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KINESIOLOGY ABSTRACTS 18, 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 18 and represents microfiches published in April 2005. 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

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PHYSICAL EDUCATION AND ATHLETICS

ADMINISTRATION


Although coaches are often a mediator between student athletes and the athletic trainers, their complaints, concerns, input, and suggestions regarding athletic training services are often overlooked and underrepresented. The purpose of this study was to determine whether intercollegiate coaches are satisfied with the services provided by certified athletic trainers at a Mid-Western National Collegiate Athletic Association Division I institution. Further, the study was to specifically identify which certified athletic training services were being provided satisfactorily or unsatisfactorily. Participants for this study were purposefully selected based on their current coaching status at a Mid-Western National Collegiate Athletic Association Division I institution. A total of 27 (17 males, 12 females) coaches participated in the study, of which 14 were head coaches, 11 were assistant coaches, 3 were graduate assistant coaches, and 1 was a volunteer coach. A 40-item survey instrument was developed by the researcher. It consisted of six sections: demographics, professionalism, communication, knowledge/ability, accessibility, and comments regarding the certified athletic training staff and for the services which they provide. Survey packets consisting of a cover letter, survey instrument, and return envelope were distributed. Reminder letters were distributed two weeks later. Research findings revealed that the coaches considered such items as physical appearance, the ability of the certified athletic trainer to discuss injuries at various levels of understanding and knowledge, easy to speak with, and professional behavior in the athletic training room as satisfactory. Accessibility was the most unsatisfactory element of the athletic training services. Comments from the coaches regarding strengths and suggestions for improvement ranged from working relationships to aggressiveness of rehabilitation techniques and skills. In conclusion, coaches were satisfied overall with the services provided by the certified athletic trainers. Certainly, improving the accessibility of certified athletic training services would not only lead to higher satisfaction among the coaches, but it would also lead to improved health care of the student athlete. Future research should include participants from multiple institutions. Further, individual interviews with coaches to gain a qualitative understanding of their expectations would be valuable.

Colón, Geffrey. Ready to teach?: examination of physical education teachers’ perceived preparation and perceived competence to teach, 2005. Ph.D., Michigan State University (Deborah L. Feltz). (122pp: 2 fiche $12.00, PDF $21.10) PE 4668

The relationship between the perceived competence of physical education teachers with 1 to 3 years in experience and pre-service education and personal characteristics was examined. Spearman-rho correlation coefficients were used to address the postulated hypotheses to determine which of the six predictors (i.e., professional preparation, personal qualities, social/professional qualities, aspects of school management, techniques of teaching competence, mentoring induction programs) within the questionnaire were significant with regards to the overall perceived competence of physical education teachers toward their readiness to teach. Significance was set at the .05 levels for the probability of determining prediction of influence per item given the exploratory nature of the study and the small sample size. Four of the six hypotheses were supported. Perceived competence was significantly correlated with professional preparation (r=.75), mentoring induction programs (r=.60), personal qualities (r=.53), and techniques of teaching competence (r=.53). The data analysis for the second purpose of this study involved examining the predictive strength of perceived preparation categories on perceived competence to teach, by means of a simultaneous regression using the predictor variables that correlated significantly with overall perceived competence. Results of the multiple regression analysis indicated that professional preparation was the strongest predictor of perceived competence to teach physical education among novice teachers in this study. Thus, physical education instruction programs should have a strong emphasis in preparing teachers with a school-based experience and university professional training that exhibits a positive collaboration model.
Studies at the collegiate level have shown that there has been a gap in coaching as it pertains to salaries and gender. These studies show that more often the coaches of women’s sports are paid less than the coaches of men’s sports. They also show that the number of females coaching women’s sports appears to be declining. Few studies could be identified when looking at the same issues at the high school level. Therefore, the purpose of this study was to provide a current profile of head varsity coaches at the high school level with respect to salary, gender, sport, and school classification. Questionnaires were sent to 100 randomly selected Indiana high school athletic directors, 25 from each of the four Indiana High School Athletic Association (MSAA) sport classes. This survey was limited to the following six sports: boys’ and girls’ basketball, boys’ wrestling, girls’ volleyball, boys’ baseball and girls’ softball. All participants in this study remained anonymous and data received were destroyed upon completion. Subjects were also allowed to drop out of the study without penalty. The results of the questionnaire were presented using frequency and percentages and were presented according to (1) salary, (2) gender, (3) sport, and (4) school classification. Sixty-one percent of the athletic directors responded overall giving usable data on 344 coaches. The results indicated that the average age for coaches was 39.1 years old. The coaches also averaged staying in their same coaching position for 6.4 years and had 12.5 years of experience. It was also reported that 70% of the coaches were teachers. Results indicated that the female coaches made an average of 12.1% or $558 less than male coaches across all sports surveyed. Results also indicated that the coaches of boys’ basketball ($6,204) were the highest paid, as they made $2,824 or 45.5% more than the coaches of girls’ softball ($3,380) who were the lowest paid coaches. Furthermore, Class 4A coaches made $1,973 or 35.7% more than Class 1A coaches. When dealing with coaching opportunities, the results indicated that the overall percentage of male head coaches was 75% while the percentage of female head coaches was 25%. Results also indicated that 100% of the coaches for boys’ sports were male while 52% of the coaches of girls’ sports were male. This indicated that there was no cross-over coaching for female coaches coaching boys’ sports.

Holder, A. Janiece. Mentoring of the senior woman administrator by the director of athletics in athletic administration, 2005. M.S., Springfield College (Cathie Schweitzer). (145pp: 2 fiche $12.00, PDF $22.25) PE 4687

The study was designed to examine the perceived level of mentoring functions performed by the Director of Athletics (AD) and to explore whether or not differences exist between the perceptions of the ADS and Senior Woman Administrators (SWA) and if differences existed between male and female ADS with regard to these functions. The participants were ADS and SWAs at NCAA Division III institutions (N=64). A significant interaction (p<.05) was found for gender across the mentor pair for the protection function. Male ADS perceived that they were performing the protection function at a higher level than the SWAs perceived. In contrast, female ADS and SWAs did not differ in their perceptions. No significant interaction (p>.05) existed between the gender of the ADS across the mentor pair in the functions of coaching, exposure and visibility, challenging assignments, acceptance and confirmation, counseling, friendship, and role modeling. A significant main effect (p<.05) was found for each of these functions. ADS perceived themselves to have performed the functions at a higher level than the SWAs perceived. No significant interaction and no significant main effect existed for the social interaction of the AD and SWA.

The purpose of this study was to provide prospective recreation graduate assistants recommendations how to write clear and concise resumes that would help them earn a graduate assistantship. After reviewing the literature, three categories of resume development were identified as important in evaluating what graduate assistants will need to include in a resume that would attract recreation professionals’ attention during the selection process. The categories included demographic information, resume content components, and general information. No prior research existed for recreation graduate assistant resume content. The researcher created a survey based on three categories. The survey was a descriptive study using data derived from the participants’ completed survey. Participants for this study (N=372) were recreation professionals who worked at National Intramural-Recreational Sports Association (NIRSA) affiliated schools and were directly responsible for the selecting and evaluating of graduate assistants. Research findings revealed that 70% of the participants viewed the resume as the most essential piece of written application materials. Participants consistently viewed practical experiences including professional publications written, professional conferences attended and internships as important aspects to include in a resume. This research also concluded that, due to graduate school requirements, current academic information such as major field of study, internship experience, and type of degree earned were highly rated as essential or very important pieces to include on a resume. Personal information such as a candidate’s characteristics were consistently viewed as somewhat important or of no value to recreation professionals.

Sarson, Lindsay A. Ontario high school sport: an investigation of organizational design and its context, 2005. M.A., Brock University (Julie Stevens). (228pp: 3 fiche $18.00, PDF $26.40) PE 4693

In 2002, The Ontario Federation of School Athletic Associations (OFSAA) identified that in providing extracurricular sport programs schools are faced with the “new realities” of the education system. Although research has been conducted exploring the pressures impacting the provision of extracurricular school sport (Donnelly, Mcloy, Petherick, & Safai, 2000), few studies within the field have focused on understanding extracurricular school sport from an organizational level. The focus of this study was to examine the organizational design (structure, systems, and values) of the extracurricular sport department within three Ontario high schools, as well as to understand the context within which the departments exist. A qualitative multiple case study design was adopted and three public high schools were selected from one district school board in Ontario to represent the cases under investigation. Interviews, observations and documents were used to analyze the extracurricular sport department design of each case and to better understand the context within which the departments exist. As the result of the analysis of the structure, systems and values of each case, two designs emerged—Design KT1 and Design KT2. Differences in the characteristics of design archetype KT1 and KT2 centered on the design dimension of values, and therefore this study identified that contrasting organizational values reflect differences in design types. The characteristics of the Kitchen Table archetype were found to be transferable to the sub-sector of extracurricular school sport, and therefore this research provides a springboard for further research in organizational design within the education sector of extracurricular high school sport. Interconnections were found between the data associated with the external and internal contexts within which the extracurricular sport departments exist. The analysis of the internal context indicated the important role played by organizational members in shaping the context within which the departments exist. The analysis of the external context highlighted the institutional pressures that were present within the education environment. Both political and cultural expectations related to the role of extracurricular sport within schools were visible and were subsequently used by the high schools to create legitimacy and prestige, and to access resources.

Sule, Amanda M. Disability awareness training for student employees at college/university recreation departments, 2004. M.S., Ball State University (Ronald Davis). (65pp: 1 fiche $6.00, PDF $18.25) PE 4658

This study provided a description of how college/university recreational departments addressed their responsibilities to ADA, in particular, those accommodations considered beyond physical access. The results of this study contributed to the body of knowledge for staff preparation, program scope, and administration for recreational services on college/university campuses. This study surveyed college/university recreation departments to determine if disability awareness training was being implemented and what methods of training were being implemented. Reasons for not including disability awareness training were also reported. The Disability Awareness Training of Recreation Staff (DATR) survey was emailed to 114 National Intramural Recreational Sports Association (NIRSA) Region III directors through an InQsitt® program. Frequency and percentages were used to report the results. Response rate was 33% (n=38). The majority of the respondents were members of the National Intramural Recreational Sports Association (NIRSA), and over 60% served in the role of Director of Recreation for the university. Twelve of the 38 respondents reported providing disability awareness training with the majority using the method of hands on training to implement such training. Lack of perceived need was the top reason for college/universities not to provide disability awareness training.
In March of 1995, the Ministry of Sport presented the Government’s first attempt at a new sport policy by submitting the ‘White Paper on Sport’ to the nation. The White Paper, aptly titled ‘Getting the Nation to Play’ represented the Government’s broad vision of how South African sport could be developed. Though touching on all aspects of sport, it emphasizes that “the focus is to be at the bottom end of the sport development continuum” (South Africa, Ministry of Sport, 1995:87). This is crucial because the goal is to reverse the low levels of participation among the Black population, especially those in the rural areas. The changes that have taken place in the political arena in South Africa since 1990, have not only impacted on the political, social and economic spheres of South Africa but have also permanently changed the face of South African sport inside and outside the country. South Africans as citizens of the global sports village however now have to deal with tremendous challenges facing the administrators, managers, coaches and participants. One of these challenges is to improve the participation levels of the youth in South Africa. The expression “a child in sport is a child out of court” has special relevance in this regard. The purpose of this research is inter alia to: shortly discuss the inception and development of Technikon Pretoria with specific relevance to the Witbank Campus; describe the management of sport in South Africa; document the practical execution of a needs assessment for the management and development of sport at the Witbank Campus of Technikon Pretoria; and process the raw data into understandable and interpreted units. These units will then be used as a basis from which mechanisms will follow to ensure that the management and development of sport at the Witbank Campus of Technikon Pretoria be done in a holistic manner but at the same time with practical application. The main aim is to improve the participation levels in sport of all students at the Witbank Campus of Technikon Pretoria.

COACHING AND TRAINING


The study was designed to determine differences in the batting averages of Major League Baseball (MLB) players among behind counts (0-1, 0-2, and 1-2), ahead counts (1-0, 2-0, 3-0, 2-1, 3-1, and 3-2), and even counts (0-0, 1-1, and 2-2) in the 2004 MLB regular season. The data were collected from the official web site of the MLB 2004 regular season. A data-recording sheet was used to collect the game data and 60 games were recorded for the data analyses. A one-way analysis of variance (ANOVA) was computed to determine if differences in batting average existed among behind counts, ahead counts, and even counts. Significant ($p<.05$) mean differences in batting averages were found among behind, ahead, and even counts. The Tukey HSD post hoc test was used to further examine the differences in batting averages among behind, ahead, and even counts. No significant ($p>.05$) differences in mean batting average were found when comparing ahead counts and even counts. Differences in mean batting averages of behind counts and ahead counts, and behind counts and even counts were significant ($p<.05$).


The purpose of this project was to create a leadership development series for interscholastic and intercollegiate coaches that could be implemented into their athletic programs to help facilitate leadership growth within their players and team. The Impact Leadership Development Series contains four parts: 1) Part One: Responsibility, 2) Part Two: Role, 3) Part Three: Relationship, and 4) Part Four: Reach. Each part was designed for a specific grade level; Part One: Responsibility for the freshmen, Part Two: Role for the sophomores, Part Three: Relationship for the juniors and Part Four: Reach for the seniors. Although the Impact Leadership Development Series was not tested, the review committee felt that a series such as this had merit within interscholastic and intercollegiate athletics. One committee member noted that the series was a “brilliant” idea and the others agreed that if they were still involved in coaching they would implement a program of this nature.

Kotlra, Kris W. Effect of explosive upper body exercises on biomechanical parameters in males 18-30 years of age, 2005. M.S., Michigan State University (Eugene W. Brown). (159pp: 2 fiche $12.00, PDF $22.95) PE 4672

The purpose of this study was to examine the relationships that exist between selected upper body exercises (push-up and medicine ball throw) and biomechanical parameters (force, maximal rate of force development (MRFD), and average peak power output) in males who are currently resistance training. Relationships were expected to exist between biomechanical parameters in response to the demand of exercise methods (concentric only, counter-movement, and plyometric) performed with a push-up and throwing a 3 kg medicine ball. The design was a cross sectional, descriptive study with repeated measures. In this study individuals were randomly assigned into one of two groups. The results of this study indicated that push-up exercises require a significantly higher peak force and MRFD to perform more explosively than 3 kg medicine ball throws. The average peak power output was greater
for the 3 kg medicine ball throws for the countermovement and plyometric method, but no significant difference was found between the exercises. In addition, explosive upper body exercises that rely on the stretch shortening cycle (SSC) were shown to develop higher magnitudes of force in comparison to concentric only methods. The MRFD and average peak power output were significantly greater when the plyometric method was compared to the concentric only and countermovement method. This study and future studies of this type could help bridge the gap between exercise scientists and coaches in determining which exercises would be the most beneficial for athletes.

Learman, Jerome M. Comparison of selected kinetic performance variables from two different weight training methods, 2005. Ph.D., Michigan State University (Eugene W. Brown). (101pp: 2 fiche $12.00, PDF $20.05) PE 4673

The purpose of this study was to examine if participants (n=31) trained two times per week over a 15 week period at a high velocity using lighter weight (i.e., 35% of 1 RM), could they increase the amount of force, peak velocity, and time to peak velocity 1 RM, as much as if they had trained at a high force (i.e., 80% of 1 RM)? As the study used high school male and female as participants, it also examined if gender affect their ability to increase the amount of maximum force (1 RM), peak velocity generated when lifting lighter weights (i.e., 35% of 1 RM), and the time to peak velocity. Lastly the study examined how two different weight-training programs affect biomechanical parameters over 15 weeks. An analysis of the data found that group had no effect on change in 1 RM or peak velocity and both groups had a significant increase from pre-test to post-test, but between the two different training groups the difference was not significant. However, the data showed that participants from both groups had a significant increase in time to peak velocity from pre-test to post-test, but between the two different training groups the difference was significant. Gender did have an effect on change in 1 RM and peak velocity. The shape of the velocity patterns did not change significantly depending on which weight training program the subject used, but they did change in amplitude. The minimum and maximum values of the velocity curves increased. This supports the contention that training occurred for both groups.

HISTORY AND PHILOSOPHY


This study was designed to examine the integration of men’s collegiate basketball as it relates to the modernization of college basketball. According to Allen Guttman, modern sports are distinguished by seven characteristics. The seven characteristics are secularism, specialization of roles, bureaucratic organization, quantification, record-keeping, rationalization, and equality. Equality and rationalization were the two characteristics that college basketball lacked up until the 1960s and 1970s. College basketball coaches realized at that time that in order to have the best teams; they would have to be able to have the best players. In order to have some of the best players, the coaches then realized that they would have to recruit more than just white players. The rosters of some of the teams examined reflect the change in the recruiting of players in the 1960s by the more successful teams. Most of the key players on those teams were from large, urban areas, reflecting the fact that college basketball was moving towards a modern area, and that the game was moving back to the cities. Racial integration led directly to college basketball becoming a modern sport in America.

Dumas, Tia N. Women of color in sport: a literature review of the history and current status of women of color in intercollegiate coaching and athletic administration, 2004. M.A., University of Oregon (Diane Dunlap). (49pp: 1 fiche $6.00, PDF $17.45) PE 4662

Through an examination into the history of women in intercollegiate sport, the author discusses some of the prevailing ideologies and how these beliefs shaped and continue to shape the nature of intercollegiate athletics. Sections 1 and 2 log the chronological history of women in sport in higher education. African American women are the primary focus of Section 2. Although their histories and experiences should be considered and heard, this chapter does not attempt to over generalize the experiences of African American women with the histories of other racial groups. Section 3 catalogs a brief description of Title IX, and the merging of men and women’s physical education departments. Section 4 analyzes the literature that critiques the critical approaches to women of color in sport, including a look at the 2003 Racial and Gender Report Card. Section 5 deals with the role of the contemporary university, and the current status of intercollegiate athletic departments. The final section draws each of the previous sections together, as well as presents proposed methods of change to diversify intercollegiate athletic departments.

