of-life parameters. A cohort of thirty-six men and women with moderate to severe medial knee OA were assigned to either an Orthotics group (mean age, 60.8±9.8 yr; mean body mass index [BMI], 28.1±3.71) or to a Control group (mean age, 61.0±9.2 yr; mean BMI, 28.0±4.2). The Orthotics group wore a pair of custom-made 7° lateral heel wedges daily for twelve weeks. The Control group wore a pair of neutral inserts for twelve weeks. Pain and functional levels were assessed using a 100-mm visual analog pain scale and the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC)*. Three-dimensional kinematic and kinetic data during level walking and stair descent were collected using a nine-camera motion analysis system synchronized with two strain gauge force plates. Subjects performed five walking trials and five stair descent trials at three different speeds—e.g., self-selected pace, slower, and faster. Biomechanical and health-related quality of life
data were collected from subjects at baseline, six weeks and twelve weeks. Using inverse dynamics equations, lower extremity joint moments and angles were calculated. Eleven dependent variables were analyzed with univariate Group x Time interaction between / within ANOVA. A weighted Bonferroni adjustment was used to protect against Type 1 error. During level walking trials, the early stance peak external knee adduction moment decreased 14.6% in the Orthotics group from Week 1 to Week 12 (p<0.05). The WOMAC TMean activities of daily living subscale scores decreased in both the Orthotics and Control groups throughout the study (p<0.05). Peak knee adduction mo-
ment was not different between Groups or Time during gait descent trials (p>0.05). However, at Week 12 subjects in the Orthotics group had an average 47% reduction in self-reported pain levels during stair descent compared with their pain scores at entry into the study (p=0.038).

These findings suggest that lateral level wedge orthoses can effectively lower medial knee joint loading for OA patients during level walking, while also reducing pain during the difficult task of descending stairs.

SPORTS MEDICINE

Burn, Kevin J. The effects of fatigue on the sensorimotor system and joint kinematics in the shoulder, 2007: M.A., University of North Carolina, Chapel Hill (Dave Fadus). (141pp: 2 fiche $12.00, PDF $22.05) PE 4799

Studies have shown decreased efficacy of the sensorimotor system and altered scapulohumeral kinematics after muscle fatigue; however, these studies have not investigated these effects during a functional pattern or in overhead athletes. Fifteen male and seven female overhead athletes with healthy shoulders performed a functional pattern both before and after fatigue of the rotator cuff musculature: Path of motion replication, in which subjects attempted to replicate a diagonal path both with and with-
out the use of a guiding pole, was used to assess the effects of fatigue on the sensorimotor system. Scapulohumeral kinematics were assessed by tracking the three-dimen-
sional motion of the shoulder while the subject performed the functional pattern with the use of a guide. In this study, the function of the sensorimotor system was unchanged, and scapular upward rotation while ascending through the movement pattern was increased with fatigue. No other scapular kinematic alterations were observed. These find-
ings suggest that endurance of the rotator cuff and scapulohumeral musculature should be a focus of rehabilitation and training programs for overhead athletes, to prevent dysfunctional shoulder kinematics.

Essa, Michael S. Long-term ankle bracing does not affect muscle pre-activation amplitude in the lower leg, 2005: M.A., Univer-
sity of North Carolina, Chapel Hill (Kevin Gaskiewicz). (120pp: 2 fiche $12.00, PDF $22.50) PE 4790

Critics suggest that long-term ankle bracing may lead to negative neuromuscular adaptations. The purpose of this study was to determine the immediate and long-term effects of ankle bracing on muscle pre-activation ampi-
tudes in the lower leg musculature. Thirty-six recreational athletes participated in the study. Subjects underwent pre-
and post-brace and non-brace conditions while performing a jump landing task (JLT). Surface electromy-
ography (EMG) was used to assess muscle pre-activator in the peroneus longus (PL) and tibialis anterior (TA). The intervention group wore ankle stabilizing orthoses during recreational activity for eight weeks. The braced condition demonstrated a trend towards increased muscle pre-activa-
tion amplitude (PA) in the PL immediately after brace application. No significant long-term deficits in (PA) were found between the intervention and control groups. There were no significant findings for the TA.

Hornuth, Julie L. Changes in intramuscular temperature during post-exercise application of a cold modality, 2006: M.S., Michigan State University (John Powell). (99pp: 2 fiche $12.00, PDF $19.05) PE 4803

Cold application is a common treatment used to care for acute injuries. Most research is related to intramuscular tissue temperature changes with regards to cold applica-
tion on tissues at rest. The purpose of this study was to determine the difference in post-exercise intramuscular tissue temperature during application of two common cold modalities, as well as after removal. A temperature probe was inserted one centimeter below the subcutane-
ous adipose layer of the lower leg in eighteen subjects. Each subject participated in all three conditions (control, crushed ice pack, ice massage) in a randomized order. The treatment phase lasted for twenty minutes, followed by a thirty-minute re-warming phase. While both cold modal-
ties decreased intramuscular tissue temperature compared to the control condition, the greatest decrease occurred with ice massage. Re-warming showed a continued cooling of seven and three minutes for the crushed ice pack and ice massage conditions, respectively, followed by an increase in temperature that remained significantly lower than resting tissue temperature. There was also a significant increase in temperature during re-warming following application of a crushed ice pack compared to ice massage. Both conditions created a significant decrease in intramuscular tissue tem-
perature, compared to the control condition, after twenty minutes of cold modality application.

Joshl, Mithun A. Posterior rotator cuff fatigue effects scapular muscle activation during a diagonal movement task, 2005: M.A., University of North Carolina, Chapel Hill (Darwin Fadus). (120pp: 2 fiche $12.00, PDF $22.50) PE 4794
Abnormal scapular muscle activation caused by shoulder fatigue is believed to contribute to shoulder pain and pathology. Research on this topic is limited. The purpose of this study was to assess the effects of posterior cuff fatigue on scapular muscle activation during a diagonal movement task. Fifteen males and ten females with experience in an overhead sport at the intercollegiate or collegiate club level participated in this study. During a single testing session, subjects performed a diagonal movement task before and after a fatigueing exercise. Surface electromyography (EMG) was used to record the average root mean square amplitude and time to peak activation for the upper trapezius, lower trapezius, infraspinatus, and serratus anterior muscles. Subjects demonstrated decreased lower trapezius activation following fatigue.

Lane, Kristen. An exploratory study of coaches' perceptions of disordered eating among female collegiate athletes, 2006. Pro D., Widener University (Chester, PA) [Andria Pabustan]. (124pp: 2 fiche $12.00; PDF $21.30) PE 4764

There is a growing body of research suggesting an increased risk for, as well as significant health consequences associated with, disordered eating among female athletes. Much research has attempted to determine the actual prevalence of disordered eating among athletes. However, there has been less focus on factors specific to the development of methods of prevention and management. Given literature suggests that the coach is an influential figure in the prevention and management of disordered eating among female athletes, this exploratory study examined coaches' perceptions and knowledge of, as compared to the actual disordered eating behaviors reported by athletes. Results suggest coaches' perceptions were not congruent with disordered eating behaviors reported by athletes. Based on descriptive comparisons, it was determined that, for each of the behaviors assessed, one or more of six head coaches misperceived actual prevalence by 20% or more. Average discrepancy between coaches and their athletes, for each of the items compared, ranged between 3% and 52%.

Lynch, Stephanie S. The effects of an exercise intervention on forward head and rounded shoulder postures in swimmers, 2005. M.A., University of North Carolina, Chapel Hill (William Pivonko). (341pp: 2 fiche $12.00; PDF $22.05) PE 4795

To determine the effects of exercise on improving posture, increasing strength, and decreasing shoulder pain and dysfunction in varsity swimmers subjects were randomly assigned to two groups, control and intervention. Two testing sessions were conducted before and after an eight-week exercise intervention. Twenty-eight NCAA Division I varsity swimmers were assessed for posture, strength, and shoulder pain and function. Forward head angle was measured using a digital inclinometer, forward shoulder translation was measured using a ruler, and total scapular distance was measured with unmarked string. Average and peak values (N) of strength were measured with a hand-held dynamometer. The intervention subjects participated in an eight-week exercise program to correct posture. Intervention subjects demonstrated a significant decrease in forward head angle and forward shoulder translation at post-test. All subjects demonstrated significant increase (P<0.05) in average and peak measures of strength for each muscle group. The exercise intervention was successful in improving forward head and forward shoulder postures in elite swimmers. This study supports the theoretical basis for clinical rehabilitation of posture and of the shoulder.

Pavel, Aldooy V. The effects of dehydration on symptomatology, neuropsychological performance, and pastoral stability, 2005. M.A., University of North Carolina, Chapel Hill (Kevin M. Guskiewicz). (189pp: 2 fiche $12.00; PDF $24.45) PE 4796

Twenty-four male, uninjured college-age subjects participated in a randomly counterbalanced crossover study involving two conditions (dehydration and dehydrated). Each subject participated in each condition, during which subjects completed a self-reported symptom assessment, neuropsychological assessments, and postural stability assessments commonly used to assess concussion. Results of each assessment between conditions were analyzed. While moderately dehydrated, subjects experienced significantly greater symptoms and severity of symptoms. Including headache, dizziness, and fatigue. Neuropsychological performance and postural stability were unaffected by moderate dehydration. Results indicate that moderate dehydration does not affect neuropsychological and postural stability assessments commonly used to examine concussion. Symptom reports should not serve as a stand-alone method of concussion evaluation, as dehydration presents common symptoms.

Sonnenshal, Sara. Impact of different warm-up conditions on hamstring torque and power, 2005. M.Ed., Bowling Green State University (Amy L. Morgan). (63pp: 1 fiche $6.00; PDF $16.05) PE 4758

A general warm-up, including stretching, is common procedure in many athletic endeavors and has been shown to have multiple benefits. However, the effects of acute stretching immediately prior to maximal strength and power based activities is not conclusive. The hamstring muscle group is of interest because of its high incidence of injury, and it is also a common measure of flexibility. The purpose of this study was to determine how three different warm-up conditions prior to exercise influence active range of motion (AROM) and peak and average isokinetic muscle torque at two different speeds. Participants were moderately active males (N=19) between the ages of eighteen and twenty-five years. All participants completed three warm-up conditions: jogging only, jogging plus
stretching, and jogging plus stretching plus fifteen-minute rest period. Nine dependent variables of the haemstrings were measured: eccentric average torque, concentric peak torque, eccentric average torque, eccentric peak torque, and hamstring active range of motion. Each torque measure was taken at sixty degrees and at 120 degrees per second. Data were measured using a Kin-Com isokinetic machine and manual goniometer. A two-way MANOVA was used to analyze data. AROM data were also assessed using a repeated measures (2 x 3) ANOVA to detect significant changes over time. Muscular torque data were not significantly different between warm-up conditions (p=0.05). AROM showed significant increases after all three warm-up conditions (p≤0.05). These results demonstrate that a pre-activity warm-up which includes a minimum of five minutes of jogging was sufficient to promote increases in AROM, and that these effects lasted for at least fifteen minutes after warm-up was completed.

Strickland, Lindsay J. Ankle bracing alters knee and ankle kinematics but does not ground reaction forces during a jump-landing. 2005. M.A., University of North Carolina, Chapel Hill (Darin Fadal). (125pp: 2 fiche $12.00, PDF $21.10) PE 4707

To evaluate the effects of prophylactic ankle bracing on lower extremity kinematics and kinetics during a jump-landing, an experimental research design was used to compare an intervention (n=21) and control (n=21) group in both braced and unbraced conditions. Forty-two healthy physically active subjects with stable ankles volunteered to participate. Knee and ankle kinematic and kinetic data were recorded. A mixed model multivariate analysis of variance was used for statistical analyses. During wearing of the ankle braces, there was a significant decrease in ankle dorsiflexion range of motion (P<0.05) and an increase in knee flexion at initial ground contact (P<0.001). However, there were no changes in vertical ground reaction force during wearing of the ankle brace (P<0.479). Prophylactic ankle bracing had no negative effect on knee and ankle kinematics or ground reaction forces, but may have beneficial effects in preventing ankle sprains and other lower extremity injuries.