MEASUREMENT AND EVALUATION

Behrens, Timothy K. Validity of participant recorded pedometer step logs in free-living adults, 2005. Ph.D., University of Oklahoma (Mary K. Dinger). (169pp: 2 fiche $12.00, PDF $23.45) PE 4676

The purposes of this study were to 1) examine the validity of participant recorded pedometer step logs, 2) examine the relationship between steps per day and percent body fat (% BF), and 3) examine differences in steps per day
by BMI category (<25 m/kg² vs. ≥25 kg/m²). Participants (N=89; Male: n=29, age=37.97±9.41 years, BMI =25.87±4.42 kg/m², % BF=21.66±6.21%; Female: n=60, age=40.07±10.72, BMI =24.83±4.72 kg/m², % BF=33.73±8.11%) in this cross-sectional, descriptive study simultaneously wore a sealed pedometer, unsealed pedometer, and Actigraph accelerometer for nine consecutive days. Body composition was assessed via air-displacement plethysmography (BOD POD). Descriptive statistics, tests of equivalence, correlation coefficients, and independent t-tests were calculated. Three conditions were examined for validity: raw Actigraph steps per day (RAW) vs. participant recorded steps per day (PSD), Actigraph steps corrected for vehicular travel (CORRECTED) vs. PSD, and total accumulated steps from the sealed pedometer (SEALED) vs. total accumulated steps from the participant recorded pedometer (PTOT). There was a strong correlation between RAW and PSD (r=0.88, p<0.0001). However, RAW and PSD were not equivalent. Similarly, CORRECTED and PSD resulted in a strong correlation (r=0.88, p<0.0001), but they were not equivalent. Comparing SEALED and PTOT indicated a strong correlation (r=0.96, p<0.0001) and equivalence. All correlations for steps per day and % BF were moderate (range: r=0.40 to 0.45). There was a significant difference in steps per day by BMI category in PSD (p=0.03), but not in RAW and CORRECTED. These results indicate 1) acceptable validity for participant recorded pedometer step logs, 2) moderate relationships between steps per day and % BF, and 3) a significant difference in steps per day by BMI category in PST, but not in RAW and CORRECTED. Future research should attempt to further explain the relationship between Actigraph and pedometer-derived steps.


Youth participation in tackle football is increasing each year. Late maturation has been implicated as a risk factor for injury. Percentage of predicted adult stature derived from the Khamis and Roche [KR] (1994) non-invasive method of adult stature prediction has been proposed as an alternative to invasive measures of maturity. Percentage of predicted adult stature remains untested as a maturity indicator in youth football players. The purpose of this study was to determine the validity of percent of predicted adult stature in youth football players, and to examine maturity as a risk factor for injury in the same population. There were 779 youth football players in grades fourth through eighth involved in the injury analysis study and a subset of 64 participated in the validation of the non-invasive method of maturity estimation. Partial correlations controlling for chronological age revealed that the KR percent of predicted adult stature was moderately, but significantly related to skeletal age (partial r, adjusted for CA, = 0.54; p<.001). Injury analysis revealed that 284 players accounted for 474 injuries and 26,565 exposures. Players were twice more likely to be injured in games than in practices and 1.4 times more likely to suffer a non-time-loss injury. Risk factor analysis revealed that maturity was not a risk factor for injury. Stature and previous injury were significant risk factors for injury.


The purpose of this study was to cross-validate the self-report (S-R) and researcher-measured (R-M) non-exercise equations developed in 1997 by George, Stone and Burkett for the prediction of maximal oxygen consumption (VO₂ max). The participants completed the following questionnaires: demographic (including S-R height and weight) and exercise familiarity, perceived functional ability (PFA), and physical activity rating (PA-R). The R-M height and weight were obtained prior to the graded exercise test. Measured VO₂ max (male =50.4±5.4 mL·kg⁻¹·min⁻¹ and female =40.8±6.2 mL·kg⁻¹·min⁻¹) of 66 (38 males, 28 females) college-age (male =24.1±2.8yr and female =21.9±2.4yr) participants was assessed using the George et al. protocol and was significantly underestimated (p<0.05) in the male (S-R=46.8±5.1 mL·kg⁻¹·min⁻¹ and R-M=47.2±5.0 mL·kg⁻¹·min⁻¹) and not in the female (S-R=39.5±5.7 mL·kg⁻¹·min⁻¹ and R-M=39.9±4.8 mL·kg⁻¹·min⁻¹) samples. Validity statistics for both equations and sexes were as follows: S-R male: r=0.59, SEE=4.4 mL·kg⁻¹·min⁻¹, E=5.9, %SEE=8.7, %SEE=47.4 and female: r=0.50, SEE=5.5 mL·kg⁻¹·min⁻¹, E=5.6, %SEE=13.2, %SEE=46.4 and R-M male: r=0.59, SEE=4.4 mL·kg⁻¹·min⁻¹, E=5.7, %SEE=8.7, %SEE=50.5 and female: r=0.53, SEE=5.3 mL·kg⁻¹·min⁻¹, E=5.5, %SEE=13.0, %SEE=46.4. Based on these observations and the statistical results, use of these N-EX regression equations by George et al. are not recommended for college-age individuals when an accurate assessment of VO2max is the goal.

PEDAGOGY AND CURRICULUM

Howe, Amy E. Running: a head to toe approach, 2005. M.A., Ball State University (Marilyn Buck). (41pp: 1 fiche $6.00, PDF $17.05) PE 4653

Many people are turning to running in an effort to stay more physically fit. The problem is that they aren’t educated about the proper mechanics of running which can lead to injuries. A need exists for an instructional DVD to educate people about the proper mechanics of running so that they have a reduced likelihood of injury and would become more efficient in their running. Ultimately, this could lead to more satisfaction from running and better ad-
herence to a running program. The purpose of this creative project was to create an instructional DVD on the proper mechanics of running. It is the investigator’s hope that this DVD would be incorporated into the fitness running classes at Ball State University. Research has shown that incorporating multimedia software programs into teaching increased students’ ability to master the skill (McKethan & Everhart, 2000). By incorporating the DVD into the fitness running classes the researcher is anticipating that it will enhance the students’ ability to master the proper running form and mechanics more efficiently. The researcher also sees other applications for this instructional DVD that go beyond the classroom setting. Not only can the instructional DVD on the proper mechanics of running be used in a classroom setting, but it could also be a beneficial tool for cross country and track coaches to use to help an athlete improve her form so that she could decrease her energy expenditure during running which would increase the runner’s endurance. If the runner has more endurance, then he will be able to run further without getting as tired which could increase his ability to perform during meets. The instructional DVD has applications that would be beneficial to people from different experience and fitness levels.


An experimental design with pre- and post-testing was used to examine the effect of the experiential curriculum *Techniques for Tough Times* (VandenAkker & Threet, 2002) on the social skills of youth at risk. Participants were randomly selected from two public high schools in Salt Lake City, UT. Students in the experimental group (13 females and 7 males) received the experiential education curriculum for 1.5 hr every other afternoon. Students in the control group (10 females and 10 males) participated in school-structured electives. Social skills were measured through the use of the Teacher and Student Form of the Social Skills Rating System (Gresham & Elliot, 1990). Data were analyzed using analysis of covariance with pretest scores as the covariate. Significant (p<.05) differences, in support of the experiential curriculum, were found in student ratings of their social skills, teacher ratings of student social skills, and teacher ratings of problem behaviors. No significant difference (p>.05) was found in teacher ratings of academic competence.

Murphy, Kelle L. *Perceptions of the student teaching triad: a naturalistic inquiry into teaching behaviors that may lead to negligence in the physical education environment*, 2004. D.P.E., Springfield College (Betty Mann). (250pp: 3 fiche $18.00, PDF $27.50) PE 4689

A qualitative research design was utilized to determine behaviors of and relationships among student teachers, supervising practitioners, and college supervisors that may have led to negligent practices in the physical education teaching environment and why such behaviors occurred. The study was conducted over a 14-week practicum experience in student teaching. Eight student teaching triads (three at elementary sites and five at secondary sites) participated in the study. In-depth interviewing was used as the primary method of data collection. A risk management inventory and daily journals were employed as secondary methods of data collection. Negligent teaching practices were not found among members of the student teaching triad; however, findings that emerged for participants across triads aided in understanding why negligent teaching practices could occur. Major themes that emerged for elementary and secondary placements were related to concepts found in pedagogical research and included: prior planning, modeling, ecology (Siedentop & Tannehill, 2000), a field dependent learning style (Ennis & Chepyator-Thornson, 1990), and an independent supervisory style. Position power (French & Raven, 1959) emerged describing similarities and differences found across triads.


The purpose of this study was to examine the impact of giving students specific assessment criteria the first part of a badminton unit on the response rates of students with various skill levels. This study also investigated whether setting and stating specific assessment criteria in the beginning of an activity unit increased student achievement and learning throughout the course of instruction. Participants of this study consisted of a purposeful sample of 12 female physical education students from an Indiana high school participating in a badminton unit. Data was collected during a 10-day badminton unit on two more-skilled, two average-skilled, and two less-skilled students in each of two classes. One of these classes received specific assessment criteria in the first part of the badminton unit, while the other class received the specific assessment criteria at the end of the same badminton unit. The participants’ response rates for each forehand, backhand, overhand, and serve were measured. The researcher then calculated the percentage of correct and incorrect responses for each badminton hit attempted within a specific time period. The results of this study sug-
gest that student response rates increase throughout a unit when specific assessment; criteria is given at the beginning of the unit for students of more-, average-, and less-skill levels. This study concludes that physical educators may increase student achievement and learning throughout an instructional unit by setting and stating specific assessment criteria at the beginning of an instructional unit. Increased student response rates mean greater time spent on task and improved skill development.

Sheppard, Joanna C. Implementing the OPTIMAL model: the impact on students' motivation in an elementary school games environment, 2005. Ph.D., Brock University (James Mandigo). (161pp: 2 fiche $12.00, PDF $23.05) PE 4692

Optimal challenge occurs when an individual perceives the challenge of the task to be equaled or matched by his or her own skill level (Csikszentmihalyi, 1990). The purpose of this study was to test the impact of the OPTIMAL model on physical education students' motivation and perceptions of optimal challenge across four games categories (i.e., target, batting/fielding, net/wall, invasion). Enjoyment, competence, student goal orientation and activity level were examined in relation to the OPTIMAL model. A total of 22 (17 M; 5 F) students and their parents provided informed consent to take part in the study and were taught four OPTIMAL lessons and four non-OPTIMAL lessons ranging across the four different games categories by their own teacher. All students completed the Task and Ego in Sport Questionnaire (TEOSQ; Duda & Whitehead, 1998), the Intrinsic Motivation Inventory (TMI, McAuley, Duncan, & Tammen, 1987) and the Children's Perception of Optimal Challenge Instrument (CPOCI; Mandigo, 2001). Sixteen students (two each lesson) were observed by using the System for Observing Fitness Instruction Time tool (SOFIT, McKenzie, 2002). As well, they participated in a structured interview which took place after each lesson was completed. Quantitative results concluded that no overall significant difference was found in motivational outcomes when comparing OPTIMAL and non-OPTIMAL lessons. However, when the lessons were broken down into games categories, significant differences emerged. Levels of perceived competence were found to be higher in non-OPTIMAL batting/fielding lessons compared to OPTIMAL lessons, whereas levels of enjoyment and perceived competence were found to be higher in OPTIMAL invasion lessons in comparison to non-OPTIMAL invasion lessons. Qualitative results revealed significance in feelings of skill/challenge balance, enjoyment, and competence in the OPTIMAL lessons. Moreover, a significance of practically twice the active movement time percentage was found in OPTIMAL lessons in comparison to non-OPTIMAL lessons.

Tindall, Daniel W. S. The effects of three knowledge interventions on novice volunteer tutors’ teaching performance with children with developmental disabilities in a motor development lab setting, 2005. Ph.D., Oregon State University (Hans van der Mars). (110pp: 2 fiche $12.00, PDF $20.50) PE 4664

According to Block (1999), the greatest problem with inclusion in physical education is the lack of personnel support. Most help comes in the form of teacher assistants such as peer-tutors and paraprofessional who receive very little, if any, direction from the general physical education teacher. However, what remains unknown are the knowledge and teaching behaviors these assistants possess in order to engage children with developmental disabilities within the physical activity setting. The purpose of this investigation was two fold: a) To determine the impact an training consisting of knowledge development and practice has on the interactions of volunteer tutors working with children with developmental disabilities, and b) To determine if the order of presenting training content targeting specific dimensions of teacher knowledge has a differential effect on the teaching performance of the same volunteer tutors. Participants for this study were seven volunteer tutors between the ages of 18-23 each paired with a high functioning child (5-14 yrs.) with a development disability. Volunteer tutors engaged in weekly 30 minute training sessions throughout the academic year, focusing on the development of content knowledge (CK), pedagogical knowledge (PK), and pedagogical content knowledge (PCK). A hybrid research design was implemented combining a basic single-subject reversal design with an Alternate Control Treatment Group Research Design. Data collection consisted of event recording of data as captured via audio and videotaped recordings of the volunteer’s behavior during a gym-based activity session covering the physical skills of throwing, catching, kicking, and striking an object. Findings regarding the order of the training sessions suggest pedagogical knowledge followed by content knowledge had some encouraging results, but were not as effective as just focusing on PCK. Teachers looking to incorporate peer volunteers into the physical activity setting to assist children with developmental disabilities may consider implementing short training sessions that focus on pedagogical content knowledge.

Watson, Molly K. Preparing NCAA Division I athletes for athletic retirement: making the transition from athlete to working professional, 2005. M.A., Ball State University (Arlene Ignico). (181pp: 2 fiche $12.00, PDF $24.05) PE 4659

The purpose of this creative project was to provide an educational course that can be used to better prepare NCAA Division I athletes for their sport retirement. By offering this course, NCAA Division I institutions would provide their student-athletes with the invaluable opportunity to spend more time preparing for their life after sports. In addition, the structure of this course could be helpful in motivating student-athletes to take responsibility for planning their career as a working professional. The materials needed to create this course were a compilation of
whether or not Caribbean societies embraced the sport, or cans in the game’s diffusion. No mention was made of the role played by Latin America, however, was the matter that contemporary Major League Baseball in-  ated in Cuba and the Dominican Republic, the two countries where baseball has flourished the most in the more than 100 years since the game was introduced to the region. The majority of the sources that I initially consulted - books, journal articles, and selections from the popular press seemed to share a central theme: that American actors has used baseball as a tool of manipulation from the moment it was carried to Cuba in the wake of the American civil war. Be it the contention that the game had been introduced to Latin America as a method of cultural control, or the supposition that contemporary Major League Baseball interests actively oppress Latin players, the authors of these works readily expressed the view that Americans used the national pastime for political, social, and economic gain in the Caribbean. The point was often raised that the game had essentially been inflicted upon the people of Cuba and the Dominican Republic. What these sources failed to mention, however, was the role played by Latin Americans in the game’s diffusion. No mention was made of whether or not Caribbean societies embraced the sport, or whether they themselves had any power over its importation. Likewise, as I broadened by research to encompass the larger field of international relations, I found that much had been written about cultural imperialism and the motivations of the world’s powers for transmitting social customs, but again next to support for the notion that that smaller nations have been able to exercise sovereignty in the field of imported social customs. While there exists an overabundance of Marxist-inspired literature describing the inherently manipulative relationship between large powers and weaker neighbors, such explanations fail to do justice to baseball’s transmission. Baseball, I found, was for the most part not carried to Latin America by scheming American actors, but was transported inadvertently due to the countries’ proximity to one another. Likewise, Latin Americans adopted the game largely because they enjoyed it, not because it was somehow thrust upon them. Finally, there is evidence that, ever since the sport’s adoption Cubans and Dominicans have maintained the ability to infuse it with their own societal needs. Whether it was the initial adoption of baseball as a way of thumping their noses at the Spanish, or the recent ability of the region to cash in economically off the sport, the receiving societies of the Caribbean have maintained full autonomy over the game. In the end, what this paper hopes to show is that Cuba and the Dominican Republic actively embraced baseball. In the years that have followed the game’s transmission, American actors have, admittedly, used the game for their own ends, but they are not alone; Latins too have appropriated the sport. While it is but an isolated example, I believe that the spread of baseball offers some insight into the cultural transmission process, and, more specifically, the freedom of a receiving society to control the flow of imported social customs.


For my senior thesis project at Amherst College, I chose to pursue a topic that would combine my academic interest in the politics of Latin America with my personal enthusiasm for the sport of baseball. To that end, I set out to research what the adoption of the North American game in Latin America around the turn of the twentieth century could tell me about the political relationship between the regional superpower and its smaller neighbors. Much to my surprise, I quickly found that a plethora of material had been written about the relationship between the sport in North America and the sport in the Caribbean, principally in Cuba and the Dominican Republic, the two countries where baseball has flourished the most in the more than 100 years since the game was introduced to the region. The majority of the sources that I initially consulted - books, journal articles, and selections from the popular press - seemed to share a central theme: that American actors has used baseball as a tool of manipulation from the moment it was carried to Cuba in the wake of the American civil war. Be it the contention that the game had been introduced to Latin America as a method of cultural control, or the supposition that contemporary Major League Baseball interests actively oppress Latin players, the authors of these works readily expressed the view that Americans used the national pastime for political, social, and economic gain in the Caribbean. The point was often raised that the game had essentially been inflicted upon the people of Cuba and the Dominican Republic. What these sources failed to mention, however, was the role played by Latin Americans in the game’s diffusion. No mention was made of whether or not Caribbean societies embraced the sport, or whether they themselves had any power over its importation. Likewise, as I broadened by research to encompass the larger field of international relations, I found that much had been written about cultural imperialism and the motivations of the world’s powers for transmitting social customs, but again next to support for the notion that that smaller nations have been able to exercise sovereignty in the field of imported social customs. While there exists an overabundance of Marxist-inspired literature describing the inherently manipulative relationship between large powers and weaker neighbors, such explanations fail to do justice to baseball’s transmission. Baseball, I found, was for the most part not carried to Latin America by scheming American actors, but was transported inadvertently due to the countries’ proximity to one another. Likewise, Latin Americans adopted the game largely because they enjoyed it, not because it was somehow thrust upon them. Finally, there is evidence that, ever since the sport’s adoption Cubans and Dominicans have maintained the ability to infuse it with their own societal needs. Whether it was the initial adoption of baseball as a way of thumping their noses at the Spanish, or the recent ability of the region to cash in economically off the sport, the receiving societies of the Caribbean have maintained full autonomy over the game. In the end, what this paper hopes to show is that Cuba and the Dominican Republic actively embraced baseball. In the years that have followed the game’s transmission, American actors have, admittedly, used the game for their own ends, but they are not alone; Latins too have appropriated the sport. While it is but an isolated example, I believe that the spread of baseball offers some insight into the cultural transmission process, and, more specifically, the freedom of a receiving society to control the flow of imported social customs.

Drury, Brendan E. Put me in, coach: surviving the bench and the locker room in adolescent basketball literature, 2005. M.A., University of North Carolina, Wilmington (Meghan M. Sweeney). (64pp: 1 fiche $6.00, PDF $18.20) PE 4670

This thesis examines the off-court spaces of adolescent basketball literature. In most sports literature, the spotlight is placed on the field of play, whether it be a football field, a baseball diamond, or a basketball court. However, I take the spotlight off of the court and place it on the bench and in the locker room. After a short history of adolescent sports fiction, I examine the bench. Although the bench may be “the best seat in the house,” it is just that—a seat. The young adult athletes in these basketball novels want more. They want to find community in the locker room, others see it as a place where social orders are strictly enforced. The coach is also a dominant figure in the locker room His or her be-
behavior often determines whether an athlete’s locker room experience is a positive one or a negative one. Moreover, I analyze the locker room as a gendered space and discuss the sexual images that arise. This thesis is grounded in close readings of various young adult basketball novels. I also incorporate both adolescent literary theory, as well as sports theory in order to find out the impact that these spaces have on young adult athletes.


This was a cross-cultural comparative study that examined college students’ physical activity behavior in both the United States and the Republic of China on the basis of the full Transtheoretical Model (TTM) of behavior change. Although current investigations do support TTM as a powerful model of physical activity behavior change, there remains a need for examining other variables and constructs relative to those proposed in TTM. From a health promotion planning or intervention perspective, the integration of some of the PRECEDE and PROCEED (PRE) constructs might provide unique insight into physical activity behavior. A total of 1,132 participants were recruited into this study, with 531 coming from Taiwan and 601 coming from the U.S. In spite of similar recruitment techniques, demographic data indicated that the participants from Taiwan were older and had lower BMIs than those in the United States. They also spent more time sitting in comparison to their American counterparts. The scales and subscales used in this study were completed in the participants’ native language (i.e., Chinese or English). Prior to their use in this study, all of the questionnaires were translated into Chinese using a multiple-step methodology, including back translation, and they were found to have reasonable internal consistency. Results showed that the best predictive model for the stages of physical activity behavior change was based on concomitants coming from both TTM and PRE together. Specifically, the variables that contributed the most to the participants’ stage of change for physical activity classification in a stepwise analysis, in order of entry, were the behavioral processes of change, predisposing, national, cognitive processes of change, and gender. The overall classification accuracy was 49%. Other than the maintenance stage (66%-68% classification accuracy), this study found that the preparation stage (65.5%-70.4% classification accuracy) was especially reliably predicted, which suggests that preparation stage might be less transitory than previous thought. Furthermore, the concurrent validity of the stage of change measure used in this study was significantly related to the International Physical Activity Questionnaire (IPAQ). This is the first application of IPAQ in Taiwan and the results of the present study support its continued use as a physical activity measure within a new country.

As nationality was a key concomitant of stage of change classification, the present study suggests there may be a need for more non-Eurocentric research with TTM before concluding that behavior change strategies and techniques hypothesized in the model (e.g., behavioral and cognitive processes of change, decisional balance, and self-efficacy) are fully generalizable in physical activity behavior change interventions using mixed culture samples. Likewise, there may be some unique contributions to such interventions by incorporating constructs from a broader health promotion planning or intervention model.

Giles, Bridgett D. College experience of female athletes: differences by race, 2004. M.S., Springfield College (Kimberly Bogle). (80pp: 1 fiche $6.00, PDF $19.00) PE 4686

The investigation was designed to compare the college experience of female student-athletes across racial boundaries. Participants from two predominately White institutions (PWI; N=69) completed a questionnaire that analyzed their college experience from four different angles: the present time, educational experiences, personal/interpersonal experiences, and financial situation. Chi square analysis was used to determine significant differences in the frequency of responses across racial boundaries between the institutions the female student-athletes attended. Significant differences were not found in the frequencies of responses by Black (n=3) and White female student-athletes (n=65) regarding the present and financial situation, p>.05; however, White female student-athletes had an overall better educational and personal/interpersonal experience than Black female student-athletes at both institutions, p<.05. The reason both schools presented similar results could be due to their similar characteristics. An examination of different types of schools could reveal different outcomes.


This study examined the sport socialization of elite women with disabilities into wheelchair basketball. Through the women in this study it became apparent that experiences are not a dichotomy of this or that, but rather an ability to maneuver through a world that does not accept what it does not understand. These experiences showed that women with disabilities can do this and that, not this or that. They in fact can epitomize the physical experience despite physical limitations and they can excel in sport despite advantages of the able-bodied sporting world. This research was a step in breaking down athletic stereotypes and many other assumptions in order to move in the direction of legitimacy.
**SPORTS MARKETING**


This thesis explores the way female athletes are constructed in advertising by the Women’s National Basketball Association (WNBA). The advertising campaigns analyzed are from 1997-2003. Through a rhetorical analysis of the advertisements, the author argues that while the WNBA depicts the athletes as strong, powerful, and in alignment with feminist ideologies that ultimately the athletes are appropriated via the masculine gaze created in the advertisements. This production of the male gaze in relation to the female basketball players functions to deny their challenge to the masculine sports hierarchy and continuing a paradox for the female athlete.

Salmon, Jeffrey M. *And the winner is: communication campaigns, sports public relations, and promotion of student athletes for college football awards*, 2005. M.A., University of Oklahoma (Matthew Cecil). (90pp: 1 fiche $6.00, PDF $19.50) PE 4679

This thesis examined one aspect of a sports information director’s work, the communication campaign. Specifically, this study explored the effectiveness of annual college football awards campaigns undertaken by collegiate sports information directors. Each year, awards are given to the nation’s best college football players. The winners are selected by members of the sports media. Behind the scenes, university athletic programs campaign furiously for their own student athletes with communication campaigns designed and executed by sports information directors and their staffs. Each athletic department puts significant time, money, and effort into its campaign. The findings from this study suggest that sports information directors need to be aware of how important legitimacy is to the voters. These findings suggest that responsibility, credibility, and utility of a sports information director and his institution play an important role as the voter makes his or her decision. This study suggests that the strategies and tactics, which are essential in any public relations campaigns, in this situation fall under the concerns of legitimacy in the mind of the voter.

Stinson, Jeffrey L. *The effects of intercollegiate athletics success on private giving to athletic and academic programs at National Collegiate Athletic Association institutions*, 2005. Ph.D., University of Oregon (Dennis R. Howard). (207pp: 3 fiche $18.00, PDF $25.35) PE 4645

Individuals donated nearly $24 billion to institutions of higher education in FY 2002 (CAE 2004). The two primary beneficiaries of this private giving are the institutions’ academic and intercollegiate athletic programs. As both academic and athletic programs have become increasingly reliant on private support, the relationship between academic and athletic fundraising has drawn research attention. Previous research is unclear about the relationship between intercollegiate athletic success and private giving to the institution. Some research suggests there is no relationship, while other studies indicate intercollegiate athletics are either a positive or negative influence on institutional giving. The current study seeks to clarify previous research. This is the first study to use the largest national database of private support to colleges and universities to examine giving by alumni and non-alumni to academic and athletic programs at NCAA member schools. Linear mixed model analyses revealed several important institutional and donor characteristics that clarify the disparate findings of previous research. Unlike previous work, the current study considered the moderating role of academic reputation. Total giving to schools with the strongest academic reputations was less susceptible to the changing fortunes of athletic teams (e.g., win-loss records, post-season appearances, etc.) than total giving to institutions not included in the top tier of academically ranked schools. However, while the top-ranked schools appeared immune to the influence of athletic performance, analysis of allocation patterns indicated that donors at all levels of schools directed an increasing percentage of their total gifts to athletics programs. The academic and athletic components of total giving were individually analyzed. While athletic success was found to significantly influence athletic giving patterns, the athletic performance variables were not significant in models of academic giving. Finally, gifts made by alumni were compared with those made by non-alumni. In most cases, alumni gave more to both academic and athletic programs than non-alumni. However, both groups of donors responded similarly to changes in athletic success when making gifts in support of athletic programs. These results were used to establish a framework for further investigation into the complex interaction between athletics and private giving.

**DANCE**

Snelson-Figueroa, Lesley. *Lost and found in translation: dancing with and beyond consciousness*, 2004. M.F.A., Texas Woman’s University (Deidre Sklar). (30pp: 1 fiche $6.00, PDF $16.50) PE 4680

A reconstruction of memories narrating a choreographic process, this phenomenological study reveals elemental components of the dance-making process that are seldom discussed and most never taught in academia. Despite
their enigmatic nature, when utilized as choreographic tools, intuition, conscious awareness and reflection can add clarity and efficiency to choreographing and performing. Developing a holistic picture of what choreographers and performers need to know in order to enhance their dance-making processes, this inquiry considers how critical pedagogies can enhance intuitive knowing and the meaning-making process for all artists involved in dance-making. The essay initially reveals an internal dialogue as I choreograph a movement phrase. This memory allows for a detailed analysis of the process, illuminating the interwoven actions of intuition, awareness and choice-making. I subsequently recount memories of teaching the movement phrase to an actively engaged group of dancers. By highlighting a conflict that arose between myself, the choreographer, and the performers, regarding the progress of performing the dance, the essay looks at how intuition, awareness and choice-making enhance clarity for both the choreographer and the performers.

Suarez, Juanita R. Spectres of the dark: embodying borders through Chicana dance-making. 2005. Ph.D., Texas Woman’s University (Penelope Hanstein). (228pp: 3 fiche $18.00, PDF $26.40) PE 4681

The purpose of this study was to identify several cultural conceptual aspects particular to the physical, psychological, and hence, creative migrations of three Mexican and Mexican American (Chicana) modern dance choreographers and performers’ creative voices as signatures of artistic as well as cultural/political identities. Since little information was available on Mexican or Mexican American women modern dance choreographers and performers, a contextual framework was derived from the critical cultural and analytic traditions of Chicana writers and artists who center their creative work on issues surrounding Chicana voice and identity. The methodology for this research involved connecting to two Latina Chicana modern dance-makers who had a repertory of modern concert dance works to study. I included myself within the research since I am a Chicana choreographer and performer familiar with the cultural terrain of the Mexican American experience. By conducting multiple interviews with each dance-maker, engaging in extemporaneous conversations about modern dance as cultural expressive voice, observing modern dance works over time (live and video), through joint concert performance venues, as well as collaborations involving dance improvisations, dance-making, creative/grant writing, I discovered connections being forged between these three Latina modern dance-makers and their indigenous cultural sources. The Latina Dance Project evolved out of; became central to; and, hence, informed this research. Through the continual viewing/analysis of a repertory of dance works spanning a period of six years, it was possible to identify a conceptual framework reflective of Mexican and Mexican American cultural traditions. Based on physical and psychological distances traveled by each Chicana modern dance-maker, a migratory pattern emerged. Borders emerging from these migrations, based on race, gender, education, and language, constituted for each Latina dance-maker a crossing of sorts and, hence, a new cultural twist to the concept of crossing was established. Through the Chicana dance-making process, I imagine the stage a borderland, making the dance a vessel for the crossing and the performance an embodiment of the borders she encounters.

Webster, David. Teachers’ voices: an evaluation of the certification track in art at the University of Northern Iowa, 2005. Ph.D., Florida State University (Tom Anderson). (458pp: 5 fiche $30.00, PDF $37.90) PE 4682

The aim of this study was to determine how well art teachers, who had graduated from the art teacher preparation program at the University of Northern Iowa (UNI) between 1999 and 2003, thought they were prepared for their teaching positions as a result of their experiences in the program. From a review of the relevant literature a number of themes emerged concerning current trends, beliefs, and understandings about teaching art to meet the needs and demands placed on children and adolescents in contemporary society. A document search assisted in discovering the University’s goals for the program. Comparing, contrasting, and cross-referencing the information that was collected in a survey of the population and interviews with three of these teachers helped me to assess whether these goals were adequately being met. It allowed me the opportunity to understand how the teachers’ concepts, beliefs and understandings about art education had been constructed, both as a result of their experiences prior to enrollment in the program and their experiences during it. It also allowed me the opportunity to determine emerging themes and patterns relating to particular issues and concerns about the program. The information from this formative evaluation provided me with the empirical evidence to recognize problematic areas and to warrant changes to the program that I considered necessary for it to assist graduates to meet the demands of teaching art in today’s schools more successfully. In conclusion I identified a number of areas that I considered to be problematic and made recommendations for improvement.


There Is No Finish Line was a choreographic work conceived and created within a humanistic framework. Its primary focus was the art produced, with secondary emphases on the personal growth of the choreographer and dancers. The manuscript, which details the creation, performance, and evaluation of the choreography, also explores the inter-connectedness of psychology and dance and the inseparability of the mind and the body.
BIOMECHANICS

Noce, Heidi P. *An in-shoe instrument for acquisition and storage of plantar pressure*, 2005. M.S., Oregon State University (Brian K. Bay). (56pp: 1 fiche $6.00, PDF $17.80) PE 4655

A measurement system has been developed to continuously record pressure data between the sole of the foot and the shoe. Five force sensing resistors are mounted to an insole suitable for shoe insertion. The sensors are located at the heel, toe, and under three metatarsal heads. Data from the sensors are transferred to a host computer via a Universal Serial Bus (USB) cable and saved to system memory. The system is capable of sampling data up to 240Hz across 5 active data acquisition channels. Software uses the data to display the loading profile for each sensor in order to provide quantitative results of cumulative plantar pressure. The history of each sensor can be acquired to examine event related alterations, such as endurance sport events or pre and post surgical procedures. The system is designed with the capability to supply the data necessary for characterization of such alterations.

Rivard, Amanda J. *Effects of kinematic and kinetic stride parameters on a fast-pitch softball swing*, 2005. M.S., Springfield College (H. Joseph Scheuchenzuber). (100pp: 2 fiche $12.00, PDF $20.00) PE 4690

The study was designed to examine kinematic and kinetic effect of stride parameters on a fast-pitch softball swing for 20 intercollegiate softball players. Each subject completed five swings utilizing each batting condition: stride and no stride. Mean scores for the 10 trials were used for analysis. Differences were examined with regard to bat velocity, response time, and ground reaction force. Repeated measures t-ratios were used to examine the mean differences for each of the independent variables. Bat velocity, response time, and ground reaction force were found to be significantly (p<.05) greater when the stride condition was utilized. When the no stride batting condition was utilized, subjects were able to respond faster than the stride condition. Mean bat velocity and ground reaction force scores were higher when the stride batting condition was used than the no stride condition. Future research is needed in the area of fast pitch softball. The combination of decreased response time, due to the shorter pitching distance (17 ft), and lower bat velocities suggests that there is a researchable difference between optimal baseball and softball batting techniques.


Obtaining knee kinematics can require probing a series of anatomical points to describe a coordinate system and recording the relative motion between bones of the knee. The objective of this study was to measure and improve the kinematic accuracy by investigating experimental errors from kinematics simulated on the Kansas Knee Simulator and recorded using an OPTOTRAK 3020 system. The relative motions between two rigid bodies were recorded and compared against the controlled values to investigate the accuracy of the OPTOTRAK 3020. The direction of motion had the largest effect on the accuracies. The motions of the rigid body parallel to the OPTOTRAK cameras were more accurate than the same motions toward the cameras: 0.05degrees and 0.10degrees over 10degrees rotation respectively; 0.01mm and 0.10mm over 12.7 mm translations respectively. A series of perturbations representing possible experimental errors were computationally made to the anatomical points used to define the coordinate systems. The kinematics due to the changing coordinate system were compared against the baseline kinematics without perturbation. The perturbations made to the femoral epicondylar points were consistently associated with the largest change of kinematics. Of all the kinematics, tibiofemoral abduction showed the largest percentage change in range of motion, with 175% change due to 10 mm perturbations made to the femoral epicondylar points. Comparisons of six knees during similar walk cycle verified the changes in kinematics from the same perturbations were consistent through different knees (p<0.05). To examine the sensitivity of kinematics to the misalignment of knees in the Kansas Knee Simulator, three femoral and two quadriceps alignment factors were tested singly and multiply. Femoral internal-external and adduction-abduction were found to be the two most sensitive factors, altering the kinematics by 80% and 40% respectively. The tibiofemoral kinematics were more sensitive to the position of the femur, the patellofemoral kinematics were more sensitive to the quadriiceps’ position. The kinematics were most sensitive to the anatomical points probed to define the coordinate system, followed by the misalignment. The OPTOTRAK accuracy was reliable. Proper identification of the femoral epicondylar points were shown to be the most important factor in improving the kinematics.


Relationship between pelvic tilt in standing posture and hip muscle length has been widely accepted, although it has not been sufficiently supported. First purpose of the study was to examine relationships between pelvic tilt, hip joint angle, and center of pressure in standing posture, and hip muscle length (one- and two-joint hip flexor and hip extensor) among college-aged males. Second purpose was to analyze differences in pelvic tilt and hip joint angle in standing posture and hip muscle length (one-joint hip flexor and hip extensor) between Caucasian and Eastern
Asian college-aged males. Twenty-one Caucasian (M=28.78 years, SD=1.94) and 18 Eastern Asian (M=25.36 years, SD=3.95) male participants were recruited. No relationships were found between variables except for relationship between pelvic tilt and hip joint angle (r=396, P<.01). There were no race differences in pelvic tilt, hip joint angle, and hip muscle length.