Sutton, Kristen R. Bodyblade: effects of Rhythmic stabilizations on rotator cuff muscles measured by ENG among females ages 18-25. 2006. M.S., Michigan State University (John Powell). (99pp: 1 fiche $6.00, PDF $19.70) PE 4806

The purpose of this study was to examine, with electromyography, difference in amount of muscle recruitment across six shoulder muscles, comparing four positions, performing static holds as well as rhythmic stabilizations using Bodyblade™ (a progressive resistance training device). A total of twenty female subjects volunteered for this study. All participants performed eight exercises using Bodyblade™ (four static hold exercises, four rhythmic stabiliza-

tion exercises) in four different shoulder positions. Results revealed a greater percent of maximal voluntary contrac-
tion while performing rhythmic stabilization compared to static hold activities using Bodyblade™. Tensile minor produced the greatest percent of muscle recruitment during Bodyblade™ exercise in shoulder shrug, front raise, and IR/ER positions. The front raise Bodyblade™ exercise pro-
duced greatest muscle recruitment across the six muscles. Results of this study suggest that rhythmic stabilization provides greater rotator cuff muscle recruitment compared to a static hold with Bodyblade™. This supports use of Bodyblade™ among sports medicine professionals as a proficient rehabilitation tool for rotator cuff muscles.


The purpose of the study was to examine the effects of exhaustive exercise on cognitive function in recreational athletes. A total of 102 subjects (48 control, 54 experimental) volunteered. All subjects were administered a practice and baseline IMPACT test. Subjects in the experimental group were asked to perform an exhaustive bout of exercise to VO2 max. The control group was asked to remain at rest for fifteen minutes. Both groups were then administered a post-test, with a follow-up three days later. Results revealed significant differences for the experimental group on the verbal memory composite score (p<0.03), immediate recall memory scores (p<0.001), and delayed recall memory scores (p<0.001). Results suggest exhaustive exercise has significant impact on cognitive function. As such, it is recommended that IMPACT should not be administered immediately following practice, competition, or removal from play after sustaining a concussion.

PHYSIOLOGY AND EXERCISE EPIDEMIOLOGY


The purpose of the current investigation was to establish an in vitro skeletal muscle model to study acute alter-
tations in resting skeletal muscle cell volume. Isolated whole muscle (soleus [SOL] and extensor digitorum longus [EDL]) was dissected from Long-Evans rats and incubated for 60 min. in buffer solution to resting tension (1g), bubbled with 95/5% O2/CO2, 30°C, and pH 7.4. Media osmolality was altered to simulate hypo-osmotic (190 ±
10 Osm) (HYPO) or hyper-osmotic conditions (400 ± 10 Osm) (HYPER) while an iso-osmotic condition (290 ± 10 Osm) (CON) served as a control (n=17, 19, 17). Following incubation, relative muscle water content decreased with HYPER and increased with HYPO in both muscle types (p<0.05). The cross-sectional area of HYPO SOL type I and type II fibres increased (p<0.05) while the EDL type II fibre area decreased in HYPER and increased from HYPO exposure. Furthermore, HYPER exposure in both muscles led to decreased adenine triphosphate and phosphocreatine (p<0.05) and increased creatine and lactate (p<0.05) compared to CON. This isolated skeletal muscle model proved viable and demonstrated that altering extracellular osmolality could cause acute alterations in muscle water content and resting muscle metabolism.

Bradley, Nicollot S. The acute effects of differential dietary fatty acids on PDH (pyruvate dehydrogenase, active) activity in human skeletal muscle at the onset of exercise. 2006. M.Sc., Brock University (Sandra J. Peters). (110 pp; 2 fiches $12.00, PDF $20.50) PH 1841

Pyruvate dehydrogenase (PDH) is an important regulator of carbohydrate oxidation during exercise and its activity can be down-regulated by an increase in dietary fat. The purpose of this study was to determine the acute metabolic effects of differential dietary fatty acids on the activation of PDH in its active form (PDHα) at rest and at the onset of moderate-intensity exercise in university-aged and male subjects (n=7) undergoing two fat-loading trials spaced at least two weeks apart. Subjects consumed saturated (SFA) or polyunsaturated (PUFA) fat over the course of five hours. Following this, participants cycled at 65% VO2 max for fifteen min. Muscle biopsies were taken prior to and following fat loading and at one min. exercise. Plasma-free fatty acids increased from 0.15±0.07 to 0.54±0.19 mM over five hours with SFA and from 0.11±0.04 to 0.35±0.13 mM with PUFA. PDHα activity was unchanged following fat loading, but increased at the onset of exercise in the SFA trial, from 1.4±0.4 to 2.2±0.4 mol/min/kg wet wt. This effect was negated in the PUFA trial (1.2±0.3 to 1.3±0.3 mol/min/kg wet wt.). PDHα kinase (PDK) was unchanged in both trials, suggesting that the attenuation of PDHα activity with PUFA was a result of changes in the concentrations of intra-mitochondrial effectors, more specifically intramitochondrial NADH or Ca2+. Our findings suggest that attenuated PDHα activity participates in the preferential oxidation of PUFA during moderate intensity exercise.

Delhez, Jason. The effects of penterline / pantothenic acid supplementation on cholesterol and exercise metabolism, 2005, M.S., Springfield College (Samuel Headley). (100 pp; 2 fiches $12.00, PDF $20.10) PH 1844

The aim of this investigation was to study the effect of penterline / pantothenic acid (P / PA) combination on cholesterol and exercise metabolism. Ten male subjects with a total cholesterol (TC) level between 220-255 mg/dL completed a four-week supplementation period with a thirty-minute exercise bout immediately before and after the four-week trial. Subjects were paired in a double-blind design based on body mass index (BMI) and divided into a placebo or P / PA group. The thirty-minute exercise bout consisted of a treadmill run at a moderate intensity while targeting a maximum heart rate. Heart rate was maintained at a constant level while the respiratory exchange ratio (RER) and treadmill speed was recorded to determine any exercise benefits. Blood was drawn at the onset and conclusion of the trial at three intervals (pre-exercise, post-exercise, and twenty-four hours post-exercise). TC, high-density lipoproteins (HDL-C), low-density lipoproteins (LDL-C), and triglyceride levels were measured at each interval to determine any improvements in cholesterol from supplementation alone, and from a synergistic effect from exercise. TC levels decreased significantly (p<0.05) over twenty-four hours during each exercise trial, independent from supplementation. RER values decreased significantly (p<0.05) during each exercise trial, after supplementation, and during the exercise trial following supplementation. Treadmill speed also decreased significantly (p<0.05) during each exercise trial, independent of supplementation. In conclusion, P / PA supplementation did not appear to affect cholesterol levels; however, both total cholesterol and exercise metabolism were improved consequent to a thirty-minute exercise bout.

Green, Kathleen. Vertebal endplate changes in college football players, 2006. M.S., University of Oregon (Susan Sweeve). (292 pp; 1 fichie $6.00, PDF $16.45) PH 1842

Changes in endplate constituencies have been investigated in non-pathological skeletal muscle populations and in football players. These constituencies have been labeled as hypercon- cavi ty of the lumbar vertebral endplates with increased disc space (HEPS), as Cupid's Bow, and as balloon discs. HEPS has been hypothesized to result from axial loading on the spine, but the cause of these constituencies, and their implications, remain unclear. Our hypothesis is that non-blocking football players will demonstrate a lower incidence of HEPS when compared to linemen, due to their lack of blocking and line play and, therefore, to lower magnitude of axial loading. This is a cross-sec- tional study. Twenty-two linemen and fifteen non-blocking- position players completed a history questionnaire and a standing lateral lumbar x-ray. Results showed that non-blocking players had a similar incidence of HEPS (40%), when compared to linemen (36%). Constituency areas were centrally and posteriorly located in 59% and 38% of endplates, respectively, and were most dominant at the inferior L5 and inferior L5 endplates. We conclude that football line play and blocking do not appear to increase the incidence of HEPS when compared to players who do...
not engage in these activities. In addition, this adaptation does not appear to be a characteristic of larger people, making its proposed relationship to increased levels of growth hormone less likely. The magnitude of concavity, location on the endplate, and occurrence predominantly on the inferior L3 and L5 endplates, suggest causative factors that are different from sedentary control population.

Hill, Laura C. Effect of eccentric exercise on insulin sensitivity in postmenopausal women with impaired glucose tolerance, 2006. Ph.D., University of Utah (Daniel Williams). (79pp.) Fiche $6.00, PDF $18.80 PH 1837

Postmenopausal oral hormone replacement therapy (HRT) may paradoxically reduce the risk for type-2 diabetes (T2D) while increasing the risk for cardiovascular disease (CVD) in women. Therefore, safe and effective alternative treatments are needed to help prevent the increased risks of developing T2D and CVD following menopause. The present study examined whether eccentric strength training ergometry, plus the usual core diet and exercise advice, is more efficacious than the usual core diet and exercise advice itself for improving whole body insulin sensitivity in postmenopausal women with impaired glucose tolerance (IGT). Seventy-one postmenopausal women were screened by an oral glucose tolerance test (OGTT), and sixteen postmenopausal women with IGT were assigned to and completed one of two possible experimental treatments (an eccentric strength training ergometry plus usual core care treatment [ECT, n=10] or a usual care control [CON, n=6]). The ECC group participated in a progressive eccentric ergometry program three times per week for twelve weeks. We found that twelve weeks of eccentric ergometry did not improve a unitless, OGTT-derived index of whole body insulin sensitivity (ECT: -1.1±3.1 vs. CON: +1.0±3.1, p=0.994). Moreover, the ergometry program did not increase soft tissue lean mass (ECT: +0.8±1.6 kg vs. CON: -0.9±1.5 kg, p=0.135) or reduce fat mass (ECT: -0.1±2.3 kg vs. CON: -0.1±2.5 kg, p=0.880). However, the ergometry program increased quadriceps strength (ECT: 8.0±6.0 kg vs. CON: -0.6±1.1 kg, p=0.029), and the quadriceps strength increases were correlated with reductions in waist circumference (r= -0.64, p=0.007). The ergometry program also increased insulin-like growth factor-1 (IGF-I) expression in the quadriceps muscle (ECT: +0.6±0.5 μg vs. CON: 0.3±0.5 μg, P=0.006) without altering serum concentrations of IGF-I (ECT: -14.5±22.5 ng/ml vs. CON: -5.3±22.4 ng/ml, p=0.63). It is unknown that 12 weeks of eccentric ergometry does not improve whole body insulin sensitivity or body composition in postmenopausal women with IGT. By contrast, the observed increases in quadriceps strength and IGF-I expression suggest that eccentric ergometry may be an effective treatment to either pair with or to precede an endurance walking program in older adults with IGT.

Peralta-Hurtas, Jace. Determinants of left ventricular mass as measured by Doppler echocardiography in pre-adolescents, 2005. M.Sc., Brock University (Panagoda Klerienou). (111pp. 2 fiche $12.00, PDF $26.55) PH 1839

This study examined factors contributing to the differences in left ventricular mass as measured by Doppler echocardiography in children. Fourteen boys (10.3±0.3 years of age) and eleven girls (10.5±0.4 years of age) participated in the study. Height, weight, and body mass were measured, and relative body fat was determined from the measurement of skinfold thickness according to M. H. Laaknef et al. (1988. Human Biology 40,709-725). Lean Body Mass was then calculated by subtracting fat mass from total body mass. Sexual maturation was self-assessed using the stages of sexual maturation by J. M. Tanner (1982. Growth and Adolescence. B-both pubic hair development and genital (penis or breast for boys and girls, respectively) development were used to determine sexual maturation. Cardiac pulse pressure was assessed by application tonometry in the left carotid artery. Cardiac mass was measured by Doppler echocardiography. Images of cardiac structures were taken using B-Mode and were then translated to M-Mode. The dimensions at the end diastole were obtained at the onset of the QRS complex of the electrocardiogram in a plane through a standard position. Measurements were conducted as follows: (a) the diameter of the left ventricle at the end diastole was measured from the septum edge to the endocardium mean border; (b) the posterior wall was measured as the distance from the anterior wall to the epicardium surface; and (c) the interventricular septum was quantified as the distance from the surface of the left ventricle border to the right ventricle septum surface. Systolic time measurements were taken at the peak of the T-wave of the electrocardiogram. Each measurement was taken three to five times to before averaging. Average values were used to calculate cardiac mass. Weekly physical activity metabolic equivalent was calculated using a standardized activity questionnaire, and peak VO2 was measured in a cycleergometer. There were no significant differences in cardiac ultrasound measurements between boys and girls. Left ventricular mass was correlated (p=0.05) with size, matura-

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its final outcome. Although body size parameters were the strongest correlate of left ventricular mass in this pre-adolescent group of children, to our knowledge this is the first study to report that sexual maturation, as well as physical activity and fitness, are also strongly associated with left ventricular mass in pre-adolescents, especially in young females. Arterial variables, such as systolic blood pressure and carotid pulse pressure, are not strong determinants of left ventricular mass in this pre-adolescent group. In general, these data suggest that although there are no gender differences in the absolute values of left ventricular mass, as children grow, the factors that determine cardiac mass differ between the genders, even in the same pre-adolescent age.


Incremental intensities of neck pressure/neck suction were applied to nine untrained individuals (three females and six males): 1) during rest, isometric 90° knee extension, 2) at 30% maximal voluntary contraction (MVC); and 3) at 45% MVC. Subjects then completed a seven-week three-session-per-week training protocol on an isokinetic leg extension machine. After the seven weeks, neck pressure/neck suction was administered again: 1) at rest, 2) at 30% MVC, and 3) at 45% MVC. Significant differences were found between pre-training and post-training MVC, and post-training MVC. Baroreflex sensitivity and response range increased following training, but not with exercise. Operating point, as percentage, did not differ significantly with training, but was higher at 45% MVC than that of either 30% MVC or rest. Operating point as an absolute heart rate differed significantly between 45% MVC, 30% MVC, and rest. Threshold and saturation increased with exercise, but were not altered with training. Baroreflex resetting was found to occur with exercise, but was not found to be a training effect. Data suggest that a seven-week lower-body-strength training protocol may increase baroreflex sensitivity and response range following training.

Whitaker, Brent A. Estimating energy expenditure during exercise greater than standard daily activities using a different anatomical placement of motion detectors. 2005. M.S., University of Delaware (Robert E. Neven). 66pp. 1 fiche $6.00, PDF $18.15. PH 1840

The purpose of this study was two-fold: first, to determine if accelerometers could be used in an alternate anatomical location in order to capitalize on their motion detection capability; and second, to determine if a correction factor could be identified and then applied to accelerometers' calorific expenditure estimate to more correctly reflect total daily energy expenditure for people who will use them during stationary cycling or treadmill walking under varied workload conditions. Twenty-six young, healthy, female and male subjects (18-25 years of age) were recruited from the University of Delaware student population. Subjects were asked to perform two different modes of exercise: walking on a treadmill, and pedaling on a stationary bicycle ergometer under four different intensity levels. This study compared total energy expenditure expressed in kcal/min. during incremental exercise using a PARVO True One® metabolic measurement system and the RT3®, Caltrac®, and Actical® accelerometers. These commercially available devices have been previously validated with our metabolic system. A repeated measures, two-way ANOVA with fixed effects was used to determine if there were any significant differences between the measurements of the four devices at four different intensities during two modes of exercise. A Tukey post hoc test determined where significant differences existed. A Pearson correlation coefficient determined how closely the estimated kcal energy expenditure values of the accelerometers correlated with actual kcal values measured by PARVO True One®. Significance was set at p≤0.05. Application of a repeated measures two-way ANOVA, with fixed effects, determined significant differences between PARVO and the three accelerometers during both modes of exercise. Tukey post hoc results indicated that all four methods of determining kcal energy expenditure differed at all four workload settings during treadmill and bicycle ergometer exercise, with one exception. RT3 kcal values did not significantly differ from those of PARVO at the fourth workload setting during treadmill exercise. The three accelerometers erratically overestimated and underestimated, by a range of c<1% to 57%, actual kcal energy expenditure values measured by the PARVO indirect calorimetry method during the treadmill exercise. At the first workload setting during stationary ergometer cycling exercise, Caltrac and RT3 overestimated PARVO by 20% and 8%, respectively, and Actical underestimated by 13%. At 60, 80%, and 100-watt settings, the three devices consistently underestimated the measured PARVO kcal values. Due to variability in estimated kcal values between these devices, in comparison to PARVO, Pearson correlation coefficients indicated very weak relationships between values of the four devices for both modes of exercise, with one exception. Moderate correlations only existed between the RT3 and PARVO values for the first three workload settings during treadmill exercise. Overall, the Caltrac, RT3, and the Actical accelerometers did not accurately estimate actual indirect calorimetry energy expenditure values measured by PARVO. They did not detect increases in metabolic energy expenditure measured by the PARVO system from workload to workload when positioned in an alternate anatomical location on the lower anterior thigh 2' above the patella during treadmill walking and stationary bicycle ergometer exercise. Consequently, the first hypothesis was rejected. While positioned in an alternate anatomical position over the lower anterior thigh 2' above the patella, the Caltrac, the RT3, and the Actical accelerometers
HEALTH AND HEALTH EDUCATION

Ashworth, Brian M. Acute effects of intraarterial aerobic exercise on 24-hr ambulatory blood pressure in hypertensive ESRD [end-stage renal disease] patients, 2005. M.S., Springfield College (Samuel Headley). (138pp: 2 figures $12.00, PDF $12.90) HE 869

The investment was designed to determine if performing aerobic exercise during dialysis would elicit a lower blood pressure (BP) response over a 24-hr monitoring period compared to a non-exercise control trial. Six medically stable hemodialysis patients completed the study; five males and one female (age, 50.3±10.7 years). Subjects completed two testing sessions in random counterbalanced order. Subjects served as their own control, as they remained inactive during one of their dialysis treatments. During the experimental trial, subjects performed 30 min. of aerobic exercise comprising a cycle ergometer within the first 90 min. of the hemodialysis treatment, which elicited an RPE of 3. After completion of the dialysis treatment for both sessions, the ambulatory blood pressure monitor (ABPM) was attached to each subject. The ABPM recorded blood pressures every 30 min during waking hours and every hour during sleeping hours. The ABPM was also programmed to measure blood pressure load, which was set at 140/90 mmHg. BP data were analyzed by means of a 2 X 3 repeated measures analysis of variance procedure. BP load data were analyzed using a paired sample t-test. There were no significant reductions in systolic blood pressure (SBP), diastolic blood pressure (DBP), and mean arterial pressure (MAP) (p>0.05). Similarly, there was no significant reduction observed in BP load (p>0.05). Lack of significance may be due to the low number of subjects studied (N=6).

According to these results, aerobic exercise during dialysis can be performed safely, but it did not result in significant reductions in SBP, DBP, MAP, or BP load.

Barfoot, Diane A. The effects of a resistance training protocol on changes in muscular strength and fatigue levels in breast cancer patients undergoing treatment, 2005. M.A., University of North Carolina, Chapel Hill (Claudio Battaglini). (75pp: 1 figure $16.00, PDF $16.75) PE 866

Researchers have investigated exercise to combat side effects, such as fatigue and fatigue levels in breast cancer patients undergoing treatment. Twenty subjects were randomized into an exercise or control group. Subjects participated in a twenty-one-week protocol, including assessments of strength prior to surgery and post-intervention, and of fatigue six times throughout the study. The exercise group exercised at a low to moderate intensity for sixty minutes two days a week beginning post-surgery. Significant differences in overall muscular strength were observed between groups post-intervention (p<0.05). Fatigue was also significantly different between groups at treatment one (p<0.001), treatment two (p<0.005), and post-intervention (p<0.005). In conclusion, an exercise protocol emphasizing resistance training should be recommended for breast cancer patients undergoing treatment.

Burris Merrill, Jamie. Effects of resistance exercise on functional ability and quality of life in persons with peripheral arterial
The current study was designed to examine the effects of resistance training with aerobic exercise (n=3) versus aerobic-only training (n=3) on functional ability and quality of life in persons with peripheral arterial disease (PAD). Subjects were randomly assigned into the two groups. Outcomes of functional capacity and quality of life were evaluated by performing st max daily walking distance (MWD) and for maximal walking time (MWT) during 2 times 8 weeks walking of training. A significant (p<.05) interaction between the training program and training time for maximal walking distance (MWD) and for maximal walking time (MWT) was 1.03 analysis of variance with repeated measures. A simple effects test revealed no significant (p>.05) difference for the two training treatments. A significant (p<.05) main effect was observed over the three testing sessions for emotional pain distance (CPD), classification pain time (CPT), MWD, MWT, predicted strength in walking distance score, walking speed score, stair climbing ability score, and physical component summary score. Significant improvements in both groups were demonstrated over the eight-week training period in nine of the ten variables. Results are inconclusive as to which type of exercise program is more beneficial.


The Eastern tradition of yoga has been practiced for over 5000 years, yet has been largely ignored in psychological research, despite its reported healing qualities. This pre-measure to post-measure study evaluated how three months of yoga, compared to a strength fitness class, influenced mindfulness and mood/depression levels of participants. Specifically, mindfulness was examined as a potential mediating factor in yoga practice and its effects on depression. The Beck Depression Inventory II (BDI II) was used to measure the severity of depressive symptomology, and mindfulness was measured using the Mindfulness Attention Awareness Scale (MAAS). In this quasi-experimental study, twenty-seven participants who enrolled in university yoga classes responded to a survey. Thirty participants from strength fitness classes were used as a control group to illustrate activity level and its known benefits for depression and mood disorders.


Several types of exercise equipment are used to achieve cardiovascular endurance in older adults. The purposes of this study are: 1) to compare the cardiovascular responses of heart rate (HR) and blood pressure (BP) while working at a "somewhat hard" selected intensity in a convenience sample of older adults using a treadmill (TM), an elliptical trainer (ET), and a reclining stepper (RS); and 2) to assess the exercise equipment preferences of older adults. Ten participants (four males, six females; mean age 76.63, SD=6.693), exercised on ET, TM, and RS for four minutes, with random-ordered exercise mode on two different days. On one day, they exercised with stationary arms; on the other, the arms were moving. On each day, after one to four minutes were up of walking away from the room, testing was completed on each piece of exercise equipment at a self-selected speed corresponding to an RPE of 12-14 for four minutes HR and BP were recorded at 0, 2, and 4 minutes. Participants completed a survey regarding their opinions of each piece of equipment at the conclusion of the second day. One-way repeated measures ANOVA was used to determine differences in means. Results showed a significantly greater increase in HR while exercising on ET compared to TM and RS. There were no significant differences in BP due to mode of exercise. Participants showed a strong preference for using the ET for their work-outs; however, when asked which machine they would recommend for others, they chose RS.

Grzeazi, Elizabeth A. The use of yoga within a psychosocial treatment program for adolescents with ADHD—a pilot study. 2005, M.A., Cleveland State University (Richard Rakos and Michael Manos). (72pp: 1 fiche $6.00, PDF $18.60) HE 862

Attention deficit/hyperactivity disorder (ADHD) affects many children and adolescents by influencing their attention and activity levels, as well as their ability to monitor their own self-control. Currently, many adolescents with ADHD are treated with a pharmacological or behavioral treatment plan. However, due to numerous side effects from these treatments, new different treatment options are being investigated. Yoga has been proposed as a potential treatment due to its ability to normalize physical health and improve mental health in many populations. Specifically, yoga was hypothesized to increase self-monitoring in an adolescent population meeting DSM-IV-TR criteria for ADHD who were also included in the summer treatment program. This pilot study used a multiple base-line design developed to compare two groups of adolescents receiving the treatment: self-monitoring as taught through a yoga instructor for either six weeks or three weeks. All adolescents had the choice of participating in the yoga exercises or in another sporting activity. Perceived changes in behavior, feelings, and relationship skills were assumed through the use of the Clinical Global Impressions scale, adolescents, parent and counselor rating scales, and interviews with all adolescents. Adolescents who participated showed important improvements in management of feelings and behavior, as well as specific relation-
ship skills, such as cooperativeness and giving negative feedback. Adolescents expressed improved confidence and focus after participating in the yoga exercises, as well as better relationships with their family members. Suggestions are offered that should be considered before implementing a larger-scale investigation of yoga as a treatment for persons with ADHD.