**SPORTS MEDICINE**

Buxton, Tracy M. *A case study: differences between the follicle stimulating hormone and serum leptin in one oligomenorrheic and one eumenorrheic endurance athlete after acute exercise*, 2004. M.S., Springfield College (Vincent Paolone). (116pp: 2 fiche $12.00, PDF $20.80) PE 4683

Two females were studied to determine differences in plasma follicle stimulating hormone and serum leptin after an acute bout of exercise. One of the females was eumenorrheic and the other female was oligomenorrheic. Subjects were matched for body composition, fitness level, and menstrual status. Both subjects ran on a treadmill at 75 to 80% of their predicted peak oxygen consumption for 1 hr. Blood was drawn at baseline, immediately postexercise, and 15 min postexercise. All data analyses were descriptive in an attempt to search for trends that might facilitate future research. The plasma FSH level increased above baseline immediately postexercise and then decreased below baseline 15 min postexercise in the one oligomenorrheic subject. The plasma FSH in the eumenorrheic subject increased above baseline immediately postexercise and 15 min postexercise. Serum leptin levels increased in each subject immediately following exercise when compared with baseline values. Leptin levels in each subject slightly decreased below baseline 15 min postexercise.

Catena, Robert D. *Secondary task effects on gait stability in concussed college subjects*, 2005. M.S., University of Oregon (Li-Shan Chou). (79pp: 1 fiche $6.00, PDF $18.95) PE 4642

The purpose of this study was to determine how different types of concurrent tasks affect gait stability in patients with concussion and how balance is maintained during each task. Fourteen individuals suffering from a grade II concussion and 14 matched controls performed a single task of level walking and three types of concurrent tasks during level walking: discrete reaction time test, question and continuous sequential answer task, and obstacle-crossing. Gait spatial/temporal measurements, whole-body center of mass motion, and the center of pressure trajectory were recorded. Concussed individuals also adopted a more conservative gait strategy to maintain stability, but still showed signs of possible instability. Deviations in certain gait stability indicators during the question and answer task and the obstacle-crossing task signified attentional deficits in concussed individuals as compared to controls.


Growing concern with regards to the dramatic number of catastrophic injuries occurring among schoolboy rugby-players has occurred. Recently a study has shown that players’ knowledge of techniques known to prevent rugby injuries is inadequate and too little attention is paid at the start of the rugby season to coaching techniques designed to reduce rugby injury risks. There is a growing concern as to the increasing number of injuries sustained by rugby players despite appropriate rule changes. Little South African epidemiological data exists as to the incidence and type of injuries that occur in rugby. The purpose of this study is to investigate the possible aetiologies for the high incidence of rugby injuries among two of the top rugby-playing schools in Gauteng in a given school term for the 2003 rugby season. King Edward VII School and St. John’s College, both in Houghton, were contacted and agreed to provide the necessary participants and coaches for this study. The rugby players were either between the ages of thirteen and fourteen (under fourteen age group), or between the ages of seventeen and nineteen years old (open age group). King Edward VII and St. John’s College rugby scholars and coaches formed the research participants. All participants were required to complete a subjective questionnaire once a week for the entire duration of the 2003 rugby season (March 2003 to June 2003). A total of 1122 (76.85%) questionnaires were obtained, of which 586 were from the under eighteen age group, 511 were from the under fourteen age group and 25 were from coaches/managers of the various age groups. The number of years playing rugby in the under fourteen age ranged from 0-6 years, with a mean of 2.7 playing years. The mean number of games played by the under fourteen age group was 19 for the 2003 season. A total of 19 (35%) previous injuries were recorded in the under fourteen age group. In this age group, there were a total of 144 injuries (28%) recorded throughout the 2003 season. Fifty-six players (93%) in the under fourteen age group used some form of protective gear. The mostly common injury site for the under fourteen age group was the head (concussion) in which 28 players (19%) suffered head (concussion) injuries during the season and 26 players (18%) suffered neck injuries. Among the under fourteen forwards, the position injured the most was the locks with 16 injuries during the season (11%) in which the most commonly injured anatomical sites for locks were the cervical spine and the lower back, followed by the loose head prop with 15 injuries (10%). The number of years playing rugby in the open age group range from 3-11 years, with a mean average of 5.92 playing years. The mean number of games played by the open age group was
24 for the 2003 season. A total of 35 (58%) previous injuries in the open age group were recorded. A total of 149 injuries (25%) were recorded throughout the 2003 season. 60 Open age group players did some form of pre-season training. The most common injury site for the open age group was the head (concussion) with 29 (20%) players suffering head (concussion) injuries, and 28 players (20%) suffering knee injuries. In the under fourteen age group, 43% of coaches said winning was important, 21% said winning was not everything, 15% said winning meant the world to them, 14% said nothing at all and 7% stated other reasons. In the open age group, 63% of coaches said winning meant the world to them, 18% said winning was important, 9% said winning was not everything, 4% said nothing at all and 6% stated other reasons. In the under fourteen age group, the coaches’ rugby training skills ranged from a level 1 to a level 2, with the average coach having 7.89 years of experience in coaching rugby. In the open age group, the coaches’ rugby training skill level ranged from a level 1 to a level 3, with the average coach having 13.78 years of experience in coaching rugby. The principal conclusions of this study are as follows: There is high incidence of rugby injuries among schoolboy rugby players, in particular concussion injuries, and there is under-reporting of these to the authorities of the schools. Schoolboy rugby injuries are more common during the early season in both age groups and after the mid-year winter recesses, mainly among the under fourteen years. Players in the open age group did pre-season training more frequently than the under fourteen age group. Locks suffered the most injuries in both age groups among the forwards, while flyhalves and centres suffered the most injuries in both age groups. Forwards suffered injuries during set phases, while backline players suffered injuries during the tackle ball phases. Concussion was the most common injury suffered in both age groups, while the under fourteen age group suffered a great deal of cervical injuries.


The purpose of this research was to evaluate the effects of a long-term static stretching program on flexibility and spinal reflexes in the human soleus muscle. Day-to-day reliability over two days of H-reflex gain (Hls/MSl) and pre-synaptic inhibition of spinal reflexes in the human soleus was measured in an initial study. Thirty subjects (age=23.4±3.9 yr, height=175.64±10.87 cm, weight=84.5±24.18 kg) with no history of lower leg pathology and/or injury within the previous 12 months volunteered. The slopes of the ascending portions of the H-reflex and Mwave recruitment curves were used to evaluate H-reflex gain (Hls/MSl). The mean soleus H-reflex from 10 conditioning stimulations and 10 unconditioned stimulations was used to calculate the amount of pre-synaptic inhibition. Measurements of H-reflex gain and pre-synaptic inhibition yielded test-retest reliability of R=.95 and R=.91, respectively. The contribution of pre-synaptic and postsynaptic reciprocal mechanisms in flexibility adaptations has not been measured during the same study. A long-term static stretching program (5 times per week for 6 weeks) of the soleus implemented within an experimental group of 20 subjects was used as an intervention to measure both spinal control flexibility changes. Additionally, 20 control subjects were measured that did not participate in the stretching program. Passive ankle dorsiflexion, Hmax/Mmax, H-reflex gain (Hls/MSl), pre-synaptic and postsynaptic reciprocal mechanisms were measured at baseline, 3 weeks, and 6 weeks for all 40 subjects. A 2 (Group) X 2 (Sex) X 3 (Time) mixed MANOVA with Tukey HSD with (a<0.05) was used. Only ROM had a significant interaction between Group and Time, whereas, a significant difference was not detected in the other dependent variables. The experimental group demonstrated significantly improved dorsiflexion ROM from baseline to 3 weeks (mean=6.2±.88, P<0.001), 3 weeks to 6 weeks (mean=4.9±.84, P<0.001), and baseline to 6 weeks (mean=11.2±.91, P<0.001). Consequently, the increase in flexibility by 42% after 30 stretching sessions was not the result of spinal reflex changes.


Rugby in South Africa is strongly encouraged amongst high school boys, who may have gone on to play in club, professional or even national levels. Spinal cord injuries that occurred as a result of sporting injuries were the most tragic of all injuries as they often led to tetraplegia. Since the mid-1970’s there has been increased numbers of just such catastrophic injuries in rugby, especially in South Africa where the highest incidence of spinal cord injury of all sports had been noted. A recent study had shown that players’ knowledge of techniques known to prevent rugby injuries was inadequate and too little attention was paid at the start of the rugby season to coaching techniques designed to reduce rugby injury risks. Little South African epidemiological data existed as to the incidence and type of injuries that occurred in rugby. The purpose of this study was to investigate the possible aetiologies for the high incidence of rugby injuries among medium-level rugby-playing schools in Gauteng in a given school term for the 2003-rugby season. Two medium-level rugby-playing schools—Christian Brother’s College, Boksburg and King David High School, Linksfield, both in Gauteng—were contacted and agreed to provide the necessary participants and coaches for this study. The rugby players were aged either between thirteen and fourteen years (under fourteen age group), or between seventeen and nineteen years (open age group). All participants were required to complete a subjective questionnaire—either a player’s or a coach’s
questionnaire—once a week for the entire duration of the 2003 rugby season, from March 2003 to June 2003. A total of 840 (70%) questionnaires of a possible 1200 were received, of which 418 (73.33%) were from the under-fourteen age group, 374 (59.37%) were from the open age group, 28 were from the under-fourteens coaches/managers and 20 were from the opens coaches/managers. The under fourteen age group played rugby between 0 and 8 years with an average of 1.96 years playing experience. The average number of games played by this age group for the 2003 season was 4.89, while an average of 3.77 hours training time per week was reported for the season. A total of 5 (13.89%) previous injuries were noted coming into the 2003 season. In this age group, 36 (83.73%) players reported doing some form of pre-season training. Forty players (93.02%) in the under fourteen age group reported using some form of protective gear during the season. A total of 36 (8.61%) injuries were recorded for the 2003 season, with no concussions or head injuries being recorded. Four (11.11%) players reported injuries to the neck or cervical region. Of the 36 injuries recorded, the forward players accounted for 15 (41.67%) of all recorded injuries while the backline players accounted for 21 (58.33%) of all recorded injuries. Among these players the most common forward position to be injured was the props having 9 (60.0%) of these recorded injuries, with the shoulder (44.44%) being the most injured anatomical site, followed by the neck, knee and ribs. Among the backline players the most common position to be injured was the centres having 8 (38.10%) of all recorded injuries with the groove (37.50%) being the most injured anatomical site. The phase of play in which most of the injuries occurred were during tackles. Twenty nine percent of injuries occurred in the second fifteen minutes of the second half. Over 80% of players indicated that they warmed up before matches, ranging from 5 to 60 minutes. The open age group played rugby between 0 and 8 years with an average of 4.36 years playing experience. This age group played an average of 8.51 games in the 2003 rugby season, and trained for an average of 5.58 hours per week in the season. The open age group recorded 12 (14.63%) previous injuries coming into the 2003 rugby season. Over ninety percent of this age group reported participating in some form of pre-season training. Thirty-nine players (95.12%) utilized some form of protective gear during the season. In the open age group a total of 82 (21.93%) injuries were recorded for the 2003 season. In this age group, 9 (10.98%) players reported head injuries-5 of these (55.56%) reported concussions. In the open age group 7 (8.54%) players reported injuries to their neck or cervical region. The forward players accounted for 63 (76.83%) of all recorded injuries. Of these injuries the most injured forward position was the locks, recording 19 (30.16%) of recorded injuries with the most injured anatomical site being the ankle with 8 (42.11%). The backline players accounted for 19 (23.17%) of all recorded injuries. The most injured backline player was the fullback that recorded 6 (31.58%) of these injuries with the most injured anatomical site being the neck and shoulder that recorded 2 (33.33%) injuries each. In the open age group, the phase of play in which most of the injuries occurred was while tackling an opponent (36.49% of the time). Over 40% of the injuries occurred in the second fifteen minutes of the second half. In the open age group 313 (83.69%) players indicated that they warmed up before matches, ranging from 10 to 60 minutes. In the under fourteen age group, all the coaches attained South African Rugby Football Union (SARFU) level 1 training, 50% of the open coaches attained SARFU level 1 training while the remaining 50% attained SARFU level 2 training. In the under age group, 27 (96.43%) of the coaches questionnaire stated that they held a level one first aid certificate, while the remaining 1 (3.57%) had other first aid qualifications i.e. a first aid certificate obtained in the United Kingdom. In the open age group, 10 (50.0%) of the coaches questionnaires stated that they only attended a Spine Line presentation as part of their first aid qualification, while the remaining 10 (50.0%) held no form of first aid training. The main findings of this study were that prevention of injuries was a high priority among players and coaches at Gauteng rugby-playing schools. Findings also indicated that a lack of pre-season training, lack of time spent on tackling and falling skills and insufficient recovery time was known to predispose players to injuries, along with over-training syndrome and fatigue towards the end of the season.

Kemp, Nigel H. The relationship of training load and body composition to age at menarche and menstrual dysfunction in Canadian national level swimmers, 1982. Ph.D., University of Oregon (Jan Broekhoff). (87pp: 1 fiche $6.00, PDF $19.35) PE 4677

The age at menarche, menstrual function, and training characteristics of 23 Canadian national level swimmers, aged 15.5 to 20.5 years were surveyed via questionnaire. Body composition data were also assessed from hydrostatic weighing determinations. A prevalence of menstrual irregularity of 22.73% was found. Whilst differential training loads were not observed between sprinters and distance swimmers differences in body composition were significant. (Overall mean, 19.588% body fat.) A difference of 1.3 years between the age at menarche of the sprint and distance swimmers was also found to be significant. A stepwise multiple regression analysis indicated that age and skinfold contributed significantly to the variance menstrual dysfunction shared with training load and body composition variables. Whilst a trend suggestive of a possible association between age at start of training, age at two workouts per day, five year average daily training total and age at menarche was discernable, no significant relationship between age at menarche and menstrual dysfunction was confirmed.

Patil, Sheetal S. Genetics an intrinsic risk factor for stress fractures, 2005. M.S., Michigan State University (Christopher J. Womack). (74pp: 1 fiche $6.00, PDF $18.70) PE 4674
Stress fractures are an overuse injury to bone resulting from accumulated repetitive load cycles. There is a mounting body of indirect evidence that genetic factors could play a role in stress fracture predisposition. Identifying genetic variants which increase the susceptibility to stress fractures would improve identification of athletes predisposed to stress fractures and could lead to a greater understanding of the pathophysiology and treatment of stress fractures. The purpose of the study was to determine the influence of T to C transition within exon 2 of the vitamin D receptor (VDR) gene defined by endonuclease Fok I on the risk of stress fractures in competitive athletes. Twenty-seven competitive athletes, 12 with stress fractures and 15 without stress fractures volunteered for the study. DNA analysis was done by restricted fragment length polymorphism. Medical and sports history was obtained through a questionnaire. Group comparisons indicated that the groups were equivalent in their body composition and stature. Each athlete with a stress fracture was matched with one control on the basis of age, gender, race and sport. Chi-square done on 24 subjects revealed no significant difference in the genotype distribution between the stress fracture and the control groups (p=0.65). We found that the VDR gene polymorphism is not involved in the pathogenesis of stress fractures.


The purpose of this investigation was to examine the effects of a functional knee brace and a non-supportive elastic bandage on muscle activation of the thigh and leg during functional activity. Thirty-two healthy volunteers (23 women, 9 men; 20.97±2.21 years; 172.79±8.91 cm; 68.58±13.8 1 kg) participated in this study. Subjects were excluded from the study if they had a previous history of ligamentous knee injury, an acute lower extremity injury within the last 6 months, or participated in cardiovascular exercise less than three times a week. We measured muscle activity of the quadriceps, hamstring, and gastrocnemius muscle groups during a single leg hop. Each subject performed the single leg hop in three brace conditions (functional knee brace, elastic bandage, and no brace). The electromyographic (EMG) signals were rectified and integrated. EMG activity was standardized to the participant’s maximum voluntary contraction and was collected 0.25 seconds before and 1.25 seconds after landing for a total period of 1.5 seconds. In each brace condition, three trials were performed and the average peak muscle activity for each muscle was calculated. The standardized value was used for data analysis. Three separate repeated measures analysis of variance were performed (one for each muscle group). A Tukey’s HSD was calculated on any significant differences. Alpha was set at p<.05. Results of the statistical analysis revealed a significant difference in muscle activity between the brace conditions for the quadriceps (F(2,48)=17.29, p<.001), hamstring (F(2,48)=3.91, p<.027), and gastrocnemius (F(2,48)=11.38, p<.001). Follow up post hoc testing revealed the quadriceps muscle activity decreased significantly with the functional knee brace (90.23) compared with no brace (98.19) and the elastic bandage (95.98). Muscle activity in the gastrocnemius group decreased with the functional knee brace (70.50) compared with the elastic bandage (78.51) but not compared with the no brace condition (72.64). There were no significant differences in hamstring peak muscle activity when performing pairwise comparisons between the functional knee brace (81.32), elastic bandage (82.51), and no brace conditions (85.11). The results of this study indicate that functional knee braces decrease muscle activity of the quadriceps and gastrocnemius muscle groups, but do not affect the hamstring muscles, in subject’s with stable knees. Additionally, there were no significant differences in muscle activity between the elastic bandage and no brace conditions. Therefore, we concluded that it is the mechanical properties of the functional knee brace, rather than the proprioceptive stimulation it provides, which decreases muscle activity. We believe that the decreases in muscle activity in the quadriceps and gastrocnemius muscle groups result from the knee brace altering limb position and decreasing limb mobility. These alterations in muscle activity may put athletes who have stable knees at increased risk for knee injury if they wear a functional knee brace.