Helleken, Laurie-am M. The development and validation of a time management instrument for exercise adoption, participation, and adherence, 2005. Ph.D., University of Alberta (W. Todd Rogers). (41pp: 5 fiche $30.00, PDF $35.95) HE 858

The most prevalent self-reported explanation for inactive lifestyles is lack of time. Lack of time for exercise may be the result of poor time management skills. There are no published time-management-for-exercise assessment tools. The purpose of this study was to develop, and to collect evidence of the validity for, a time management scale for exercise (TIMES). An initial pool of ninety-one items was developed from existing time management literature, resulting in thirteen items for each of seven subscales: Exercise Documentation, Exercise Priorities, Exercise Scheduling, Exercise Organization: Awareness of Time and Exercise Suitability, Setting Exercise Goals, and Exercise Time Management Preferences and Emotions. Ten exercise/health psychologists judged each of the items in terms of relevance and representativeness. Simultaneously, 559 undergraduate students completed the ninety-one-item scale. The judgmental analysis resulted in forty-nine items meeting all relevance criteria. Exploratory factor analysis (principal axis followed by direct oblimin, 4-0) revealed an interpretable four-factor, thirty-two-item solution. Twenty-four items (75%) identified as relevant by the judges significantly loaded on one of the four factors. Each of the four factors was comprised of at least seven items, with internal consistency values ranging from 0.72 to 0.91. In order to maximize content relevance and representativeness, and to maintain a minimum of eight items per subscale, five supplementary items provided by the experts were added to the TIMES, resulting in a total of thirty-seven TIMES items. A second empirical field study was conducted with 430 undergraduate students. In order to provide evidence of replication, this sample was further divided into two subsamples. Neither the thirty-seven-item nor the thirty-two-item TIMES was confirmed to fit the data in either of the subsamples, but an interpretable twenty-nine-item factor pattern emerged from exploratory factor analysis: Exercise Importance (8 items, α=0.91), Exercise Documentation (8 items, α=0.92), Setting Exercise Goals (8 items, α=0.89), and Perceived Ability to Manage Time for Exercise (5 items, α=0.68). Additional validity evidence showed the TIMES to be significantly related to exercise behavior, stage of change for exercise, and the theory of planned behavior.


The purpose was to determine the effect of physical activity (PA) on levels of Interleukin-6 (IL-6) in obese and non-obese adolescents. PA, body mass index (BMI), body fat percentage (BF), and IL-6 data were collected from sixty middle-school-aged adolescents. ANOVA revealed a significant difference in IL-6 levels between obese and non-obese adolescents (mean ± SD 1.69±2.54 pg/ml and 0.63±0.64 pg/ml, respectively). There was no significant difference in IL-6 concentrations between high and low PA groups and no interaction effect between obesity status and PA status. Findings suggest that obesity status is more important in determining IL-6 levels and that weight loss may be the most important factor for intervention.


Capillaries function to provide a surface area for nutrient and waste exchange with cells. The capillary supply of skeletal muscle is highly organized and therefore represents an excellent choice to study factors regulating diffusion. Muscle is comprised of three specific fibre types, each with specific contractile and metabolic characteristics, which influence the capillary supply of a given muscle. In addition, both environmental and genetic factors influence the capillary supply, including ageing, physical training, and various disease processes. The present study was undertaken to develop and assess the functionality of a database for which virtual experiments can be conducted on the capillary supply of human muscle and on the adaptations of the capillary bed in muscle to various perturbations. To create the database, an extensive search of the literature was conducted, using various search engines and the three key words: "capillary, muscle, and human." This search yielded 169 papers, from which the data for the forty-six variables on the capillary supply and fibre characteristics of muscle were extracted for inclusion in the database. A series of statistical analyses (ANOVA) were done on the capillary database to examine differences in skeletal muscle capillarization and fibre characteristics between young and old individuals, between healthy and diseased individuals, and between untrained, endurance trained, endurance well-trained, and resistance trained individuals, using SAS. There was a significantly higher capillarization in young compared to old individuals, in healthy compared to diseased individuals, and in endurance-trained and endurance well-trained compared to untrained individuals. Results support the conclusion that the capillary supply of skeletal muscle is closely regulated by factors aimed at optimizing oxygen and nutrient supply and/or waste.
removal in response to changes in muscle mass and/or metabolic activity.

Keesler, H.E. Experiences of women who are classified as maintenance and transformers for exercise, 2006. Ph.D., Michigan State University (Martha E. Ewing). (114pp: 2 fiche $12.00, PDF $22.45) HE 854

The purpose of this study is to gain a greater understanding of the experiences of women classified as late-stage maintainers and transformers for exercise. Participants were women forty years of age or older who were enrolled in a fitness class at a community college or in a chair exercise class for people fifty years of age and older. Ten women were interviewed individually in an attempt to discover how nearness or past experiences with exercise related to stage classification. Concepts examined through the interview process included family values and perceptions of exercise, periods of inactivity and the reasons for them, and the role of intrinsic motivation, enjoyment, and ritual in exercise adherence. Analysis did not fully support Cardinal's (1999) Stage of Physical Activity Algo-

rithm. Next, analysis revealed that childhood experiences, including family-sponsored physical activity and the use of physical activity as a coping mechanism, set a standard for lifetime physical activity. In addition, adaptability in the face of changing circumstances, the process known as "environmental control," and ritual or routinized behavior played prominent roles in these women's continued engagement in physical activities. Further, although the process known as "helping relationships" was shown in previous studies to be under-utilized by maintainers, results provide evidence that successful exercisers do use the "helping relationships" process.

Kim, S.-Y. Sources of variability in daily physical activity for secondary students with and without developmental disabilities, 2006. Ph.D., Oregon State University (Joonku Yun). (117pp: 2 fiche $12.00, PDF $20.85) HE 871

Generalizability theory was used to examine sources of variability in daily physical activity levels (PAL) of secondary students with and without developmental disabilities (DD), and to determine minimum number of days required for monitoring their typical PAL. Sixteen participants with DD (M=16.7 years, SD=2.7 years), and thirty-nine children without DD (M=12.3 years, SD=0.5 years) participated in the study. They wore two pedometers and two accelerometers during two weekdays and four weekend days. Sources of variability were examined using a two-factor fully crossed design. Twelve separate two-way ANOVA were employed for each population, physical activity device, and measurement period (week day, weekend day, and combined). For participants with DD, variance components of the person and the person by day interaction were the primary sources of variability. To determine the typical PAL with generalizability coefficients of .80, at least four, six, and eight days of measurement using a pedometer were required during week days, weekend days, and combined, respectively. Using an accelerometer, at least four days of measurements were needed across week days, weekend days, and combined. For participants without DD, the primary sources of variability during week days and weekend days were related to variance components of the persons and the person by day interaction both for pedometers and for accelerometers. When day types were combined, relatively large percentages of variability were associated with the residual, indicating three-way interac-
tion, plus unexplained error. Using one pedometer, to achieve generalizability coefficients of .80 in the measure-
ment of daily physical activity, a minimum of five and nine days of measurements during week days and weekend days were estimated, respectively. Using one accelerometer, at least four days and fourteen days of monitoring physical activity were required during week and combined days, respectively. However, an estimation of typical PAL during combined days, using one pedometer as well as, during weeks, using one accelerometer, was unfeasible due to the number of days required for measurement.

Lawrence, Tamar. The examination of an empowerment evaluation approach in a healthy living initiative of a non-profit organization, 2006. M.A., University of British Colombia (Wendy Friesy). (112pp: 2 fiche $12.00, PDF $21.20) HE 863

Youth often have little say in the development of programs designed to improve their health. This is because adults often believe they know what youth need and therefore program without input from them. This problem is being addressed in the Greater Vancouver region by a non-profit organization using an empowerment evaluation approach to incorporate the input of girls and young women into the planning and evaluation of a healthy living initiative. Em-

powerment evaluation is a strategy that, according to D. M. Peterson in Foundations of Empowerment Evaluation (2003), seeks to "help program participants evaluate themselves and their program is improve practice and foster self-de-
termination." The purpose of this study was to examine the implementation of an empowerment evaluation approach from the perspectives of staff, volunteers, and female youth in a case study non-profit organization. Specific research questions were: i) What factors were considered when de-
ciding to implement an empowerment evaluation approach into a healthy living initiative? ii) How was it integrated into program planning, implementation, and evaluation? iii) What benefits and challenges were identified during the startup phase? and iv) What factors affected the sustain-
ability of the empowerment evaluation approach over the course of the research? Qualitative research methods were employed, including observations, focus groups, interviews, and document analyses. These data collection tools are consistent with a case study research strategy to
examine how organizational members interpret processes around them. Four focus groups were held: two with clients (n=7), one with volunteer mentors (n=8), and one with members of the Healthy Living Committee (n=3). Three one-to-one interviews were held, one with a client and two with former Healthy Living Committee members. A document analysis was performed on some of the organization’s existing materials. Results revealed that volunteers and staff of the organization unanimously agreed that seeking input and feedback from clients would be valuable. Six of the eight clients interviewed also expressed a desire to be more involved in program planning and evaluation. But, to that date, clients had not been engaged in planning or evaluation of programs, except for being asked to fill in a survey after each activity. Findings were consistent with an adult-oriented top-down approach to program planning, where youth can be viewed as problemless to be fixed or as dependents to be taken care of. Based on the results of this study, recommendations have been made to the organization to engage clients more and to develop guidelines to ensure that youth are involved in using data gathered from internal surveys and in subsequent decision-making. Further research can examine the levels of empowerment felt by the clients before, and at different stages during, the empowerment evaluation approach and factors that can make empowerment evaluation sustainable in not-for-profit youth-serving organizations.

Litzenberg, Jennifer M. Nutritional knowledge of athletes: perceived vs. actual nutritional awareness, 2006. M.S., Ball State University (David R. Pearson). (92pp: 1 fiche $6.00, PDF $19.00) HE 861

The purpose of this study was to determine if a significant difference exists between collegiate athletes’ perceived and actual nutritional awareness, comparing sports focusing on appearance/body composition and sports that do not, as well as between genders. Participants (n=92) were a purposeful sample of 267 collegiate varsity athletes (n=196 males, n=171 females) at a Midwestern Division I university. The researchers observed the effects of the Nutrition Education Series treatment, between the pre- and post-test, and found significant differences (p<.05) across all groups of participants in athletes’ perceived and actual nutritional awareness for protein, carbohydrates, iron, water, during the day, water during sport, potassium, fiber, calcium, and fat. In addition, the researcher looked at the frequencies of the question and found that the Nutritional Education Series treatment was significantly effective in altering athletes’ perceived versus actual nutritional awareness for protein, carbohydrates, iron, water during the day, water during sport, potassium, fiber, calcium, and fat. Specifically, males and females showed a significant difference (p<.05) in perception and actual nutritional awareness for iron, but female athletes showed a greater difference than males. Significant differences (p<.05) in actual and perceived nutritional awareness for carbohydrate consumption were also observed for athletes participating in sports focusing on appearance/body composition and for those athletes who do not. Those participating in sports focusing on appearance/body composition showed the greatest difference in perception and actual nutritional awareness for carbohydrate consumption. Findings suggest that athletes demonstrate significant differences in their perceived and actual nutritional awareness, with significant differences observed between genders as well as between sports that do and do not focus on appearance/body composition. In addition, the results of this study would suggest that the systematic implementation of a nutritional educational program for athletes can modify athletes’ nutritional and dietary awareness. Given the importance of nutrition in sport and physical activity, as well as the increasing competitiveness of athletes, it is important and necessary to learn the amount and accuracy of the nutritional education athletes are receiving. Poor nutrition and an inaccurate perception of nutritional awareness can lead to a disruption in physical development and decrease an athlete’s ability to play.