Raasch, Erik J. A measurement of patient satisfaction of student-athletes at a Division I mid-western university, 2004. M.A., Ball State University (Thomas Weidner). (61pp: fiche $6.00, PDF $18.05) PE 4656

Patient satisfaction levels are a valuable source of information for healthcare providers when assessing the quality of care delivered to patients. The purpose of this study was to determine the satisfaction level of Division I student-athletes in regards to the athletic training services they received from their certified athletic trainers. Following a review of the literature, the researcher developed a questionnaire which contained the following sections: participant information, student-athlete satisfaction with the athletic training services, strengths of the athletic training services and suggestions for improving the athletic training services. Using a Likert scale, participants rated their level of satisfaction regarding the athletic training services provided by certified athletic trainers. The athletic training services measured fell within the six domains of athletic training as identified by the National Athletic Trainers’-Association Role Delineation Study conducted in 1999. Written comments were also requested regarding the strengths of the athletic training services as well as suggestions for improving the athletic training services. The questionnaire was administered to 48 (28 males, 20 females) Division I student-athletes. Means and standard deviations of participant responses indicated a high level
of satisfaction with their certified athletic trainers in all six domains. Conversely, the participants in this study did not indicate any athletic training services with which they were dissatisfied. T-Test results demonstrate that male participants had higher satisfaction levels in the following domains: prevention; recognition, evaluation & assessment; and treatment, rehabilitation & reconditioning. Conversely, female participants had higher satisfaction levels in the following domains: immediate care; organization & administration; and professional development and responsibility. The findings of this study suggest that Division I student-athletes are satisfied with the athletic training services they receive from certified athletic trainers. Future research in this area could include a qualitative study of student-athlete satisfaction with the athletic training services they receive from certified athletic trainers in order to lead to additional criteria for measuring satisfaction not included in the current study.


Tibial stress fractures are common in runners. However, it is unclear what factors are associated with tibial stress fractures. This study aimed to investigate 1) magnitudes of bone contact forces occurring while running 2) whether or not repeated application of running loads is sufficient to explain tibial stress fractures and 3) whether or not muscle fatigue alters the potential of tibial stress fractures. Tibial stress fractures were predicted through an estimation of the minimum number of cycles to failure (Nfail) using an integrated experimental and mathematical modeling approach. Short running trials within a speed range of 3.5-4 m/s of ten male runners were evaluated with a coupled force plate and 3 dimensional motion analysis system. The collected data were used to estimate joint reaction forces (JRF) and joint moments. Using these JRF and muscle forces predicted from optimization, 2-D bone contact forces at the distal end of the tibia were determined. Next, tibial stresses were estimated by applying these bone contact forces to a tibial model, which were then used to predict the Nfail. All procedures were repeated after plantarflexors fatigued from prolonged running. This study found that peaks of compressive and posterior shear forces occurred during mid stance, and these peaks equaled 8.91±1.14 BW and -0.53±0.16 BW, respectively. These bone contact forces led to a backward bending of the tibia during most of the stance phase and resulted in the maximum stresses of -34.4±10.3 M Pa on the posterior face of the tibia. These maximum stresses predicted the group mean of Nfail as being 5.28x10^6 cycles. However, 2.5% to 56% of population of runners have a chance of getting tibial stress fractures within 1 million cycles of a repeated foot impact. Within the context of muscle force and stress estimation procedures used in this study, Nfail appeared to increase after fatigue, not decrease as we hypothesized.

Soulere, Todd A. *Differences between pain among patellofemoral dysfunctional student-athletes comparing the use of bracing and taping*, 2005. M.S., Springfield College (Charles J. Redmond). (97pp: 1 fiche $6.00, PDF $19.85) PE 4691

The investigation was designed to examine whether student-athletes who experienced patellofemoral knee pain would benefit from the use of bracing or taping in reducing perceived pain levels while ascending and descending a flight of stairs. Female student-athletes (N=18) from a Division III institution in Central Massachusetts were randomly assigned to a counterbalanced order of testing which consisted of either bracing, taping, or controlled treatment. A 3X3 ANOVA with repeated measures was used to analyze the data. Perceived pain was rated pre, during, and post stair climbing on the Borg CR10 pain scale (Borg, 1998). The mean perceived pain scores were not significantly (p>0.05) different for the pre-testing trial among the three treatment conditions. The mean perceived pain rating during the testing was significantly (p<0.05) different. The pain rating for the control was higher than the taped which was not significantly different from the braced trial. At post-testing trial, the mean perceived pain scores were not significantly (p>0.05) different among the three treatment conditions. In conclusion, bracing and taping appeared to be more effective in the reduction of perceived pain during stair climbing in comparison to the controlled treatment.

### PHYSIOLOGY AND EXERCISE EPIDEMIOLOGY

Breen, Danna M. *Biological effects of resveratrol on skeletal muscle cells*, 2005. M.Sc., Brock University (Evangelia Tsi-ana). (213pp: 3 fiche $18.00, PDF $25.65) PH 1824

Resveratrol, a polyphenol found in red wine, has been reported to have antithrombotic, antiatherogenic, and anticancer properties both in vitro and in vivo. However, possible antidiabetic properties of resveratrol have not been examined. The objective of this study was to investigate the direct effects of resveratrol on basal and insulin-stimulated glucose uptake and to elucidate its mechanism of action in skeletal muscle cells. In addition, the effects of resveratrol on basal and insulin-stimulated amino acid transport and mitogenesis were also examined. Fully differentiated L6 rat skeletal muscle cells were incubated with resveratrol concentrations ranging from 1 to 250 μM for 15 to 120 min. Maximum stimulation, 201±8.90% of untreated control, (p<0.001), of [2H] deoxy-D-glucose (2DG) uptake was seen with 100 μM resveratrol after 120 min. Acute, 30 min, exposure of the cells to 100 nM insulin stimulated 2DG uptake to 226±12.52% of untreated control.
(p=0.001). This appears to be a specific property of resveratrol that is not shared by structurally similar antioxidants such as quercetin and rutin, both of which did not have any stimulatory effect. Resveratrol increased the response of the cells to submaximal insulin concentrations but did not alter the maximum insulin response. Resveratrol action did not require insulin and was not blocked by the protein synthesis inhibitor cycloheximide. LY294002 and wortmannin, inhibitors of PI3K, abolished both insulin and resveratrol-stimulated glucose uptake while phosphorylation of Akt/PKB, ERK1/2, JNK1/2, and p38 MAPK were not increased by resveratrol. Resveratrol did not stimulate GLUT4 transporter translocation in GLUT4cmyc overexpressing cells, in contrast to the significant translocation observed with insulin. Furthermore, resveratrol-stimulated glucose transport was not blocked by the presence of the protein kinase C (PKC) inhibitors BIM1 and Go6983. Despite that, resveratrol-induced glucose transport required an intact actin network, similar to insulin. In contrast to the stimulatory effect seen with resveratrol for glucose transport, [3H]methylaminoisobutyric acid (MeAIB) transport was inhibited. Significant reduction of MeAIB uptake was seen only with 100μM resveratrol (74.2±6.55% of untreated control, p<0.05), which appeared to be maximum. In parallel experiments, insulin (100 nM, 30 min) increased MeAIB transport by 147±5.77% (p<0.001) compared to untreated control. In addition, resveratrol (100 μM, 120 min) completely abolished insulin-stimulated amino acid transport (103 ± 7.35% of untreated control, p>0.05). Resveratrol also inhibited cell proliferation in L6 myoblasts with maximal inhibition of [3H]thymidine incorporation observed with resveratrol at 50 μM after 24 hours (8±1.59% of untreated control, p<0.001). Insulin (100 nM, 24 h) significantly increased thymidine incorporation (280±9.92% of untreated control, p<0.001) and media containing 10% FBS resulted in stimulation of thymidine incorporation to 691±36.92% of untreated control, p<0.001. Resveratrol (50μM) completely abolished both insulin- (11±1.26% of untreated control, p<0.001) and FBS-stimulated (36±5.16% of untreated control, p<0.05) cell proliferation. These results suggest that resveratrol increases glucose transport in L6 skeletal muscle cells by a mechanism that is independent of insulin and protein synthesis. Resveratrol-stimulated glucose uptake may be PI3K and actin cytoskeleton-dependent and independent of Akt/PKB, PKC, ERK1/2, JNK1/2, p38 MAPK, and GLUT4 translocation. However, unlike glucose transport, resveratrol inhibits both basal and insulin-stimulated amino acid transport and mitogenesis.

Gordon, Jennifer L. The effects of wet suits and body fatness on heat storage and cycling VO2peak of recreational female triathletes, 2005. D.P.E., Springfield College (Vincent Paolone). (207pp: 3 fiche $18.00, PDF $25.35) PH 1820

The primary purpose of this investigation was to determine the amount of heat storage (HS) occurring during a 30 min swim in 28.5°C (±0.24°C) water and 15.6°C (±0.41°C) water while wearing a wet suit. The impact of HS on physiological variables (HR, RER, VO2peak) was also investigated. Differences in the thermal and physiological responses of females categorized with high and low body fat were examined. Eight female recreational triathletes completed a baseline cycling VO2peak and 2 cycling VO2peak tests following a 30 min swim at 85% intensity in 28.5°C water and 15.6°C water. No significant differences were found for HS between the high fat group and the low fat group for the two different water trials. Physiological variables were not significantly different between the high fat and low fat group for the two water trials. These data indicate that the presence of a wet suit may not induce enough HS to significantly compromise VO2peak for either body fat group. Physiological significance should be considered with regards to the 6.1 ml·kg⁻⁰·min⁻¹ reduction in VO2peak for the high fat group in the hot versus the cold water trial although no significant differences were found.


The current investigation was designed to determine the relationship between physiological and kinematic parameters, and running economy. The subjects included female trained distance runners (N=16). The testing sessions included a VO2peak test, a 30 min treadmill accommodation session, and a running economy session consisting of a 10 min run at 7, 8, and 9 mph. Flexibility measures included right and left ankle dorsiflexion (ADR, ADL), right and left trunk rotation (TRR, TRL), and right and left standing external hip rotation (HRR, HRL). Oxygen consumption (VO2), heart rate (HR), and step time (ST) for were recorded during each run from which step rate (SR), stride length (SL), stride length/leg length (SL/LL) were computed. TRR, ST, SL, and SR were significantly correlated with VO2 at 7 mph. No significant relationship existed between TRR, ADR, ADL, HRR, HRL, SL, LL, and VO2 at 7 mph. HRR and HRL were significantly correlated with VO2 at 8 mph and 9 mph. No significant relationship existed between ADR, ADL, TRR, TRL, ST, SR, SL, SL/LL, and VO2 at 8 mph and 9 mph. In conclusion, less flexible runners through standing external hip rotation did have better running economy.


The present study was designed to determine if a higher cadence during exposure to 6,000 ft of simulated altitude could increase the amount of oxygen bound to hemoglobin in the arterial blood (SaO2). Subjects were 10 trained males and completed four stages of 5 min each at an intensity of 55% peak power output. Stage 1 and 2 were completed
at sea level and subjects pedaled at a cadence of 80 rpm and 100 rpm, respectively. Stage 3 and 4 were completed at 6,000 ft of simulated altitude and subjects pedaled at a cadence of 80 rpm and 100 rpm, respectively. The variables evaluated were VE, VO₂, VCO₂, HR, and SAO₂. Five 2X2X6 repeated measures factorial ANOVAs were computed for all dependent variables. Significance was found for the first order interaction between altitude and time for SAO₂, heart rate, VO₂, and VCO₂. Significant occurred for the first order interaction between rpm and time for heart rate, VO₂, and VCO₂. Significance also occurred for the first order interaction between altitude and rpm for VO₂. For VE, a significant second order interaction occurred between altitude, time, and rpm. Cycling cadence during 6,000 ft of simulated altitude had no effect on SAO₂ at 55% peak power output.


The current investigation was designed to determine the effects of prolonged upper-body dynamic exercise on subsequent running performance. Subjects (N=10) were male trained marathon canoeists. Three testing sessions: 1-mile run without carrying a canoe (RNC), 1-mile run carrying a canoe (RWC), and a 1-mile run carrying a canoe after a 60-min paddle (RWCPP) on a paddle ergometer. Heart rate (HR), minute ventilation (V̇E), tidal volume (Vt), breathing frequency (Fq) and percent V̇O₂peak were obtained for RNC, RWC, RWCPP runs and analyzed across 3 time phases. Lactate (LA) measurements were obtained via capillary puncture pre- and post-run for RNC, RWC, RWCPP and post 60-min paddle. RNC post-run LA was significantly (p≤.02; p≤.03, respectively) lower than post-run RWC and RWCPP. No significant (p>.05) mean differences existed for post-run LA RWC and RWCPP or LA post-paddle and post RWCPP run. VE was significantly (p≤.01) higher during phase 1 of RWCPP than phase 2 or 3. Run time was significantly (p≤.00) slower RWCPP than RWC and RNC.

In conclusion, under the present conditions of the current investigation, prolonged upper body dynamic exercise (paddling) did have an effect on run time to completion of a 1-mile run.

Wong, Brett J. Histamine receptors and substance P in cutaneous active vasodilation and thermal hyperemia in humans, 2005. Ph.D., University of Oregon (Christopher T. Minson). (223pp: 3 fiche $18.00, PDF $26.15) PH 1819

The ability to increase skin blood flow in response to an increase in core temperature or local skin temperature represents important thermoregulatory and protective functions of the cutaneous vasculature in humans. However, the mechanism(s) underlying these changes in skin blood flow are unclear. The purpose of this dissertation was to investigate the role of histamine receptors and substance P in cutaneous active vasodilation and thermal hyperemia. In Chapter IV, the contribution of histamine receptors to active vasodilation was investigated. The results demonstrate the H₁, but not H₂, form of the histamine receptor contributes to active vasodilation. In Chapter V, we investigated the contribution of histamine receptors to thermal hyperemia. These results suggest a minimal role for H₁ receptors and no role for H₂ receptors in thermal hyperemia. In Chapter VI, studies were carried out to investigate mechanisms of substance P-induced vasodilation. The results demonstrated a nitric oxide (NO) component to substance P-induced vasodilation but no histamine receptor component. Importantly, the results from this study provide evidence the neurokinin-1 (NK₁) receptors, to which substance P binds to with high affinity, become desensitized to two consecutive microdialysis infusions of substance P. These results provided the experimental model for the studies described in Chapters VII and VIII. The project in Chapter VII examined the contribution of substance P and NK₁ receptors to active vasodilation. The results from this study suggest substance P and NK₁ receptors contribute to active vasodilation. The fifth project (Chapter VIII) was designed to investigate substance P and NK₁ receptors in thermal hyperemia. The results suggest substance P and NK₁ receptors contribute to thermal hyperemia. The purpose of Chapter IX was to determine if the concentration of histamine in the skin increases during whole body heating and can thus account for the observed H₁ receptor activation component of active vasodilation. There was no significant difference in histamine concentration between baseline samples and whole body heating samples. Thus, it appears histamine per se does not contribute to active vasodilation and cannot account for the observed H₁ receptor activation component. This dissertation contains both my previously published and my co-authored materials.

HEALTH AND HEALTH EDUCATION

Bauer, Patricia W. Validation of a historical physical activity recall tool; the effects of past pregnancy physical activity on current physical activity, barriers to physical activity, and body size, 2005. Ph.D., Michigan State University (James M. Pivarnik). (150pp: 2 fiche $12.00, PDF $22.50) HE 830

Physical activity (PA) is a key element of health promotion and disease prevention. Historically, PA was not universally recommended for pregnant women due to limited research and fear of unknown risks to the mother and fetus. However, recent studies have shown PA to have positive effects on a healthy pregnancy, as well as the postpartum period. Methodology for assessing PA has not been consistent among studies; therefore comparing results has been
difficult. Current research has focused on an individual’s ability to recall historical PA, and relate this behavior to current disease states. Using historical recall to assess past pregnancy PA could assist with determining the relationship between pregnancy and long-term weight changes. This investigation involved a six-year follow-up of a cohort of women who participated in a previous research study (Maternal Activity Measurement and Assessment study). Fifty-six women had their PA energy expenditures quantified throughout pregnancies from between 1997-1999. Thirty of these women agreed to participate in follow-up research. The purposes of this study were to evaluate the ability of women to recall their PA during three time periods previously assessed during a pregnancy six years ago (20 weeks gestation, 32 weeks gestation, 12 weeks postpartum); and to examine the effects of past pregnancy PA on current body size, PA levels, and barriers to exercise. The Modifiable Activity Questionnaire (MAQ) was used to assess current and past pregnancy PA. The Perceived Barriers Efficacy Questionnaire (PBEQ) was used to assess current barriers to PA and percent confidence in overcoming those barriers. Results showed the MAQ values to be significantly related to the original physical activity recall (PAR) values at all time periods of interest. Correlations from this study are similar (r=0.57-0.86) to those found in previous PAR and MAQ validation studies. The women's ability to recall past pregnancy PA did not differ based on current PA. The median value for postpartum weight retention (PPWR) was 2.8 kg with a wide individual range. When separated into current PA level groups (≥ or ≤ 20 MET/wk), the more active women showed significantly lower weight, BMI and %fat, and PPWR values compared to the less active women. A significant inverse relationship was found between current PA and BMI (r=-0.55) and %fat (r=-0.70). Past pregnancy PA was found to be correlated with current PA at all time points of interest [20 weeks gestation (r=0.49), 32 weeks gestation (~0.71), and 12 weeks postpartum (r=0.73)]. Further analysis showed current PA to be the proximate cause of current body size; though it is likely past pregnancy PA behaviors may influence current PA levels. The top three barriers (and their frequencies) were time (22), motivation (7), and childcare (6). Average percent confidence score for overcoming these barriers was 65.6% (± 24.5). Overall, the MAQ was found to be an accurate PAR for past pregnancy PA. Sixty percent of women studied met current CDC/ACSM PA guidelines. Both recalled and current PA were shown to be related to percent confidence in overcoming barriers to PA. Future studies should use larger heterogeneous samples and include longer follow-up.