Heart-to-Heart: An Exercise Intervention for Rural Women (HTH) can reduce the incidence of heart disease in women. There is a paucity of research aimed at increasing exercise in rural women, a high-risk group for heart disease. This pilot study tested HTH, a multifaceted twelve-week walking program designed by the investigator to increase exercise in rural women. Forty-six rural women were randomized to either the HTH program or to a control group that involved brief individual exercise counseling. The primary outcome of cardiopulmonary fitness and the secondary outcomes of self-efficacy and social support were measured pre- and post-test. Group differences were analyzed with repeated measures analysis of variance. Women in the HTH group showed a greater improvement in cardiopulmonary fitness (F1, 39 = 3.852, p<.05) and experienced a greater increase in social support from friends, (F1, 40 = 9.141, p<.004) compared to women in the control group. Women in both groups experienced an increase in social support from family, (F1, 40 = 9.304, p<.004); however, they did not experience an increase in self-efficacy for sticking to it (F1, 40 = .056, p>.814) and self-efficacy for making time for exercise (F1, 40 = 1.166, p>.287). HTH appears to be effective in improving cardiopulmonary fitness in a population of rural women; however, further testing is needed.

Rae, Logan. E. Effects of resistance training on body composition and muscular strength of breast cancer patients undergoing
Exercise intervention studies have hypothesized that breast cancer patients experience body composition and strength changes during treatment. The purpose of the study was to determine if an exercise protocol, emphasized with resistance training, changes body composition and strength in breast cancer patients undergoing treatment. Twenty patient volunteers were randomly assigned to an exercise or control group and participated in twenty-one-weeks of a low- to moderate-intensity exercise intervention for sixty minutes, two days per week. All subjects were assessed for body composition five times during the study, and for muscular strength before surgery and at twenty-one weeks. Significant differences in lean body mass, body fat, and strength (p<0.004, p=0.004, p=0.025, respectively) were observed between groups at the end of study. Results of the study suggest that exercise, emphasized with resistance training, promotes positive changes in body composition and strength in breast cancer patients undergoing treatment.


Self-presentation has been identified as playing a key role in the performance of various potentially hazardous health behaviours, such as substance abuse, eating disorders, and recklessness. This study examined the prevalence of health-risk behaviours reported in self-presentation of healthy youth, identified specific images associated with these behaviours, the targets of these behaviours, and the relationship between these behaviours and various self-presentation styles (social physique anxiety, public-self consciousness, fear of negative evaluations, self-presentation efficacy). Finally, gender differences were examined. Ninety-six adolescent students, ranging in age from thirteen to eighteen, thirty-four male (Mage=15.11 years, SD=1.49) and sixty-two female (Mage=14.89 years, SD=1.17), were recruited from various private academies across Southern Ontario. Drinking alcohol, skipping school, and performing stunts and dares were identified as the most common health risk behaviours performed. Appearing fun and cool were the most commonly reported desired images, while appearing brave and mature were the least reported. The most desired target group cited was same-sex friends. Trait measures of self-presentation concerns identified females as being higher in public self-consciousness and in social physique anxiety. Males were found to be higher in self-presentation efficacy. Total health risk behaviours were predicted by self-presentation efficacy and social physique anxiety for males, and by social physique anxiety for females. Thus far, an educational approach to health interventions has been favoured and/or adopted by teachers, health promoters, and educators. The current study suggests that, although educational interventions are beneficial in presenting the associated risks with certain activities and/or behaviours, one reason this type of approach may be ineffective in changing adolescent behaviors over the long run is that it does not address the stronger and prominent influences of interpersonal motives on multi-medicating behavior. Social acceptance and public image are of importance to adolescents, and the desire to make the "right" impression and to achieve peer approval and acceptance often overrides health and safety concerns. Thus, a self-presentation approach focused on changing images associated with behaviors may be more successful at deterring adolescent health risk behaviors.

Staples, Elizabeth M. The effects of RL(1)-lipoprotein supplementation on regulation of human skeletal muscle pyruvate dehy- drogenase, 2005. M.Sc., Brock University (Sandia J. Peters). (100pp. 2 fiche $12.00, PDF $20.00) HE 885

This thesis investigated whole body glucose disposal and the adaptive changes in skeletal muscle carbohydrate metabolism following 28 days of supplementation with 1000 mg RL(1)-lipoprotein in young sedentary males (age 22.1 ± 0.67 yr, body mass 79.7 ± 10.3 kg, n=9). In certain individuals, lipoprotein increased the 180-min area under the glucose concentration and insulin concentration curve during an oral glucose tolerance test (OGTT) (n=4). In the same individuals, lipoprotein supplementation decreased pyruvate dehydrogenase kinase activity (PDH) 0.09 ± 0.04 min(-1) vs. 0.337 ± 0.033 min(-1), n=4). Fasting levels of the activated form of pyruvate dehydrogenase (PDHα) were decreased following lipoprotein supplementation (0.42 ± 0.13 mmol·min(-1)·kg(-1) vs. 0.82 ± 0.32 mmol·min(-1)·kg(-1), n=4); yet increased to a greater extent during the OGTT (1.21 ± 0.104 mmol·min(-1)·kg(-1) vs. 0.81 ± 0.13 mmol·min(-1)·kg(-1), n=4) following lipoprotein supplementation. No changes were demonstrated in the remaining subjects (n=5). It was concluded that improved glucose clearance during an OGTT following lipoprotein supplementation is assisted by increased muscle glucose oxidation through increased PDHα activation and decreased PDH activity in certain individuals.

Sweney, Kristin B. Physical activity levels of students with and without a disability in inclusive and self-contained physical education, 2006. M.S., Oregon State University (Joonok Yun). (119pp. 2 fiche $12.00, PDF $20.95) HE 856

As obesity rates of children and adolescents rise within the United States, physical activity becomes increasingly important for adolescents with and without a disability. As the trend toward increased obesity rates in adolescents continues, there are similar increases in the percentage of children being educated in disability-inclusive settings. The purpose of this study was to examine the impact of
inclusive and self-contained physical education on physical activity levels of students with and without a disability. Twenty-seven sixth-grade students without a disability and three students with a disability participated in the study. Physical activity levels of participants with and without disability were assessed using Actiwatch® accelerometers for one to two weeks during their inclusive or non-inclusive physical education classes. Participants' average physical activity levels were measured as average movement counts per physical education class; average moderate-to-vigorous physical activity (MVPA) levels were assessed based on a previously determined cut-point, to distinguish them from sedentary-to-light physical activity levels. Results of ANCOVA comparing physical activity levels of participants without a disability indicated no statistical differences between the two classes. F(2, 24) = 36, p = .55, partial η² = .92. Also, there were no significant differences between MVPA levels of participants in the inclusive and non-inclusive physical education classes. F(2, 24) = 24, p = .63, partial η² = .63. Visual analysis of differences in physical activity levels of students with a disability during inclusive and self-contained classes indicated no clear trends in MVPA levels of the participants. However, level of physical activity appears to be related to size of gymnastic where participants had their physical education classes. Result could also be related to many other factors, including behavior of each of the three observed physical educators, class content components, class environment, lesson focus during each observed class, and instructional assistance available to keep students with a disability "on task" during the activity chosen for each class.


The current study was designed to examine two different methods of nutrition education and their effect on dietary intake. A Nutrition Knowledge Questionnaire (1996) was administered to forty-nine NCAA female Division II and III lacrosse players. Results were used to determine a relationship between actual nutrition knowledge and perceived nutrition knowledge. In addition, eleven athletes received one-on-one nutrition education or group nutrition education. A Mann-Whitney U test was used to determine if difference in dietary intake existed, from pre-nutrition or post-nutrition education, for players participating in pre-season or practice from colleges in Western Massachusetts (N=11). No significant differences (p>0.05) existed in dietary intake of athletes receiving one-on-one nutrition education and athletes receiving group nutrition education. No significant relationship (p>0.05) existed between actual nutrition knowledge and perceived nutrition knowledge. No significant differences (p>0.05) existed between pre- and post-education dietary intakes for athletes examined in a group.


Changes in lifestyle over the last century have resulted in a dramatic increase in the occurrence of diabetes in the United States (U.S.). Mexican-Americans, the largest Hispanic/Latino subgroup in the U.S., are 1.7 times as likely to have diabetes as non-Hispanic Whites. Culturally appropriate approaches for treating diabetes in minority groups have rarely been investigated, and traditional interventions have been ineffective. The purpose of this study was to test whether a culturally appropriate (i.e., language, food, and belief) diabetes intervention pilot program that focused on nutrition, physical activity (PA), and self-care for Hispanic participants with diabetes could improve lifestyle/medical diabetic risk factors. Outcome variables affected pre- and post-intervention were: servings per day of fruits, vegetables, whole grains; intake of saturated fat; PA (minutes/week); blood glucose, insulin, glycosylated hemoglobin, total cholesterol, low density lipoprotein (LDL) cholesterol, high density lipoprotein (HDL) cholesterol, triglycerides, and insulin resistance. This study was unique, as the intervention was completed in urban and rural settings, in a manageable time frame, with outcome variables that included change in diet, exercise, blood lipids, and insulin resistance. The education program (6-10 weeks; 20-25 hours) was offered in Multnomah (MC) and Hood River (HRC) counties, Oregon, using bilingual and bicultural community health workers Counties selected one of two ways to implement the program. Participants were encouraged to bring a friend or family member for support. The intervention significantly increased (p<0.05) intake of whole grains in both counties, while saturated fat and fruit intake significantly decreased (p<0.05) in MC. No significant changes occurred in PA or blood assessment variables; however, participants in HRC reported a 10% increase in PA (97 to 98 minutes/week) compared to 47% in MC (51 to 75 minutes/week). The two counties were different in eating habits, PA, and biomarkers. At baseline, participants in MC ate more whole grains, had lower insulin levels, and higher HDL cholesterol levels (p<0.05). The intervention resulted in modest changes in some outcome variables; however, a longer intervention appears to be necessary to significantly improve lifestyle behaviors and biomarkers for the treatment of diabetes. Participants rated the program highly due to the culturally appropriate approach used.
RECREATION AND LEISURE

Brinnon, Peter K. "These legs eight miles": community and voluntarism through civic recreation. 2005. M.S., University of Wisconsin (Pamela E. Oliver). (125pp: 2 fiche $12.00, PDF $21.25) RC 592

Taking up recent debates on civic engagement and long-standing theorizing about the relationship between individualism and voluntarism in society, I discuss "ACT II," a fundraiser bicycle ride through southern Wisconsin. I describe "ACT II" as an example of what I call "civic recreation," a type of civic engagement that combines leisure with voluntarism. Through an analysis of participant observation and survey data, I show that civic recreation events such as "ACT II" offer an important avenue of civic engagement because they fulfill both private/individualistic goals and public/altruistic goals. I also demonstrate the importance of group culture in mediating the tension between the recreational and voluntaristic components of the ride; in "ACT II," the "culture of caring" plays an important role in building group cohesion and feelings of community among participants. Finally, I highlight the importance of the organizational resources and volunteers that make the event and the outcomes possible. In the final analysis, this case study shows that scholars of civic society can fruitfully shift their attention to the ways in which civic engagement can be simultaneously self-interested and other-interested, and to the ways the organizational context of voluntarism can significantly shape the outcomes of civic engagement.


Increased technology in golf equipment has caused golf courses to be designed longer and wider. Golf course architects now design longer courses to accommodate the new technology, which allows golfers-particularly expert golfers-to drive balls further and with greater accuracy. The result is a need to make golf courses longer and wider, to hold errant shots of contemporary golfers. Adaptations in the design of courses, as a response to changes in technology, have resulted in increasing the surface area for golf courses, which, in turn, has raised the cost of implementation. This thesis determines the potential impacts of new golf ball and golf club technology on golf course design. Data were collected from interviews with golf equipment manufacturers. The data were analyzed against other data gathered through contact analysis of relevant literature. A discussion of the results is offered, pointing out where consideration needs to be given with regards to the balancing of technology with spatial requirements. In order to make predictions about the future of golf course design, this paper also includes an analysis of the costs of the new course design and golf equipment. Results from this study suggest that technology has an impact on the design of golf courses; that one impact is a twenty-five percent increase in the average space required for golf courses; that this increase in minimum size raises costs, and decreases development revenues from golf course communities.

Landreth, Joshua W. Cultivation techniques to maximize the efficiency of organic matter removal from sand-based putting greens, 2005. M.S., University of Arkansas (Douglas E. Karcher). (179pp: 1 fiche $6.00, PDF $17.60) RC 593

The decline of creeping bentgrass (Agrostis palustris Huds.) during extended periods of warm and humid weather is often associated with high amounts of organic matter at the surface of the rootzone. Therefore, to reduce summer stress symptoms, organic matter must be removed regularly. The objective of this study was to evaluate several cultivation techniques for their efficiency in organic matter removal. The study was conducted on a one-year-old "Penn-G2" creeping bentgrass putting green conforming to USGA specifications. Cultivation treatments included an untreated control, three aggressive verticutting treatments with varying blade widths, and six core cultivation treatments with varying time spacing, time diameter, and time depth. Cultivation treatments were applied on 21st September and 18th September 2003, and 25th April and 15th September 2004. Verticutting treatments removed more organic matter and had less organic matter accumulation over time than core cultivation treatments. However, verticutting treatments removed a disproportionately large amount of rootzone sand. Short hollow times removed the highest percent of organic matter relative to the total cultivation debris removed. When compared to the debris removed, less topdressing sand could be incorporated for verticutting treatments than for core cultivation treatments. Recovery was much slower for verticutting treatments than for core cultivation treatments. Among core cultivation treatments, recovery time was not dependent upon time spacing or depth, but only upon time diameter. Aggressive verticutting may be most appropriate for renovating putting greens that have excessive organic matter, whereas, closely spaced hollow times may be more effective for re-turfing organic matter removal from sand-based putting greens.

Taylor, Janne. Improving access to municipal recreation programs: what matters on low income have to say. 2006. M.A., University of British Columbia (Wendy Frishy). (102pp: 2 fiche $12.00, PDF $20.10) RC 594

Poor women and their families have been excluded from participating in many facets of civil society, including public recreation. Research indicates that participating in physical activity and recreation programs is beneficial to social,
The purpose of this study was to examine changes in children's self-esteem as a result of participating in an after-school judo program. The research hypothesis was that an increase in children's self-esteem would occur after participating in an after-school judo program. Participants for this study were elementary aged school children enrolled in an elementary school within the Warren Township School District in Indianapolis, IN. Two groups were randomly selected: a judo group and a control group (judo group, n=19; control group, n=26). The judo group participated in a twelve-week program of instruction in judo, conducted after regular school hours. To measure self-esteem, a questionnaire which contained the Rosenberg Self-Esteem Scale was administered to the study groups. Questionnaires were administered to both groups prior to the commencement of the program, and after completion of the program. Self-esteem of children who participated in judo instruction showed a decline (p<0.10). This was in conflict with the expected outcome. Findings suggest further investigation is needed to control for variables that might have had an unintended influence on the outcome, as well as to expand data collection to better explain the results. However, findings are consistent with other studies showing that self-esteem is difficult to measure and is weakly related to external variables.

Chang, Jo-Ning. Sport goal orientation by gender and competition level of college student-athletes in Taiwan. 2005. D.P.E., Springfield College (Miami, Ohio). (185pp; 2 maps $12.00, PDF $24.25) PSY 2401

The study was designed to examine the differences in goal orientation of collegiate Taiwanese athletes across competition and gender. Confirmatory factor analyses were used to test the validity of the model for the Task and Ego Orientation in Sport Questionnaire in Chinese. Invariance tests across competition and gender were computed. Weak invariance was found for both the competition and gender. Level two athletes were more task-oriented and less ego-oriented than level one athletes, and males were more ego-oriented than females, while no difference was found for task orientation by gender. A 2 x 2 multivariate analysis of variance was used to test the interaction of variables. For task orientation, there were no differences for level one and two males, while level two females had higher scores than level one females. Level one males had higher scores than level one females for task orientation, while level two males and females did not show such a difference. Level one athletes had higher scores than level two athletes of both genders for ego orientation. There were no differences across gender for level one, while level two males had higher scores than level two females on ego orientation.

Elsworthy, Jennifer L. Trait and state anxiety: an investigation of athletic with visual impairment. 2006. M.S., Springfield
The researcher examined the anxiety experienced by athletes who are visually impaired. The sample included twenty male and female goalball players comparing to a goalball national championship. The researcher administered the Sport Competition Anxiety Test (SCAT) and the Competition State Anxiety Inventory-2 (CSAI-2) to the athletes and compared mean scores with normative data. Males (n=9) and nationally-ranked females (n=5) exhibited lower somatic state anxiety subscale scores (p<.05) compared to collegiate and elite norms. Males exhibited higher state self-confidence subscale scores and lower SCAT scores as compared to male collegiate norms (p<.05). The researcher also conducted two focus group interviews from which a number of themes emerged. Participants reported sources of anxiety which were similar to anxiety experienced by non-visual-impaired athletes, anxiety unique to athletes who are visually impaired, and anxiety regarding spectators. Participants discussed how having a team, mentality, strong affiliations, and friendships with other goalball players served as underlying factors influencing their anxiety. They discussed the importance of their roles as athletes, as well as suggestions for sport professionals.

Fraser, Melissa G. Coping strategies used by collegiate athletes to continue performing with pain, 2006. M.S., Michigan State University (Martha E. Ewing). (139pp: 2 ill. $12.00, PDF $21.00) PSY 2006

The purpose of this study was to determine (a) what coping strategies do AA Division I collegiate athletes use to continue coping with pain while they are competing in an athletic event, (b) if male Division I athletes use different coping strategies than female Division I athletes when they are experiencing pain and are continuing to participate in an athletic event, (c) what motivational statements Division I athletes use to cope with chronic pain, and (d) to determine if the strategies they used were effective. Eleven athletes were interviewed individually using a twelve question semi-structured interview guide. Triangulation was used to sort data using a bottom-up approach with axial coding. The eleven highest frequency themes that were captured by athletes used to cope with pain were: acceptance, distraction, positive thinking, and problem-solving. There was no consistent motivational statement reported by the athletes.

Hasson, Joshua A. Game location and sport confidence, 2005. M.S., Springfield College (Mimi Murray). (127pp: 2 ill. $12.00, PDF $21.30) PSY 2402

State sport-confidence and offensive volleyball efficiency, "kill" percentage, were measured to determine diffuse or differences existed for starters and non-starters as well as for game location (home or away). Starters and non-starters were also assessed with regard to trait sport-confidence to determine if differences existed between the two groups. Participants included eighty Division III male intercollegiate volleyball players from the New England region. The interaction between starter/non-starter and game location was not significant (p>.05) for state sport-confidence. A significant main effect was found for starter/non-starter for state sport-confidence. Starters had significantly higher state sport-confidence scores than non-starters. The interaction between starter/non-starter and "kill" percentage was not significant; however, a significant main effect was found for game location and for "kill" percentage. For both groups, the "kill" percentage was significantly higher for home games than for away games. Mean trait sport-confidence scores for starters were significantly higher than mean trait sport-confidence scores for non-starters.


The present study was designed to examine differences in the level of somatic anxiety, cognitive anxiety, and self-confidence among collegiate athletes. Participants were randomly selected into gun chewing, diaphragmatic-breathing, and control groups. The Competitive Anxiety Inventory-2 (CAI-2) was used to collect data from the participants (N=30) in three testing sessions. An interaction was found between experimental treatments and testing sessions, compared to the control group. Similar levels of cognitive anxiety and self-confidence were found between experimental groups across the testing sessions. Positive relationship between the scores of cognitive anxiety and somatic anxiety were found at baseline, post-intervention, and post-intervention. At pre-intervention, a negative relationship was found between scores of self-confidence and somatic anxiety. Results are discussed in terms of the possibility of applying gum chewing as an alternative technique for anxiety regulation.

Kent, Amy S. Achievement goal orientation of adolescent basketball players: differences in age, ethnicity, and gender, 2006. M.S., Ball State University (Jodi Paulsen). (70pp: 1 ill. $5.00, PDF $18.50) PSY 2394
The main purpose of the study was to examine the achievement goal orientation (AGO) of adolescent basketball players in order to better understand the influence that AGO had on these athletes, and to understand when the AGO of adolescent athletes may change from a higher task goal orientation to a higher ego goal orientation. Examining the AGO of adolescent basketball players could have helped to identify the age at which most adolescents change the degree of their AGO. The achievement goal of adolescent basketball players was examined, looking at differences based on the gender and ethnicity of the participants. The study included 250 adolescent basketball players ranging in age from nine to fourteen years, and currently participating in basketball leagues and tournaments within Central Indiana and Western New York. All of the participants completed the Task and Ego Orientation in Sport Questionnaire, which consisted of four demographic questions examining gender, age, ethnicity, and how long the adolescent had been participating in the sport of basketball on a team. The means of the two subscales, task and ego, were calculated for all of the completed questionnaires. Multivariate analysis of variance was used to analyze data according to four research questions. All four of the research questions were found not to be significant; there were no significant differences in the adolescent basketball players' AGO based on age, gender, and ethnicity. The only significant result was found for competitiveness of the facility, and only for ego goal orientation. It was concluded that the more competitive the league and/or tournament, the higher the ego goal orientation would be for an adolescent basketball player.

Ladabauche, Bridget M. Participation motives: A comparison between able-bodied and wheelchair soccer players, 2006. M.S. Springfield College (Elizabeth E. Evans). (129pp; 2 c Jub 5100, PDF 321.45) PSY 2407

The current study was designed to determine if motivational differences existed among wheelchair and able-bodied indoor soccer players. Participants included adult (18-55 years) wheelchair soccer players (n=30) and able-bodied indoor soccer players (n=30). Independent groups t-tests were completed for each subscale of the Participation Motivation Questionnaire (PMQ; Gill et al., 1983) for able-bodied and wheelchair soccer players. Pearson product moment correlation coefficients were performed for the subscale scores to examine if relationships existed between the subscale scores on the PMQ for wheelchair soccer players. The mean differences of the PMQ subscale scores for able-bodied and wheelchair soccer players were not significantly different. A significant (p<.05) positive linear relationship was found among the following subscale scores of the PMQ: Achievement, Team, Fitness, Energy Release, Others, Skill, Friends and Fun. Wheelchair athletes had similar participation motives to able-bodied athletes.

Lee, Anita N. Goal orientation and sport orientation of intercollegiate athletes, 2005. D.P.E., Springfield College (Mimi Murray). (184pp; 2 fiche $12.00, PDF 242.20) PSY 2404

The study was designed to examine the relationship between goal orientation, based on goal perspective theory and sport orientation, by assessing the relationships between goal orientations and sport orientations of intercollegiate athletes. The Task and Ego Orientation in Sport Questionnaire (TEOSQ) and Sport Orientation Questionnaire (SOQ) were administered to 859 National Collegiate Athletics Association Division III athletes in New England. The two-factor structure of the TEOSQ and the three-factor structure of the SOQ were confirmed. Good internal consistency reliability was found for each factor of both the TEOSQ and the SOQ. High task orientation was positively related to competitiveness and goal orientation; higher ego orientation was positively related to competitiveness and win orientation. No relationship was found between task orientation and win orientation, or between ego orientation and goal orientation. Model fit to criteria was lower than expected and a larger sample size is recommended for future replication of this study.

Maksinow, Peter M. The link between athletic participation and academic performance, 2006. M.S. Springfield College (Craig Paascho). (138pp; 2 fiche $12.00, PDF 231.90) PSY 2408

The investigation was designed to determine whether athletic participation was beneficial, or a hindrance, to college academic performance. A comparison between the academic performance of male and female student athletes (n=78) and non-athletes (n=77) from an NCAA Division III institution in New England was conducted using Noncognitive Questionnaire (NCQ), GPA, and SAT scores. A total of eight 2 x 2 independent groups factorial ANOVA were conducted to examine whether or not differences existed between male and female student-athletes and non-athletes with regard to GPA, SAT scores, and the six NCQ subscales. Correlations between the six NCQ subscales, GPA, and SAT scores were conducted for all participants. Male student-athletes reported a GPA mean of 3.086.41; male non-athletes reported 3.065.57; female student-athletes reported 3.11 ± 47; female non-athletes reported 3.26 ± 46. Non-athletes scored significantly (p<.05) higher on the long-range goals subscale compared to student-athletes. Female students displayed significantly higher GPA compared to male students. A significant positive linear relationship was found between long-range goals and GPA for female participants.