Birdsley, Kari L. *Estimation of the energy cost of walking 10,000 steps*, 2005. M.S., Oregon State University (Anthony R. Wilcox). (71pp: 1 fiche $6.00, PDF $18.55) HE 825

There is a strong campaign underway to promote increased physical activity among the U.S. population. The U.S. Surgeon General and the U.S. Dietary Guidelines have presented physical activity recommendations in terms of the amount of time accumulated in physical activity and/or in terms of energy expenditure over the course of a day. Another approach that has been widely promoted is the goal of accumulating 10,000 steps a day, as monitored by a pedometer. The purpose of this project was to evaluate the estimated energy expenditure of walking 10,000 steps, and to determine the distance covered and time required to do so, as extrapolated from a 30-minute walk test. The current study also compared males and females on these variables to determine if gender differences were present. Energy expenditure was determined by indirect calorimetry from steady-state oxygen consumption during 30 minutes of walking on a treadmill at a self-selected pace while wearing Yamax Digiwalker DW-201 pedometers at the hip. The subjects consisted of 18 males and 20 females who averaged 22.3 years of age and a BMI of 25.5. A one-way analysis of variance was used to test for any gender differences in relation to walking pace, step count, steps per kilometer, and energy expenditure expressed as: kilocalories per kilometer per kilogram body weight, kilocalories per minute per kilogram body weight, and kilocalories per 10,000 steps. The self-selected walking pace of the subjects averaged 76.8 m/min, and they averaged 3191 steps in the 30-minute session. At that rate, it would require 94 minutes to complete 10,000 steps. There were no significant differences in levels of energy expenditure between males and females when expressed per minute, per distance, or per 10,000 steps. The males and females averaged 507±235 kcal/10,000 steps across all subjects. The distance covered in 10,000 steps averaged 7.2±2.0 kilometers for all subjects, with no differences between males and females. The current study demonstrates that the recommendation to achieve 10,000 steps per day would exceed the minimum recommendation for physical activity given by the U.S. Surgeon General, while achieving the level of physical activity recommended for reducing body weight by the latest U.S. Dietary Guidelines.


In order to develop a stimulating yet effective school-based program which elicits a positive bone growth response, we need to understand the forces acting on the bones of children during various high-impact activities. One activity found to promote bone growth is drop landings from a height. We determined whether there are other jumping activities that exhibit similar loading properties to those of a drop landing and identified the effects of number of feet used, continuity, and direction on loading. Twenty-one healthy children (11 boys, 10 girls; age 7-9 years) were recruited from the local population. After warming up, each
child performed five trials of 13 types of jumps as motion capture and ground reaction force data were collected. One type of jump was a drop landing from a 61 cm-high platform. The other 12 types were performed from the ground and comprised all possible combinations of three factors: direction (vertical as high as possible, forward a distance of 80% body height, sideways a distance of 55% body height), feet used (1-footed hops, 2-footed jumps), and continuity (discrete, continuous). The average peak force and peak loading rate at the hip of the dominant limb over five trials were computed and normalized to body weight for analysis. Three-way ANOVA identified loading differences across direction, feet used, and continuity among the 12 jump types. Paired t-tests with a Bonferroni correction compared the loading for each activity to that of the drop landings. In general, peak forces and loading rates during landing were greater for hops than for jumps, greater for discrete than for continuous hops/jumps, and greater for forward than for vertical hops/jumps. However, peak forces did not differ between sideways hops and jumps, nor did peak loading rates differ between vertical hops and jumps. Peak forces during the drop landings exceeded those during all other jumping activities except the discrete forward hop, which had peak forces similar to the drop landing. Although discrete forward hops had greater peak loading rates than the other 11 activities from the ground, the rates were less than those during the drop landings. Likely, the need to arrest the body’s large forward momentum using a single limb upon landing of the discrete forward hop elevated loading over the other 11 conditions and made it comparable to that of the drop landing. Knowing what factors influence impact forces and loading rates on the hip, specifically that discrete forward hops have high forces similar to those for drop landings, will aid in developing a stimulating and effective jumping program for improved bone development in children.


The effectiveness and versatility of step aerobics has attracted men and women for all ages to group exercise. Research has shown that step aerobics, when done at the ACSM recommended intensity, improves cardiorespiratory endurance. The purpose of this study was to investigate whether step aerobics participants could monitor their exercise intensity more accurately with the Borg RPE 6-20 Scale after being administered “Borg’s RPE Scale Instructions.” In addition, a comparison of a single palpated HR measurement and an electronic HR measurement was completed following the first aerobic session. Forty volunteers (33 females; 7 males) ages 19-45 years, with no pre-existing health problems, completed a 40-minute step aerobics video. The researcher recorded electronic HRs and RPEs at four intervals and the palpated HR performed by the subject, following the first aerobic session. Electronic HRs were modified to a heart rate scale by either rounding up or down to the nearest tenth. A Spearman’s Rank Order Correlation analysis showed neither instructed or non-instructed groups had RPE values, which correlated to electronic HRs, but RPEs were correlated to each other. Strong correlations were found between electronically measured HRs. Weaker but significant correlations were found between palpated and measured HRs, with palpated HRs being 15-20 BPM lower than electronic HRs. In summary, administering “Borg’s RPE Scale Instructions” does not help step aerobics participants determine their RPE. A qualitative analysis of two questions about variables used to determine RPE given pre and post appeared to demonstrate some increases in knowledge, and suggest it might be possible with greater training that correlations could improve.


Sustaining an older adult’s ability to live independently is a very important goal of geriatrics and gerontology. The extent to which an individual can live independently depends on his or her ability to perform Instrumental Activities of Daily Living. Impairments in the physical domains of muscle strength, flexibility, endurance, and neuromuscular control are often responsible for the inability to carry out these Instrumental Activities of Daily Living. Therefore, research has typically focused on administering interventions to older adults to mitigate or delay impairments in the physical domains in hopes that the older adults would subsequently improve functional ability and maintain independence. The effect these types of exercise interventions have on improving function is not clear. Because living independently requires an individual to carry out daily functional tasks without assistance, given the Principal of Specificity, an exercise program composed of these functional tasks would be the most specific and efficient way to improve the functional abilities of older adults. The aim of this study was to determine the effect a novel functional based training program would have on older adults’ ability to perform Instrumental Activities of Daily Living. A total of 14 individuals (mean age 82±4 yrs) participated in this study. All participants took part in a 10 wk control period followed by a 10 wk functional based training program. The LIFE (Living Independently through Functional Exercise) training program consisted of a multi-station circuit with nine different activity stations mimicking functional tasks. The stations included, sit-to-stand, stair climbing, laundry, grocery shopping, vacuuming, sweeping, putting on and removing a jacket, pulling a suitcase, and getting down and up from the floor. Participants were tested before and after the control period and
after the training program. The tests included the Physical Performance Test and the Physical Functional Performance-10 to measure the ability to perform Instrumental Activities of Daily Living and the Senior Fitness Test to evaluate the physical domains of strength, flexibility, endurance and dynamic balance. A repeated-measures ANOVA revealed that there were no significant differences on any test scores during the control period except for lower extremity flexibility of the Senior Fitness Test. After the training period, improvements ranging from 10-40% (p<0.05) were seen on all tests of the Physical Performance Test, the Physical Functional Performance-10, and on the chair stands, endurance walk, and arm curl of the Senior Fitness Test. After conversion to standard scores, paired t-tests revealed that the magnitude of change in the Physical Performance Test (0.58±0.15) and the Physical Functional Performance-10 (0.69±0.11) was significantly greater (p<0.05) than the magnitude of change in the Senior Fitness Test (0.10±.08). The regression analysis revealed a positive relationship between improvements in the Physical Functional Performance-10 and the Senior Fitness Test scores following the training program (p=0.002, R²=0.605). For every unit of change in the Physical Functional Performance-10 standard score there was only half as much of an increase in the Senior Fitness Test standard score. There was not a significant relationship between the Physical Performance Test and the Senior Fitness Test. Our results support the hypothesis that this novel functional-based training program was able to facilitate improvements in a broad spectrum of functional measures among frail older adults. Furthermore, consistent with the Principle of Specificity, improvements in function were significantly greater than improvements in fitness. This program offers an alternative to traditional exercise programs for this population.

Foley, John T. Exploring the physical activity levels of students with mental retardation and students without disabilities in both school and after-school environments, 2005. Ph.D., Oregon State University (Jeffrey A. McCubbin). (119pp: 2 fiche $12.00, PDF $20.95) HE 828

The focus of this research was to gain an understanding of physical activity in elementary school-aged children with mental retardation (MR). The primary purpose of the first study was to investigate physical activity levels of children with and without MR in both school and out of school environments. The secondary purpose of the first study was to determine if there is a relationship between physical activity and motor skills in children with MR. Physical activity levels of 9 children with MR and 37 without were recorded over 7 days using an accelerometer. Motor skills were assessed using the Movement Assessment Battery for Children. Physical activity levels for children with MR were significantly lower during the school day. Children without MR were 53% more active during recess and 133% more active during physical education than children with MR. The disparity in physical activity continued outside of school where children without MR were 52% more active after school and 33% more active on the weekend than children with MR. There were no significant correlations between physical activity times and motor skills in either group. These findings indicate that interventions to increase physical activity in individuals with MR should begin in the elementary school years. The primary purpose of the second study was to investigate if children with MR spend more time watching TV or on the computer than children without disabilities. The secondary purpose of the study was to determine if total screen time correlates with physical activity levels. Parents of the participants recorded TV time and computer time over four days. Physical activity levels of the children were recorded with accelerometers. There was no difference in TV time or computer time in children with MR and children without MR. The correlation between after school physical activity and screen time was moderate in children with MR (r=.69) and low for children without MR (r=.32). The results of this research suggest that there might be different patterns in the development of sedentary behaviors between children with and without MR, indicating that unique interventions may be needed for individuals with MR.


The ability to flourish over the life span results from the dynamic interaction between an individual and his or her environment. To contribute to the understanding of this interaction, structured interviews were conducted with 44 adults between the ages of 60 and 86 years. The interview gathered information on the respondents’ (a) demographic background and personality, (b) productive and leisure activity participation, (c) general social networks, (d) support networks, (e) shared activity interests, and (f) perceived activity support and deterrence. Although the interview consisted of both quantitative and qualitative measures, the overarching analytic approach was qualitative. The information gathered from these interviews was used to create cases describing the interactions between activity and social relationships. Network maps of the relationships were used to assess whether the general patterns of interaction corresponded to specific leisure activity patterns. Cases were also analyzed to ascertain whether the social interaction patterns found in different activity forms corresponded to social support patterns described by Wenger (1994) and by Weiss (1974). The findings revealed four social interaction forms within activity contexts clearly distinguished people as well as activity forms. These four forms included solitary, individual, dyad, and group interaction. Findings demonstrated the theoretical value of models of behavior that include interaction forms beyond that of individual.
Sex differences in bone mass and size are thought to contribute to the greater incidence of vertebral fractures in women. While these sex differences are widely recognized, the relative contributions of bone mass, bone density, and bone size to the differences in vertebral strength and fracture risk between men and women have not been fully delineated. Furthermore, it is unknown whether the roles of each of these factors in determining vertebral strength change differently with age in men and women. We studied the bone content, density and geometry as well as vertebral loading and the factor of risk of the L3 vertebra in a sample of pre-pubertal males and females. Our first aim was to assess differences in vertebral bone dimensions, bone density, vertebral loading patterns and fixture risk, as measured by the factor of risk, in pre-pubertal children. Our second aim was to determine whether pre-pubertal growth affects the geometry and density of L3 differently in boys and girls. We measured vertebral dimensions, cross-sectional area and volumetric BMD of the third lumbar vertebral body in 93 pre-pubertal children (54 boys and 39 girls), using dual-energy X-ray absorptiometry scans obtained in the posterior-anterior and lateral projections.

We also employed basic biomechanics to estimate vertebral loading during upright standing and forward bending. Bone strength and loading data were used to assess sex differences in the factor of risk in pre-pubertal children. Twenty children (11 boys and 9 girls) were assessed at baseline and seven months later to examine the effects of growth on bone size and vBMD. At baseline, boys and girls were similar for age, height, weight and calcium intake. L3 width and depth were 6.7% and 5.8% greater in boys than girls, respectively (P<0.001 and P<0.01, respectively). In contrast, vertebral height was 3.5% greater in girls than boys (P=0.04). While vertebral loading was similar between sexes, stresses on the spine were 12.2% lower in boys during upright standing and 12.0% lower in boys during forward bending at both 50º and 90º, as compared to girls (P<0.001, P<0.01 and P< 0.01, respectively). The factor of risk was similar between boys and girls under each loading condition. During growth, changes in vertebral size and density were not different between boys and girls. Our results indicate that even prior to puberty, sex differences in vertebral size contribute to differences in vertebral stress during standing and forward bending. Furthermore, before the onset of puberty, growth does not result in disparate changes between sexes.

The primary purpose of this study was to determine if there was a significant difference between the physical activity levels (as measured by the System for Observing Fitness Instruction Time [SOFIT] scale) of students with disabilities as compared to students without disabilities during physical education classes. A secondary purpose was to describe the behaviors of the support staff assigned to students with disabilities. Subjects for the study were randomly selected from intact groups and included students with disabilities and students without disabilities (n=60). The majority of the students with disabilities were determined to have mental retardation or autistic-like tendencies as their primary disability. All participating students were between the ages of 5 and 18 years. Fourteen different schools were represented in this study (3 high schools, 3 middle schools, and 8 elementary schools) and were located within an eastern Kansas public school district. The study was conducted over a 5-week time period, with data collected one time per week during a scheduled physical education class. Data collected were based upon observed behaviors of student physical activity, lesson context, and teacher behavior (and support staff when attending class with a student with a disability) as described in the SOFIT instrument. Observations were coded and recorded at 20-second intervals for a total of 21 minutes per class. A two independent groups t-test was used to determine if a significant difference existed in the level of activity participation between the two ability groups. The alpha level was set at P<.01 for the statistical analysis. The total percentage of occurrence was used to describe the additional behaviors coded and recorded (lesson context and teacher behaviors) during observations of all students. A significant difference was found in the level of physical activity participation between the two groups observed, t(58)=2.671, indicating that the students without disabilities were more active in physical education class than their peers with disabilities. The largest percentage of the lesson context observed was found to be game play (48%), while teacher and support staff behaviors were largely student observation (51% and 63% respectively).


The problem of this study was to conduct an in-depth case study of the meaning of leisure for four women diagnosed as HIV-positive or AIDS age 50 or older and their self selected female family caregivers. The participatory study investigated the pre-and post-infection meanings of leisure identified by the older woman and their female family caregiver using a method of data collection known as Photovoice. A total of 4 dyads were recruited in the Midwestern United States. Participants shared their leisure stories and defined the meaning of leisure through individual and dyad interviews, sorting techniques, and written accounts. Leisure satisfaction information was
Fibrinolysis, the process of dissolving a fibrin blood clot, plays a pivotal role in the development of vascular disease. Occlusive blood clots are responsible for most acute cardiovascular events, and patients with coronary artery disease (CAD) typically exhibit a blunted fibrinolytic capacity. Initiation of fibrinolysis involves the conversion of plasminogen to plasmin, which is primarily catalyzed by tissue plasminogen activator (tPA). Depressed tPA and elevations of its primary inhibitor, plasminogen activator inhibitor-1 (PAI-1) are associated with morbidity, mortality, and are independent risk factors for various cardiovascular outcomes. Exercise training promotes enhanced fibrinolytic potential in healthy individuals, and individuals with CAD who undergo 12 or more weeks of regular exercise as part of a cardiac rehabilitation program demonstrate improvements in tPA and PAI-1. Modern day third-party reimbursement practices often necessitate fewer than 12 weeks of exercise training in cardiac rehabilitation programs. It is unclear if training regimens shorter than 12 weeks will elicit fibrinolytic improvements. The purpose of the present study was to evaluate changes in plasma concentrations of tPA and PAI-1, as well as changes in expression of the tPA and PAI-1 genes in whole blood after three and six weeks of participation in a phase II cardiac rehabilitation program. Fourteen CAD patients (12 male, 2 female) trained three days/week for six weeks. Exercise sessions adhered to American College of Sports Medicine (ACSM) guidelines for intensity and duration. Blood samples were taken at baseline (BL), after three weeks (3W), and after six weeks of training (6W) in a cardiac rehabilitation program and analyzed for tPA activity and antigen, PAI-1 activity and antigen, and relative quantification of tPA and PAI-1 RNA. Linear regression revealed no confounding influences on any outcome variable. Data were then analyzed using repeated measures analysis of variance. Six weeks of training resulted in significant decreases in submaximal exercise heart rate and systolic blood pressure (SBP), and resting SBP (p<0.05). No significant changes in plasma concentrations of tPA activity (BL=0.69±0.44, 3W=0.94±0.62, 6W=0.77±0.49 ng/ml, mean±SD, p=0.39) or antigen (BL=13.1±3.9, 3W=12.4±3.7, 6W=11.8±3.8, mean±SD, p=0.59) were observed. No change was observed in plasma PAI-1 activity (BL=17.0±16.8, 3W=14.8±22.5, 6W=17.9±18.8 IU/ml, mean±SD, p=0.29) or antigen (BL=28.3±15.5, 3W=24.2±20.2, 6W=22.4±16.1 ng/ml, mean±SD, p=0.15). No change in tPA (p=0.45) or PAI-1 (p=0.44) gene expression was observed during six weeks of exercise training. The six-week cardiac rehabilitation program yielded significant hemodynamic improvements, but did not alter fibrinolytic capacity. Based on the results of the present study and evidence in the literature, it is recommended that traditional cardiac rehabilitation programs that subscribe to ACSM guidelines include at least 12 weeks of regular exercise.

The problem of the study was to determine the nature of associations between spiritual and religious experiences and habits, and the dietary and exercise behaviors of middle-aged religious women. The subjects of the study were 492 middle-aged (45-65 year old) female members of the Church of Jesus Christ of Latter-day Saints in randomly selected congregations throughout the state of Utah during 2004. All subjects completed a 66 question survey instrument, the Spiritual and Physical Health Questionnaire (SHPQ), designed to collect data on demographics, dietary and exercise behaviors, daily spiritual experiences, and religious and prayer practices. Data were collected from July through October 2004, and were analyzed using SPSS version 13 commands for descriptive data, T-tests, Pearson and canonical correlations, and factor analysis. Findings suggest that spiritual health is defined by at least three separate constructs of spirituality, religiosity, and prayer, and that increased levels of these constructs correlate with greater awareness of dietary habits and increased frequency and duration of light/moderate physical activity. Prayer correlated with spirituality, religiosity, and physical health habits. Women with high levels of both spirituality and religiosity are more likely to have higher levels of dietary awareness and physical activity as compared with women with low levels of both, or high level on one construct and low on the other. Several demographic variables correlated with spiritual and physical health habits. Researchers and health educators can utilize the knowledge gained from this study to improve understanding of the spiritual health dimension, including the definition, constructs, and potential uses of spiritual health in relation to dietary and exercise habits.

Taenia solium taeniasis and cysticercosis are recognized as a major public health problem in Latin America. T. solium transmission not only affects the health of the individual, but also social and economic development, perpetuating the cycle of poverty. To determine prevalence rates, population knowledge and risk factors associated with transmission, an epidemiological study was undertaken in the rural community of Jalaca. Two standardized questionnaires were used to collect epidemiological and T. solium general knowledge data. Kato-Katz technique and an immunoblot assay (EITB) were used to determine taeniasis and seroprevalence, respectively. In total, 139 individuals belonging to 56 households participated in the study. Household characteristics were consistent with conditions of poverty of rural Honduras: 21.4% had no toilet or latrines, 19.6% had earthen floor, and 51.8% lacked indoor tap water. Pigs were raised in 46.4% of households, of which 70% allowed their pigs roaming freely. A human seroprevalence rate of 18.7% and a taeniasis prevalence rate of 2.4% were found. Only four persons answered correctly ≥ 6 out of ten T. solium knowledge questions, for an average passing score of 2.9%. In general, a serious gap exists in knowledge regarding how humans acquire the infections, especially neurocysticercosis was identified. After regression analysis, the ability to recognize adult tapeworms and awareness of the clinical importance of taeniasis, were found to be significant risk factors for T. solium seropositivity. These results demonstrate a high level of transmission and a low level of knowledge about Taenia solium in Jalaca. Consequently, intervention measures integrated with health education are necessary to decrease the burden caused by this parasite.


Excessive thoracic kyphosis is considered to be a significant contributor to pathologies raging from shoulder pain to spinal compression fractures. This research examined the efficacy of a comprehensive therapeutic exercise program for excessive kyphosis. The literature has demonstrated a weak correlation between excessive thoracic kyphosis and alterations in the upper extremities’ (UEs’) digital temperature and velocity, amplitude, and distal latencies of nerve conduction studies. This is particularly evident in cases of thoracic outlet syndrome. Another purpose of this research was to determine if a correlation actually exists between excessive kyphosis and the physiologic parameters outlined above. Seventy-one patients were randomly assigned to two groups. One group (n=39) served as a control. The experimental group (n=32) was given seven home exercises designed to reduce the kyphosis angle. The study was a 3-month endeavor for each patient. The patients were asked to perform the exercises 4 days-per-week for the duration of the study. Ten additional patients, with upper quarter pain ostensibly related to their kyphosis, formed a third group. This group’s kyphosis angles and UE physiological parameters were also evaluated. A Visual Analogue Scale (VAS) was used to determine if the exercise program influenced these patients’ pain. Finally, a modified functional abilities questionnaire was used to determine the exercises’ influence on this group’s ability to perform certain activities of daily living. Clinically insignificant changes were found in the 10 special exercisers’ VAS and functional questionnaire scores. A Pearson correlation coefficient assessed the relationship between the kyphosis angle and the left upper extremity’s NCV and temperature measures of all 81 patients. Insignificant r-values were obtained, with the exception of a weak inverse relationship (r=−.337) between kyphosis angle and the patients’ distal ulnar sensory NCV’s. A 2x3 Repeated Measures ANOVA was used to evaluate the relationship between the patients’ raw kyphosis scores at the beginning and end of the 3-month study and their group assignment. The ANOVA produced p-values of .054 and .096 for the variables of time and time-group interaction, respectively. This study’s findings support the majority of the literature. Exercises designed to alter posture do not appear useful for that purpose. The study does not support the literature’s weakly established correlation between excessive kyphosis and the UE’s temperature and nerve conduction velocity parameters. The questions of patient compliance with the exercises and duration of the study provide substantive reasons why further research on the matter is warranted.

Wegis, Heidi M. Physical education’s contribution to the total daily physical activity levels of middle school students, 2005. M.S., Oregon State University (Hans van der Mars). (95pp: 1 fiche $6.00, PDF $19.75) HE 829

Our nation’s schools are in a key position to promote regular physical activity through participation in quality physical education programs (Sallis & McKenzie, 1991). The ultimate long-term demonstration of each program’s impact is the students’ maintenance of an active lifestyle. Physical educators are consistently attempting to find different ways to promote lifetime physical activity within their programs. The pedometer is a useful, inexpensive, objective, and reliable measurement tool that may be used to promote and monitor physical activity. The purpose of this study was to evaluate the total daily physical activity levels of middle school students, and the contribution of physical education lessons. Physical activity levels of 48 middle school students were measured using pedometers during physical education as well as outside of class over a period of ten school days. A secondary focus was to evaluate the degree to which physical activity levels differed across selected student characteristics (i.e., gender and body composition), The mean number of steps taken by the students was 12,993 per day, and 2,244 per day in physical education. A Pearson correlation was run to determine if there was a relationship between the time factor and the step factor. The correlation between the two was .99, providing
further evidence that either time or steps can be used when measuring physical activity levels. A 2 x 2 (BMI x Gender) MANOVA was conducted on the mean number of steps taken during the day and the time spent in physical activity during the day. The results of the MANOVA indicated significant main effects for gender, F(2, 43)=6.73, p<.05, and BMI, F(2, 43)=4.69, p<.05, but no significant interaction between the two. In tests of between-subjects effects, both BMI and gender had significant effects on steps (p<.006, p<.004) and time (p<.014, p<.001), respectively. During the study, the students wore the pedometers sealed for the first five days, and unsealed for the last five days. A two-tailed, paired t-test was used to assess if there were any differences between the groups. Neither step counts, t(8)=.75, p>.05, nor time, t(8)=.49, p>.05, were significantly different between the sealed and unsealed days. Physical education did provide a considerable amount of physical activity for the students (17% of their daily step totals). Our findings also confirm using different methods, what other studies have reported regarding the differences between physical activity levels of males versus females, and “healthy” versus “at risk” populations.

RECREATION AND LEISURE

Chan, Ping-Cheung P. Relevant attributes in assessment for design features of indoor games halls: the application of importance-performance analysis, 2005. Re.D., Indiana University (Lynn M. Jamieson). (170pp: 2 fiche $12.00, PDF $23.50) RC 581

The problem of this study was to develop and validate a salient set of relevant attributes in assessment for design features of Indoor Games Hall (IGH). A total of 39 subjects and 26 subjects were invited to interview sessions, for expert judges and modal salient beliefs attribute generating methods, respectively. Twenty-nine IGH design features attributes passed the minimum frequency requirements of the 15% rule. The validation panel, which comprised four experts, approved these 29 attributes and further waived the 15% rule to include 8 attributes into the complete list of salient attributes. A closed-ended questionnaire consisting of three parts, with (1) demographic survey, (2) relative importance of the 37 IGH design features, and (3) opinion on performance of the 37 IGH design features, was constructed for a pilot study with 299 respondents and subsequently the main study with 675 patrons. The statistical results of this study indicated that this instrument, comprised of 8 factors, which made up of 37 attributes, is valid (with eigenvalues ranging from 1.06 to 9.22 and accounting for 56.6% total variance) and reliable (coefficient reliability ranging from .61 to 39). In conclusion, this study provides a valid process of attribute development.


The study was designed to determine if significant differences existed in the spiritual well-being reported by college students in four different categories of leisure activities. Participants in the Introduction to Personal Health course at a college in the Northeast (N=141) responded to the 36-item Leisure-Spiritual Process Scale (LSP; Heintzman, 1999) and selected one of four categories as their preferred leisure activity. A small number of participants preferred outdoor (environmental) activities, and were later eliminated from the data analysis in the initial investigation. A one-way independent groups Analysis of Variance (ANOVA) was used to compare the three remaining independent variables, (a) social activities, (b) playing sports, and (c) others, with regard to spiritual well-being. No significant differences existed in the spiritual well-being of students who preferred different categories of leisure. A second study was conducted in Recreation courses (N=104) and the following preferred activities were compared: (a) social activities; (b) playing sports; and (c) outdoor activities. Spiritual well-being was significantly higher for students who preferred outdoor activities than students who preferred playing sports.


The problem of the study was to identify perceived constraints encountered and negotiation strategies used by students in a campus recreational sport setting. Additionally, differences in negotiation were examined based on the level and type of perceived constraint encountered, gender, and level of participation. A web-based survey was administered to a sample of Indiana University-Bloomington undergraduate and graduate students randomly selected from the 2003-2004 Student Directory. The instrument used in this study was a modification of Young, Ross, and Barcelona’s (2003) study of perceived constraints, and negotiation studies conducted by Jackson and Rucks (1995) and Hubbard and Mannell (2001). Responses to perceived constraints items were used to categorize levels of perceived constraint experienced which were used to examine differences in negotiation. Analysis of Variance (ANOVA) was conducted for each category of negotiation to determine if significant differences existed in negotiation based on level of perceived constraint, gender, and level of participation in campus recreational sports. The sample of respondents most commonly reported a lack of time and lack of ability to find someone with whom to participate as reasons for not participating in campus recreational sports programs. Data support the concept of negotiation as respondents with higher levels of perceived
The nature experiences of wilderness recreation leaders in enological writing, the final result presents the essence of consistent with van Manen’s (1997) emphasis on phenomenological method of inquiry was used to describe the meaning of nature, the connections and relationships to nature, and the behaviors and emotions experienced in nature by a group of wilderness canoe trip leaders employed by a residential summer camp. In addition to the implications of this research, achieving this outcome provides a rich descriptive understanding of wilderness leaders’ experiences—a basis from which to extend future research endeavours and programmatic practices that promote effective environmental outcomes of outdoor recreation participation. Each of the five study participants was employed in the summer of 2003 by an Ontario residential summer camp organization that sponsors extended wilderness river canoe trips for youth. Two in-depth and semi-structured interviews were performed with each participant, asking them to reflect on the canoe trip that they led for the summer camp organization during 2003. Phenomenological data was analyzed according to Cozumel respondents. Alaskan and Cozumel respondents found to have a higher standard of ethical conduct than did male respondents. Alaskan respondents were chosen as representing two different cruise ship markets: Alaska and Cozumel. Data were collected in Skagway and Juneau, Alaska, from August 22nd to August 30th 2004 and in Cozumel, Mexico, from January 13th to January 22nd, 2005, by means of a self-administered questionnaire. Overall, 237 surveys were completed in Alaska and 246 were completed in Cozumel. An analysis of the findings revealed that overall the majority of respondents found the environmental practices of the industry unacceptable. However, females in both Alaska and Cozumel found the industry’s practices to be significantly more unacceptable than did male respondents. Alaskan respondents were found to have a higher standard of ethical conduct than Cozumel respondents. Alaskan and Cozumel respondents differed on the type of ethical orientation they were likely to employ when judging the ethical MES scenario in the questionnaire. There were also significant differences between males and females in Cozumel regarding the
strength of their ethical orientation, with female Cozu-
mel respondents utilizing a significantly stronger justice
orientation than male respondents. An interesting finding
revealed itself through the negative correlation between
the number of cruises taken and how the Alaskan respondents
reacted to two sections of the questionnaire. Specifically,
the more cruises the Alaskan respondents had been on, the
more like they were to find the environmental practices
of the industry acceptable, and the more likely they were
to find the captain’s behaviour in the MES scenario more
ethical.

Yoshino, Aiko. Environmental outcomes of wilderness-based
programs of different lengths, 2004. M.S., Indiana University
(Alan Ewert). (135pp: 2 fiche $12.00, PDF $21.75) RC 583

The problems of the study were (1) to investigate the simi-
larities and differences of environmental outcomes (i.e.,
environmental feelings, wilderness attitude, ad environ-
mental attitude) as a result of a long-term (3-week) wilder-
ness-based program versus short-term (5-day) wilderness-
based program and (2) to investigate associations between
the environmental outcomes and individual background
differences (i.e., demographics and level of past outdoor
experience). First, the results showed that the long-term
group did not improve on any of the environmental at-
titudes; in fact, the group showed a statistically significant
decline in performance on environmental feelings. On the
other hand, the short-term group improved slightly on
environmental feelings and environmental attitude, and
gained significantly on wilderness attitude. Secondly, only
one of the six predictor variables (age, gender, community
size of origin, education, levels of wilderness experience,
and levels of early-life outdoor experience) significantly
explained from 1.8% to 2.6% of the variance of the envi-
ronmental attitudes. Thus, there must be other unknown
variables that explain the majority of variance (97.4% or
more) of the environmental outcomes as a result of the wild-
erness-based programs. In this specific population, those
who grew up in smaller communities and had higher level
of wilderness experience showed more positive changes
on environmental attitudes than their counterparts. The
fact that outdoor experience is one of the most influential
factors on the development of environmental attitudes
is a consistent finding in previous studies (Tanner, 1980;
Palmer, 1993; Place, 2000); however, finding size of com-

Young, Gary B. Sugar Creek [Indiana] resort: a public-private
partnership puzzle, 2004. Ph.D., Indiana University (Alan W.
Ewert). (213pp: 3 fiche $18.00, PDF $25.65) RC 584

This qualitative single-case study investigated the pro-
cesses surrounding a potential public-private recreational
resort development. The researcher triangulated data from
within and among interviews, observations and docu-
ments related to the Sugar Creek partnership. Pseudonyms
were used to provide subject anonymity and confidential-
ity. Qualitative data analysis procedures included data
coding, categorization and interpretation. To provide a
framework, extant collaborative and partnership literature
was analyzed and presented using Young’s Conceptual
Model, designed by the researcher. Data collection began
in March 2001 and was terminated in October 2003. The
Sugar Creek partnership had not completed all phases of
collaboration. Conclusions included: (1) An evaluation
is indicated concerning the genuine earnest of the Forest
Service’s Proposal by estimating the amount of Forest Ser-
dice assistance provided; such as financial aid, manpower
assistance, and/or technical expertise. (2) Some combina-
tion of government and private funding for the required
environmental and feasibility studies, two critical impedi-
ments, must be obtained. (3) Collaborative guidelines need
be disseminated to the public and all stakeholders to
establish a universal framework of understanding concern-
ing such items as public land use, environmental consid-

April 2004

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PSYCHOLOGY

Babbitt, Matthew S. Reflecting on high school experiences
through parental involvement, 2004. M.S., Ball State Univer-
sity (Valerie Wayda). (86pp: 1 fiche $6.00, PDF $19.30) PSY
2351

The purpose of this paper was to look at selected parental
traits (i.e. cohesion, commitment, coping, and communica-
tion) and determine if they positively affected a student’s
involvement in extracurricular activities. Also, parental
support and pressure were assessed by the athlete in rela-
tion to how much of each of these qualities the athlete felt
his or her parents exhibited. The researcher also examined
family categories such as biological parents, stepparents,
mother only, and an “other” category, which combined all
other family types. The study took place at a conservative
mid-sized institution in the Midwest with-126 males and
106 females participating. All of the participants were in
their freshman year of college. Based on the results of the
study, parental support and parental pressure were not
contributing factors to how well an athlete did in one’s
sporting event. Also, family type was not a major factor in determining the amount of support and pressure an athlete receives from one’s parents. Finally, families that seemed to have higher cohesion, commitment, coping, and communication skills were more likely to be associated with athletes which came from a two parent biological family type.


The purpose of this study was to investigate attributions of collegiate softball players who experienced a streak or a slump. An entire Division I softball team in the northeast United States participated in this study. All of the participants completed an intake interview, which uncovered demographic information and each individual’s perception of the streak and the slump. The perception of the streak and the slump emerged as a statistic in terms of hits per at-bats. This statistic became each individual’s baseline measure for the entire season. Any individual who reached her baseline measure for the streak or slump completed the performance interview. This interview was designed to uncover the attributions of one’s performance. The qualitative design of this study provided a rich description of the participants’ experiences during the season. The attributions of the participants who completed the performance interview were coded and categorized into specific dimensions of causality, controllability, and stability (Weiner, 1979). Two participants reached their baseline measure for the slump and five participants reached their statistical definition of a streak. The results revealed those in the slump category used internal and unstable attributions, while one participant using controllable attributions, and the other participant using uncontrollable attributions. The results from the streak category revealed all of the participants used external attributions, while three participants cited internal attributions in addition to external attributions. Two participants in the streak category expressed uncontrollable attributions, while three cited controllable attributions. Two participants in the streak category assumed unstable attributions and one participant stated stable elements of attributions. Two of the participants in the streak category did not reveal any elements of the dimension of stability. The results of this study suggest individuals in the slump category felt dispositional factors were a cause for their performance. Those who experienced a streak felt outside factors either were the sole purpose or had an impact upon their performance. Four out of the five participants who felt internal factors were a cause for their performance also cited effort as a factor.

Fischer, Rebecca L. *Characteristics of imagery use: a comparison among skill levels*, 2005. M.S., University of North Dakota (Sandra Short). (38pp: 1 fiche $6.00, PDF $16.90) PSY 2360

This study examined the effect of skill level on characteristics of imagery. Skill level was determined by whether or not the athletes made the time standard consideration cuts for division I nationals (high ability), the time standard consideration cuts for division II nationals (medium ability), or if they were non qualifiers (low ability). It was hypothesized that the high ability athletes would use imagery more, have more facilitative images, be more confident in their ability to use imagery, and be better at using imagery (i.e., have higher visual and kinesthetic ability). Participants were 106 female and 87 male intercollegiate varsity swimmers and divers. In addition to answering background information questions on their sport careers and imagery use, they also completed a modified version of the SIQ, which assessed frequency of imagery use, effectiveness of images, confidence in using imagery, and the ease/difficulty of using imagery. The results showed that athletes reported using MG-M imagery the most followed by MG-A, CG, CS, and MS. They were most confident in using MG-M, MG-A, followed by CG, MS, and CS. The images on the MG-M subscale were the easiest to image visually, followed by MG-A, CG, MS, and CS. For kinesthetic, the images on the MG-A subscale were the easiest to image followed by MG-M, CG, MS, and CS. The images that were considered most effective were MG-M, CG, MS, MG-A, and MS. MANOVA showed that there were differences in skill level on the following dimensions: CG-frequency, MG-A-frequency, CS-confidence, and MG-M effectiveness. In most cases, the high ability group used imagery more, found imagery to be more effective, was more confident in their ability to use imagery, and was better at using imagery than the low and medium ability groups. The group that had the second highest ratings was the low ability group, and in the middle was the medium ability group. The results of this study suggest that imagery may be most effective for athletes who want to maintain their high ability (high ability athletes) or improve their current level of performance (low ability athletes). Like other imagery research, in this study the MG-M images were considered to be the most effective, were used the most, and the athletes had the most confidence in their ability to use them.