Miller, Amy. Sky athletes and athletic healthcare [thesis care], 2006. M.S., Springfield College (Mimi Murray). (110pp; 2 fiche $12.00, PDF 205.20) PSY 2409
The investigation was designed to determine if differences existed in athletic training room (ATR) use by shy and non-shy athletes. NCAA Division III athletes (N=74) participating in winter sports completed the Creek and Buss Revised Shxmes Scale (RCBS, 1983) and a demographic questionnaire. No significant differences existed for number of injuries between shy and non-shy athletes. A significant difference was found for number of visits to the ATR. Shy athletes had a greater number of visits (M=14.3, SD=14.77) than non-shy athletes (M=3.70, SD=4.73). Based on RCBS scores, six athletes were selected to be interviewed. Information obtained from interviews included perceptions of athletes about athletic healthcare, which were stronger indicators of seeking athletic healthcare than was level of shyness. Perceptions were divided into external and internal categories. External subcategories were team acceptance, support system, and experience. Intrane subcategories included control, responsibility, and personal significance of sport. Trust was found to be primary and interplayed between the categories and subcategories.

Porter, Erin E. Metamotivational reversals during a max VO2 cycling test. 2006. M.S., University of Utah (Maria Newton and Janet Shaw). (18pp. 1 figure $6.00, PDF $18.90) PYS 2391

This study examined and tested the constructs of reversal theory. There is limited research examining reversal theory in exercise and movement contexts. As a result, the prevalence of reversals during a max VO2 cycling test is unknown. The causes of a reversal during a cycling test situation are also unknown. The literature is limited on how metamotivational dominance relates to metamotivational state in the exercise and sporting context. More information related to reversals may be useful to athletes and coaches, given that the reversal of mind state may positively or negatively affect an athlete's performance. The sample tested consisted of senior elite U.S. Speedskaters training in national and regional team programs in the Lake City area (N=20). Participation was voluntary. Seven of the participants were female and thirteen were male. Averaging in age from 18-35 years, with an average age of 24.8 years. Participants were all recognized by U.S. Speedskating as Category 1 skaters. This study used the Apted Motivational Styles Profile, reversal cards designed by the primary researcher, and a max VO2 cycling test to determine reversals in an exercise and sporting context. Results of the study supported reversal theory and its constructs. There were forty reversals among sixteen participants, with at least one in every direction (tells to paratelic, paratelic to telic, negative to conformist, and conformist to negativistic). Four athletes did not reverse in either domain. Environmental factors were perceived to have caused the most reversals. Participants were primarily found to be in the telic, conformist mind state at maximum effort. No differences were found between men and women. It is concluded that (a) reversal theory is a useful tool for analyzing the mind state of an elite athlete in a training setting; (b) athletes do have preferable mind states in a training context; (c) knowing an athlete's mind state may help coaches better understand what an athlete prefers to focus on in a training context; (d) there may be circumstances when there are two reasons for a mind state reversal than the three reasons put forth by reversal theory; and (e) changes in mind state could potentially cause fluctuations in performance, which in turn makes it useful to teach athletes to understand what may cause changes and how to deal with them.

Rose-Whitney, Lindsey. The identification and determination of effectiveness of images for building, maintaining, and regaining confidence: the athlete's perspective. 2006. M.S., University of North Dakota (Sandra Short). (11pp. 1 figure $6.00, PDF $18.95) PYS 2398

This study investigated how athletes used images on the Sports Imagery Questionnaire (SIQ) for building, regaining, and maintaining confidence, and examined their perceptions of the effectiveness of the images. Results showed that athletes used motivational general-mastery (MGM) imagery the most for all functions of confidence, and motivational specific (MS) the least, but that SIQ subscales were used slightly differently depending on function of confidence. Item level results showed that, even when the subscale as a whole was not used most frequently for the functions of confidence, individual items from the subscale were. Results also indicated that SIQ subscales varied in effectiveness, and that these ratings differed depending on confidence function. Item level analyses showed that although a subscale may be considered to be effective as a whole, individual items from that subscale were not. Based on correlations, there was a strong relationship between frequency and effectiveness. Other analyses included examining individual difference variables as independent variables, where gender and coaches' encouragement to use imagery were found to be significant.

Scott, Cebonisa R. The use of imagery in NFL kickers: a case study of the most accurate kicker in NFL history. 2005. M.A., Ball State University (Jeffrey Paulson). (15pp. 1 figure $6.00, PDF $17.65) PYS 2400

The aim of this study was to qualitatively examine the extent to which a National Football League (NFL) kicker uses the five functions of imagery (cognitive specific, cognitive general, motivational specific, motivational general, and Motivational General Mastery). The participant was selected because he is considered the best in the NFL Kicker population. Furthermore, his physical routine and preparation are studied and modeled by other kickers. Determining the imagery aspect of his mental preparation routine provides great insight to other kickers and coaches. To collect data, the researcher conducted two audio-taped, semi-structured telephone interviews with the participant.
Interview questions were taken from the Sport Imagery Questionnaire and modified to fit open-ended interview questions. The participant reported using cognitive general imagery, motivational general-mastery imagery, motivational specific imagery, and cognitive specific imagery, and denied using motivational general-arousal imagery. Furthermore, the primary purpose of the participant’s imagery use was to prepare himself for competition and playing conditions. This research also concludes that the participant did not use the motivational general-arousal imagery strategy due to his lack of anxiety in preparation and during competition. The reported low anxiety level was attributed to extensive physical preparation and past success on the field.

**MOTOR LEARNING AND CONTROL**

Brunke, Kirsten M. *Vestibular contributions to target-directed reaching movements, 2006. M.S., University of British Columbia (Romeo Chu).* (65pp: 1 fiche $6.00, PDF $18.25) FSY 2399

Through the use of galvanic vestibular stimulation (GVS), vestibular input has been implicated in the on-line control of goal-directed actions. Deviations of hand trajectory towards the anode electrode have been observed when stimulation is delivered during movement. The purpose of this experiment was to investigate the role of vestibular information in the planning and execution of target-directed reaching movements. Ten participants sat in a chair fixed to a rotating platform and pointed to an illuminated target when an auditory tone sounded. On all trials, participants were moved from an initial reclined position to a final upright posture, and vision of the scene was removed at the auditory tone. Target position could either be cued or uncued. On stimulation trials, a 2 mA, 1000 ms pulse of bilateral, binaural GVS was delivered at the start of the reaction time (RT) interval. Pointing movements were analyzed at the start of the movement, the time of target plane acquisition, and the trial end. Neither GVS nor cue type had an influence on initial pointing direction. At the target plane, anode left trajectories were significantly above and to the left of the no GVS and the anode right trajectories. By trial end, however, clear lateral deviations were present with anode left and anode right trajectories significantly to the left and to the right of the no GVS condition, respectively. These findings suggest that GVS may have little impact on action planning when there is a high degree of whole-body stability. On the other hand, once sufficient time has passed for on-line control processes to mediate the ongoing action, and a movement transition is imminent, there is an increased weighting of vestibular input.

Lynch, Jennifer A. *The effect of mirror feedback in learning a frontal plane motor skill on students in a Pilates mat program, 2006. M.S., Western Washington University (Gordon Chalmers).* (134pp: 2 fiche $12.00, PDF $21.70) FSY 2395

This study examined the effect of the use of feedback from mirrors in the motor learning process with healthy participants in a Pilates mat program. Subjects were randomly assigned to a mirror group (N=11), or to a no mirror group (N=9). All subjects participated in Pilates exercise classes twice weekly for eight weeks, with identical class instruction from the same instructor. Subjects were evaluated by two-dimensional video analysis on their performance of a frontal plane Pilates skill, the star, prior to and after training. The star was practiced over the latter six weeks of the study. Several anatomical angles were calculated to describe each subject’s performance, and were then compared to the instructor’s values to assess improvement or decline in performance. Angles observed were those of the shoulder, the supporting side body line, and the pelvic tilt. Analysis of variance indicated that no statistically significant changes occurred. However, a moderate training effect size and moderate training omega squared value occurred with the lateral sag start angle, ending angle, and total movement score. The presence of mirrors was not a significant factor in the learning of the star. After final analysis, the premise of comparing subjects to a model for ideal performance and the examination of body angles that were influenced by body size were determined to have hindered the assessments made.

Siu, Ka-Chun. *The contribution of attentional factors to balance constraints during gait in healthy and balance-impaired older adults, 2006. Ph.D., University of Oregon (Marjorie H. Woollacott).* (152pp: 2 fiche $12.00, PDF $22.60) FSY 2396

Research for studying attention and gait stability has suggested the process of recovering gait stability requires attentional resources, but the specific effects of performance on secondary task on stability during obstacle avoidance are not known. While recent research has begun to explore age-related changes in the ability of older adults to perform balance tasks while simultaneously performing a secondary cognitive task, research has suffered from limitations regarding the mechanisms underlying the problems that older adults experience in the dual-task situations. Three possible attentional mechanisms contributing to limitations in dual-task performance were examined (reduced general attentional capacity vs. a true dual-task performance deficit, difficulties with maintaining posture requiring attentional resources, and inability to allocate attention between two tasks). Twelve healthy young adults, twelve healthy older adults (HOA), and twelve balance-impaired older adults (BIOA) were recruited to perform obstacle avoidance while walking and an auditory Stroop task either alone or simultaneously. Gait performance and
verbal reaction times were measured. These experiments were designed to examine three attentional mechanisms. Experiment 1 determined whether, for HCA and BCA, single vs. dual-task conditions produced effects similar to a single-task difficulty manipulation. Results indicated that dual-task performance did not exceed that of the difficult single task in all groups, suggesting that both older adult groups did not show a true dual-task performance deficit, but rather reduced attentional capacity. In experiment 2, gait performance in young adults was reduced to levels of older adults while using translucent-goggles; however, gait task performance remained the same, suggesting that increased difficulties with maintaining postures may not absorb attentional resources. In experiment 3, both older adult groups, and most significantly BCA, showed a decreased ability to flexibly allocate their attention between the two tasks when explicitly required to do so. Taken together, experiments indicated that balance-impaired older adults were unable to perform two tasks efficiently. Ability to allocate attention between a postural task and a secondary cognitive task was reduced with age. It is suggested that inability to flexibly allocate attention is a major factor that contributes to balance constraints during gait in fallers.

SOCIAL PSYCHOLOGY

Fernandez, Jeffrey E. Coaches’ motivational techniques and individual athletic performance, 2005. B.A., Harvard University (Shelley Carson). (99pp: 1 fig: $6.00, PDF $17.95) PSY 2930

The study determined if coaches’ motivational techniques have an effect, either positive or negative, or an individual athlete’s performance based on his personality factors. Sixty Harvard male varsity athletes were randomly assigned to one of four coaching motivational conditions: Positive Reinforcing (n=20), Demanding (n=20), Mechanically Instructional (n=10), and Control (n=10). After a ten-minute practice session, athletes attempted fifteen free throws, watched a coaching motivational video (the control condition noted), and finally attempted another set of fifteen free throws. First, a comparison of means between the Positive Reinforcing and Demanding Coaching Conditions indicated a significant difference, with the Positive Reinforcing Coaching Condition performing better (F(3, 136) = 2.136, p = .09). Second, a chi-square test determined that the number of subjects who improved or maintained their performance in the Positive Reinforcing Coaching Condition was significantly greater than the number of subjects who improved or maintained performance in the Demanding Coaching Condition (x² = 5.59, p = .02, phi = .37). Third, a 2 x 2 ANOVA that used Positive Reinforcing and Demanding Coaching Conditions and levels of Agreeableness as factors indicated that there was significant difference between conditions (F(2, 386) = 3.186, p = .03, eta² = .05) and a significant interaction between agreeableness and condition (F(2, 386) = 3.354, p = .026, eta² = .162). Subjects who were high in Agreeableness performed significantly worse in the Demanding Coaching Condition. Fourth, a comparison of means between the Positive Reinforcing and Demanding Coaching Conditions indicated a significant difference, with the Positive Reinforcing Condition receiving more Positive Experiment Confidence (F(3, 225) = 3.02). Fifth, a chi-square test indicated that the number of subjects who reported Improved, Diminished, or No Effect on their Post Experiment Confidence Levels varied significantly by coaching condition, with the Positive Reinforcing Coaching Condition reporting the most confidence (p = .137, p < .004, phi = .481). Sixth, the number of subjects who qualitatively reported the coaches’ effectiveness as Effective and Improved, Ineffective and Harmful, or as Without an Effect, varied significantly by coaching condition, with the Positive Reinforcing Coaching Condition receiving the highest ratings of effectiveness (x² = 18.81, p = .001, phi = .452). All in all, most athletes, especially those high in Agreeableness, achieve peak performance when exposed to the Positive Reinforcing Coaching Condition and experience increased levels of confidence; however, some athletes prefer the Demanding Coaching Condition. Thus, the Individualized Coaching Approach is supported as effective in eliciting peak performance from all athletes.


The purpose of this study was to examine the effects of a disability awareness unit, implemented into secondary-level physical education curricula, on acceptance and knowledge of students with disabilities. 112 students in the seventh and eighth grades participated in this study. Predetermined classes of students were randomly assigned to either experimental group one, experimental group two, or a control group. Group one participated in a week-long disability awareness unit, while group two participated in a week-long disability awareness unit. Control groups participated regularly in their school’s physical education curricular units. General acceptance increased significantly from pre- to post-test scores for both experimental groups. Control group male post-test scores differed significantly from experimental group one male scores. Acceptance of inclusive physical education showed no significant changes from pre- to post-test scores for any group. Knowledge increased significantly from pre- to post-test scores for both experimental groups, and within male and female students for both groups. Experimental groups were both statistically different from the control group for knowledge; however, no difference was found between experimental groups one and two or between genders. Retention tests were also
given to measure student retention of general acceptance and knowledge three weeks after the disability awareness units were completed. In terms of general acceptance, the disability sport group and the disability sport plus stigma sensitivity group both showed no significant differences from post-test scores. In retention test scores, with groups not significantly different between one another. With respect to knowledge retention, the disability sport unit and the disability sport plus stigma sensitivity unit both showed significant decreases from post-test scores to retention test scores. The present study contributes information about the positive impact disability awareness can have on students without disabilities, as well as long-term implications of awareness and knowledge retention. Future disability awareness units should be infused within multiple academic areas, including physical education. Disability awareness should also be revisited and taught throughout the school year, to have continued impact on students without disabilities.

Gray, Casey. Organizational commitment and perceived relatedness as correlates of the intention to continue officiating in track and field. 2006. M.A., Brock University (Philip M. Wilson). (182pp: 2 fiche $12.00, PDF $24.10) PSY 2392

The objectives of the present two-phase study were to explore three constructs of organizational commitment (affective [AC], normative [NC], and continuance [CC]), perceived relatedness and behavioral intent, within the context of the track and field officiating. During the first phase, experts with domain familiarity (N=10) assessed content relevance, representation of modified organizational commitment (OC), and perceived relatedness items. Fourteen of twenty-six items (p<.05) were relevant (Allen's coefficient V), and NC (M=3.88, SD=1.64), CC (M=3.63, SD=1.52), and relatedness (M=4.00, SD=.95) items had mean item content-representation ratings of either "good" or "very good," while AC (M=2.50, SD=.58) was rated "fair." Participants in phase two (N=68) responded to demographic variables, perceptions of OC to Athletics Canada, perceived relatedness to other track and field officials, and a measured intention to continue officiating. Internal consistency reliability estimates (Chronbach's coefficient \(\alpha\)) were as follows: (a) AC=.78, (b) CC=.85, (c) NC=.80, (d) perceived relatedness = .70, and (e) intention = .92. Results suggest that track and field officials felt the construct of commitment was minimal or missing from Athletics Canada (AC: M=3.90, SD=1.23). CC: M=3.20, SD=1.34) and that their relationships with other track and field officials were strongly endorsed (M=5.96, SD=.74). Bivariate correlations (Pearson r) indicated that perceived relatedness to other track and field officials demonstrated the strongest relationship with intention to continue officiating (r=.346, p<.05), while dimensions of OC were not significantly related to intention (all \(p> .05\)). Together, perceived relatedness (\(\beta=.339, p=.004\), AC (\(\beta=.153, p=.308\), NC (\(\beta=.024, p=.864\), and CC (\(\beta=.186, p=.287\)) contribute to the prediction of intention to continued officiating (R=.199).

These relationships remained unaffected by considerations of demographic commitment (p=.02; Pearson with Athletics Canada: r=.13; both \(p>.05\)) or alternative commitment (p=.19; Pearson with Athletics: r=.20; all \(p>.05\)). Three open-ended questions elicited qualitative responses regarding participants' reasons for officiating. Responses reflecting initial reasons for officiating formed (three higher order themes: convenience, helping reasons, extension of role, and intrinsic reasons). Responses reflecting reasons for continuing to officiate formed higher order themes: track and field, to help, and personal benefit. Responses reflecting changes that would influence continued involvement were: political, organizational/structural, and personal. These results corroborate the findings of previous investigations that reasons underpinning volunteer motivation changes over time. Overall, this study suggests that track and field officials feel minimal commitment to the organization of Athletics Canada, but a stronger bond with fellow officials. The degree to which track and field officials feel meaningfully connected to one another appears to exert a positive influence on their intentions to continue officiating. It is suggested that, in order to promote continued involvement, Athletics Canada increase its focus on fostering environments promoting positive interactions among officials.

McDonough, Meghan H. The role of relatedness in physical activity motivation, behaviour, and effective experience: a self-determination theory perspective. 2006. Ph.D., University of British Columbia (Peter Crocker). (533pp: 4 fiche $24.00, PDF $32.50) PSY 2397

Self-determination theory suggests that meeting needs for autonomy, competence, and relatedness will affect the type of motivation that is experienced (more intrinsic motivation). Along with cognitive, affective, and behavioural outcomes. Although relatedness should play an important role in motivation, limited research has examined the role of social constructs in this process. This project investigated antecedents and outcomes of relatedness and explored whether learning structure interventions facilitate relatedness and self-determination among adult dragon boaters. These aims were addressed in two studies. The first study involved a passive observation of 558 dragon boaters aged nineteen to eighty-three. Longevity, quality, peer acceptance, social support, and age predicted relatedness. Autonomy, competence, relatedness, age, and gender significantly predicted self-determined motivation. Age and gender did not moderate these relationships. Self-determined motivation partially mediated the relationship between psychological needs (autonomy, competence, and relatedness) and positive and negative affect, while competence alone predicted physical self-worth, and physical activity. The second study was an eight-week intervention involving 210 paddlers from twelve dragon boat teams.
Teams were randomly assigned to a cooperative or an individualistic-learning intervention, and coaches were trained to conduct the intervention with their teams. Pad-
dlers completed questionnaires at the beginning and end of
the intervention period. In both conditions, peer acceptance
and psychological need fulfillment increased similarly
over the course of the eight weeks. The only intervention
effect was that autonomy was facilitated by the individu-
alistic intervention. While expectations that the coopera-
tive intervention would enhance social relationships and
relatedness were not supported, mixed effects modeling
analyses demonstrated a substantial within-team clustering
effect, and found that changes in relatedness perceptions
predicted changes in self-determined motivation. A replica-
tion of the mediator model test in Study 1 confirmed the
role of self-determination as a partial mediator. Together,
these studies demonstrate the importance of relatedness in
adult activity motivation, link social relationship constructs
to relatedness and self-determination theory, and provide
evidence that within-team clustering on social and moti-
vational variables should be considered in research with
intact teams.
PART II

KEYWORDS INDEX
for
VOLUME 19, NO. 1

This index includes keywords for titles published by Kinesiology Publications in Kinesiology Abstracts, Volume 19, No. 1 (April 2006).

Each title in Part I is indexed using keywords selected and assigned from the Sport Treasuries, published by the Sport Information Resource Centre (SIRC), Canada. (Users should note that British spelling conventions [e.g., behaviour] occasionally appear.) In addition to keywords identifying the content of a study, the major research methods are identified by the statistical technique employed and appear in brackets immediately following the author’s name. Users may find these methodological and statistical descriptors helpful in identifying a particular design or statistical prototype for their own research investigations. A listing of statistical abbreviations used in this index is found on the following page.

The keywords appear in alphabetic order and are followed by the author names of the doctoral or master’s theses that they refer to. Because each thesis will have more than one keyword, author names appear several times under different keywords. The author names are followed by the research and statistical methods used in the study. These are contained in brackets—the letters in front of the dash refer to the research methods, those following the dash denote the statistical methods. The methods information is followed by the subject code and number for the study. The following example illustrates the elements of each entry.

BIOMECHANICS

Allen, D.M. [D,MA-DE,MAV] PE 3815

Biomechanics is one of the keywords of a study by D. M. Allen. The research methods used in the study include Descriptive and Mechanical Analysis techniques; statistics are Descriptive and Multivariate Analysis of Variance. The study’s subject code is PE 3815. To find the title of the study as listed in part I of Kinesiology Abstracts, use the author index in the back of the book to find the page number on which the study by D. M. Allen is listed.

Criteria used to determine whether a study is experimental include the use of a control group and the manipulation of an independent variable or variables. Studies designed to examine correlations among selected variables in a particular population are classified as surveys. Specific abbreviations for research methods and the statistical techniques that were used are listed alphabetically in the table on the following page.
METHODS

A Anthropometry
AR Action Research
C Case Study
CA Content Analysis
CH Choreography
CI Critical Incident Analysis
COM Comparative Study
D Descriptive
DA Documentary Analysis
E Experimental

GE Genetic
H Historical
I Interview
IA Item Analysis
J Jury
JA Job Analysis
L Laboratory
LR Library Research
M Model
MA Mechanical Analysis
MAN Manual
O Observational
P Philosophical
Q Questionnaire
REV Review
S Survey
SD Semantic Differential
TC Test Construction

STATISTICS

% Percent
AC Analysis of Covariance
AV Analysis of Variance
AVF Analysis of Variance (Friedman)
B Binomial
BC Biserial Correlation
BIK Borderline Method
CANCAN Canonical Correlation
CC Contingency Coefficient
CO Cohen's Coefficient of Agreement
CQ Cochran Q Test
CS Chi Square
CV Coefficient of Variation
DE Descriptive
Deli Delphi Method
Disc Discriminant Analysis
DUN Duncan Multivariate Regression
Dunn Dunn Test
Ea Curvilinear Correlation
Fla Flanagan Procedure
FA Factor Analysis
FR Fisher's Exact Test
FZ Fisher's Z
G Graphic
GA Gamma Method of Association
GG Greenhouse Geiser Conservative Test
HA Hartley's Method
HS Hall's Method
HV Homogeneity of Variance
K Kirk's Test

KC Coefficient of Consistence
KR Kendall-Smimov
KW Kruskal-Wallis
LR Logistical Regression
MA Least Significant Variance
MAC Multivariate Analysis of Covariance
MV Multivariate Analysis of Variance
MD Multivariate Discriminant
MMM Multivariate Mixed Model
MR Multiple Regression
N Normative
NK Newman-Keuls
PA Path Analysis
PC Phi Coefficient
R Multiple Correlation
RC Reliability Coefficient
RD Spearman Rank Correlation
RE Regression Equation
RM Repeated Measures
RPM Pearson Product-Moment
SB Spearman-Brown Prophecy
Sch Scheffe's Method
SEE Standard Error of the Estimate
SI Sign Test
SP Split Plot Repeated Measures
SSP Split-Split Plot Repeated Measures
A Analysis
T T Ratio
TA Trend Analysis
TAC Kendall's Rank Coefficient
TC Tetrachoric Correlation
TU Tukey's Test
U Mann-Whitney U Test
V Formulas
W Kendall's Coefficient of Concordance
WD Wherry-Doolittle Method
WL Wilks's Lambda
Z Standard Score
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