Franzia, Annie H. *State anxiety in subjective and objective sports*, 2005. D.P.E., Springfield College (Mimi Murray). (216pp: 3 fiche $18.00, PDF $25.80) PSY 2366

A concurrent triangulated mixed research method was used to better understand the connection between state anxiety and athletic performance in subjective and objective sports using the CSAI-2 (Martens, Burton, Vealey, Bump, & Smith, 1990), open-ended questions, and in-depth interviews. Female participants (N=78) were comprised of gymnasts, synchronized swimmers, swimmers, and track and field athletes. A 2x3 MANOVA was utilized for the subjective and objective sports for the three testing occasions. The main effects for time and sport were found to be significant. Analyses of variances (ANOVAs)
were used for post hoc analyses. Significant differences ($p<.05$) were found for Cognitive State, Somatic State, and Self-Confidence across time. Cognitive State Anxiety and Self-Confidence were significantly different ($p<.05$) between subjective and objective sports while no significant difference ($p>.05$) was found between subjective and objective sports for Somatic State Anxiety. Although commonalities between the themes and levels of state anxiety were not found, many of the themes that were discovered can be related to state anxiety and sports performance. The relationships are further discussed.

Hickmann, Sara A. Impulsivity as a predictor of athletic success and negative consequences in NFL football players, 2004. Ph.D., University of Massachusetts, Amherst (Richard P. Halgin). (149pp: 2 fiche $12.00, PDF $22.45) PSY 2345

This study assessed impulsivity in football players in the National Football League (NFL) to determine the extent to which impulsive tendencies predict athletic success and negative consequences. Twenty-four professional football players from eight NFL teams participated in this study, twelve had been drafted out of college. Players were interviewed and administered several tests of impulsivity including a neuropsychological instrument and two self-report questionnaires. In addition, a collateral (e.g., teammate or friend) provided corroborative information. Data were collected at the end of the season regarding the number of game penalties, games started, and games played. Feedback sessions were conducted via phone or in person with each player, and written feedback of the test results and relevant impressions was mailed to the player in the form of a one-page written summary. This sample of professional football players showed moderate levels of impulsivity. In a planning task, athletes who spent more time planning solved a greater number of problems correctly. However, when they acted impulsively, their behaviors generally served a functional purpose. Players who sustained a higher number of head injuries were more likely to show higher levels of dysfunctional impulsivity and use a more impulsive problem solving approach. Length of participation in football was not related to levels of impulsivity in this group of NFL football players. Players’ scores of functional impulsivity related to their athletic success; players who reported that they like to make split-second decisions and take advantage of unexpected opportunities were also more likely to be rated positively by a professional scout, play and start in games, and survive in the NFL. In addition, a combination of measures including a self-report questionnaire, the investigator’s clinical rating based on players’ responses during the interviews, a behavioral measure, and corroborative information significantly predicted athletic success. Players who reported higher levels of functional impulsivity were significantly less likely to experience game penalties and legal infractions. The investigator’s rating of the players was the most accurate predictor of negative outcomes; athletes who reported more frequent incidents of interpersonal dysfunction, aggression to friends and family, and a need for immediate gratification were more likely to commit legal infractions and game penalties. Factors that contributed to developing impulsive tendencies included being socialized within the violent and aggressive culture of football, functioning within an unpredictable environment, and receiving lesser consequences for deviant behaviors. This study provided initial support for the use of the Impulsivity Checklist as a measure of impulsivity in NFL football players and supported the current findings in the literature that a multidimensional approach should be utilized to measure impulsivity. Lastly, the research findings provided initial evidence that utilizing a more impulsive response style in the appropriate context can be a functional quality.

Hunt, Erika J. Collegiate athletes’ psychological perceptions of adhesive ankle taping: a qualitative analysis, 2005. M.S., University of North Dakota (Sandra Short). (53pp: 1 fiche $6.00, PDF $17.65) PSY 2355

The theory and effectiveness of adhesive ankle taping and psychology of athletic injury are both well researched and studied independently; however, a lack of research exists concerning the athlete’s psychological perceptions and reactions to treatment options administered following an injury, specifically those perceptions related to adhesive ankle taping. The primary purpose of the present study was to explore the collegiate athlete’s psychological perceptions of adhesive ankle taping. Eleven collegiate athletes currently participating in various sports participated in an interview comprised of open-ended questions designed to elicit information regarding the athlete’s thoughts and feelings of adhesive ankle taping. The athletes were recruited with the help of their certified athletic trainer and identified into three groups: recently sustained an ankle injury but currently uses adhesive ankle tape, past history of ankle injury but currently uses adhesive ankle tape, and no history of ankle injury during their collegiate career and currently uses adhesive ankle tape. Results of this study clearly revealed that besides the performance aspect of adhesive tape, there are psychological perceptions related to the use of adhesive ankle tape. Psychological perceptions ranged from feelings of increased confidence, increased strength, decreased anxiety for injury or re-injury, mental preparation prior to performance, part of pre-performance routines, and even part of superstitious behaviors. The results supported previous research that also found a relationship between the use of adhesive ankle tape, even if not injured, and superstitious behaviors, as well as emotional responses experienced through the rehabilitation and recovery from injury. This study also revealed that athletic trainers should be more aware of educating the athlete about the uses and functions of adhesive tape considering the psychological impact it has on the athlete.
The purpose of this study was to explore similarities in pre-game mood profiles between collegiate football coaches and players. Participants in this study were 102 football players and nine football coaches at an NCAA Division II university in the Midwest. The first hypothesis stated that there would be no differences in the mood profiles between the Head Football Coach and Senior and Junior classes, but there would be differences between the Head Coach and the Sophomore, Freshmen and Redshirt classes. The second hypothesis stated that there would be no differences in the mood profiles between the Head Coach and assistant coaches. The third hypothesis stated that there would be no differences between position coach and the players they directly coached. The Profile of Mood was used to assess pre-game mood profiles. Similarities were determined by whether or not the coaches mean scores fell within the 95% Confidence Interval for the group he/she was being compared to. An ANOVA was used to determine group-to-group differences between offensive coaches and offensive players as well as defensive coaches and defensive players. The POMS was assessed at the beginning and the end of the season to determine stability in mood profiles. Results showed that the first two hypotheses were not true. Similarities did exist between coaches and players on some of the POMS sub-categories, but only one (Quarterbacks to Quarterback Coach for Time 1) showed similarities on all six sub-scales and the Total Mood Disturbance Score. The third hypothesis was partially true. Individual to group comparisons showed that only one position group had the same mood profile as the position coach. However, group-to-group comparisons showed that mood profiles were similar between offensive coaches and offensive players as well as defensive coaches and defensive players. Future research should be directed towards expanding the scope of the present study and conducting it in other parts of the country to determine if scores can be replicated. Also, athletic norms for coaches and football players should be developed to provide a more relevant point of comparison.


This study was undertaken to assess body image and self-concepts in male and female adolescent cross-country runners. Runners were chosen as the study population because cross-country is a lean sport whereby the size of the body can impact performance. Participants were 175 high school runners including 93 boys (mean age 16±1.3 years; body mass index 20.4±1.9) and 82 girls (mean age 15.7±1.3 years; body mass index 20.3±1.9). Participants completed a questionnaire packet comprised of a demographic questionnaire (including self-report of height and weight), the Body-Self Image Questionnaire (BSIQ) to assess body image in nine different factors, and the Self-Perception Profile for Adolescents (SPPA) to assess self-concept in eight domains, plus global self-worth (self-esteem). The results showed that females were significantly less satisfied with a number of body image factors than males. Females also scored significantly less than males in the self-concept domains of athletic competence and physical appearance. Males and females rated different self-concept domains as the most important to them: Females valued close friendships as most important, while males valued job competence as most important. Physical appearance and athletic competence were ranked relatively lower for both genders. On the other hand, the relationship of self-esteem to appearance-related factors or domains was stronger for females than for males; the females’ self-esteem was most closely related to physical appearance of all the eight domains. This correlation was significant for both sexes. The physical appearance domain of the SPPA correlated with the overall appearance factor of the BSIQ, with the association being stronger for females than for males. The
females demonstrated more negative discrepancies than boys in many self-concept domains, suggesting that they were failing at aspects that were important in their lives. In spite of the sex differences, absolute scores obtained on the two instruments demonstrated favorable psychological profiles, not indicative of severe body image problems or eating disorders. However, these results question the different motives of the cross-country runners since athletic competence and physical appearance were ranked relatively low. These runners may not have been representative of serious distance runners. Implications from this study include that the gender differences between males and females, particularly with respect to appearance, need to be handled sensitively by coaches. Furthermore, the discrepancies in the female runners’ self-concepts were present yet the females’ competencies in the self-concepts were fairly high. This suggests that the girls in the study demonstrated perfectionist-like qualities in having high expectations in all aspects of their lives. Future research should address this notion further, since perfectionism has been recognized as a risk factor for eating disorders.

Mel, Astrid E. Soccer officiating decisions for men and women: same rules, different interpretations?, 2005. M.S., Springfield College (John Gibson). (75pp: 1 fiche $6.00, PDF $18.75) PSY 2368

The current study was designed to examine differences between foul interpretations by male and female officials, based on gender of the players analyzed. Participants (N=335) were the top eight percent of National Intercollegiate Soccer Officials Association (NISOA) referees (317 males, 18 females). Video clips (n=12) of intercollegiate soccer matches were presented, depicting potential fouls involving both male and female players. Participants were asked to rate each scene based on the foul classification scale designed by NISOA. Chi Square analysis was computed for each video clip. No significant differences (p>.05) existed in foul interpretations between male and female officials. Another chi-square test was computed after selecting 18 males by years of experience with the 18 females. Significant (p<.05) differences existed in four video clips, with female officials rating more severely than males. Possible reasons included pressure in a male dominated sport and gender bias within the scale itself.


A multivariate, covariance, repeated measure design was used to examine the effect a humorous treatment had on negative and positive mood states resulting from an induced stressor. The relationship between Self-enhancing (SE) humor and mood, before and after the stressor, as well as following treatment, was also determined. Volunteer 18 to 25 year-old female undergraduates (N=126) at a private New York State college were randomly assigned into either a humorous treatment or non-humorous treatment. Mood was measured at baseline, poststressor, and post-treatment. No differences in mood were found between treatment groups. Mood worsened post-stressor and improved post-treatment. SE humor levels of the participants were correlated with the mood states, but in different patterns for the humorous and non-humorous groups. In conclusion, both humorous and non-humorous videotape treatments have similar effects on moods after an induced stressor; furthermore, SE humor is positively related to mood following treatment with a humorous videotape.

Silvernagel, Michael S. Athletes’ use of exercise imagery during weightlifting, 2005. M.S., University of North Dakota (Sandra Short). (52pp: 1 fiche $6.00, PDF $17.60) PSY 2350

The purpose of this study was to find out if collegiate athletes who were required to lift weights used exercise imagery in the same manner as other exercisers (i.e., aerobics, recreational weightlifters, running, cardiovascular machines). In addition to the frequency of imagery use among collegiate athletes who were required to lift, this study also looked at their perceptions of the effectiveness of the images. A number of variables (gender, age, time of season, imagery training, imagery perspective and level of motivation) that would affect use and effectiveness were examined. Finally, it also looked at the relationship between confidence in the ability to use imagery and imagery use and effectiveness, and the relationship between imagery use and effectiveness and confidence in the weight room. Participants for this study consisted of 295 Division I (n=163) and Division II (n=132) college student athletes (male: n=138, female: n=157) who participated in a strength training program as a requirement of their sport. The results of the study showed that collegiate athletes who were required to lift weights used appearance imagery most followed by technique imagery and energy imagery. Regardless of which subscale (original or modified) appearance imagery was still used the most. Findings support the previous studies that looked at exercise imagery use by exercisers (i.e., Hausenblas et al. 1999, Gammage et al. 2000, Munroe-Chandler et al. 2004). The effectiveness component of the WLIQ showed that collegiate athletes found appearance imagery most helpful, with scores from the modified subscale slightly higher than the original subscale, followed, by technique imagery and energy imagery. Variables that affected imagery use were gender, age, time of season, and levels of motivation. Variables that had a significant effect on imagery effectiveness were gender, previous imagery training, and level of motivation. While looking at imagery use and imagery effectiveness findings showed that both were associated with confidence in the weight room. The results also showed that confidence in the ability to image was associated with both imagery use and effectiveness.
Stuckless, Jeannie G. The relationship between attitude and participation in physical activity among older women, 2001. M.N., Memorial University of Newfoundland (Shirley Solberg). (143pp: 2 fiche $12.00, PDF $22.15) PSY 2358

Physical activity is important for older women to maintain their health and to avoid the negative consequences of inactivity. The Theory of Reasoned Action (Ajzen, 1988) was selected as the conceptual framework for the research. The relationship between older women’s attitude toward and participation in physical activity, together with some factors thought to influence the level of activity were studied using a descriptive design. A convenience sample of 30 women aged 65 to 88 years from four senior’s apartment complexes were self selected as participants. Data were collected using the Attitude Toward Physical Activity, Intention to Engage in Physical Activity, and the Modified 7-DAI questionnaires. Each participant had her weight measured. Descriptive statistics were used to analyze the data. The findings suggest older women with lower incomes and education, with a disability, and who were most active in summer months had negative attitudes, less intentions, and lower levels of physical activity. Heavier women had more negative attitudes, low intentions, but higher physical activity levels than those who weighed less. Overall, women in this study spent less time in activities as the level of physical exertion increased. The low activity levels put older women in this study at risk for ill health and decreased quality of life. The findings have implications for nursing practice, education, research, and policy.

**MOTOR LEARNING AND CONTROL**

Andre, Phillip H. The effects of functional activity on postural control and lower leg strength of ankle function, 2005. M.S., Michigan State University (John W. Powell). (61pp: 1 fiche $6.00, PDF $18.05) PSY 2348

The lateral ankle sprain has been researched and identified as one of the most prevalent injuries incurred by physically active individuals. Many risk factors have been named, including postural control and lower leg strength. This study aimed to document the characteristics of accurate pitch performance in skilled cellists (intermediate-professional skill levels). Specifically, we examined the control principles underlying alternating shifting movements between notes, contributions of different sensory systems, serial movement strategies used by skilled cellists and the impact of removing sensory inputs on the serial movement strategies. Results showed that position variability stayed constant with increased movement velocity and distance; a feed forward control strategy was used in the primary movement phase; after initial landing auditory input was then used to achieve the desired pitch (error corrections); however, the pitch/position errors detected based on auditory information were corrected within the note but quickly ignored in future movements. Cellists generally used location information (78%) rather than distance cues (11%) in the control of shifting movements. Cutaneous feedback from the thumb when it encountered the body-neck junction, a physical landmark of the cello body geometry enabled faster movement velocity ($p=0.001$) and lower position variability ($p=0.01$) of the neighboring note (E). It was also found that when vision was available performers attempted to use an ineffective strategy in which the last landing position was remembered and reproduced. When proprioceptive information was the only sensory input available, variability and accuracy of the initial landing position were the same as when auditory input was present, indicating that proprioceptive control is extremely accurate and stable for the initial programming of movement in these musicians. These findings suggest that skilled cellists possess an extraordinary ability to maintain performance level across a variety of conditions. This may be due to long-term over-training, producing a stable platform for executing movements between loci governed by location programming. In addition, cellists with higher perceptual ability and performance proficiency were found to rely more on auditory input whereas less experienced cellists benefited more from vision; increased perceptual abilities and performance proficiency were associated with increased pitch accuracy but not reduced variability. This
suggests that pitch accuracy was facilitated by increased perceptual ability, whereas movement variability (initial landing variability) was constrained by the capacity of the motor system, which is highly fine-tuned and different than that of non-musicians.


The purpose of this study was to investigate neural and biomechanical mechanisms used to recover balance during a large, fast walking perturbation in balance impaired seniors before and after Tai Chi (TC) training and control training. Balance impaired seniors (age 68-92, BERG 44 or less) were randomly divided into TC or control groups. TC training included repetitive exercises using TC motor and biomechanical strategies, techniques, and postural elements. Control training included Axial mobility exercises, balance/awareness education and stress reduction. Groups trained 1.5 hours/day 5 days/week for 3 weeks. After post-testing the control group received TC training. Subjects walked across a force plate triggered to move forward 15cm@40cm/sec at heel strike. Muscle responses (surface electromyograms) from the tibialis anterior (TA) and medial gastrocnemius (GA), whole body kinematics, center of pressure (COP), and center of mass (COM) were recorded during balance recovery. Four clinical/behavioral measures of balance were also recorded, including the Timed-up-and-go (TUG) test. TC subjects, but not controls, significantly reduced TA response time from 149±45ms to 99±17ms (p=0.004), improved muscle organization (TA activated first), and reduced co-contraction of antagonist muscles from 0.6 to 0.0 probability. Clinical measures improved significantly after TC. TC enhanced balance recovery strategies by significantly reducing tripping (p<0.005) and cross step medial distance (p<.038) and increased the use of swing leg heel strike (p<.001). COM anterior-posterior (A/P) path significantly increased after TC (p=.017). COM medial-lateral (M/L) path significantly decreased (p=.054) after control training. COM A/P velocity (max-min) significantly decreased after both types of training (control p=.010, TC p=.036). Fast, accurate neuromuscular activation is crucial for efficacious responses to slips or trips. TC enhanced neuromuscular responses controlling the ankle joint of the perturbed stance leg and developed more efficacious use of biomechanical stepping strategies of the swing leg. COM A/P path significantly increased, implying a less cautious gait when approaching a balance challenge.


The first purpose of this study was to investigate the effects of the dual task condition on the development of postural control in typically developing children and children with cerebral palsy. The second purpose was to investigate the attentional requirements of modified tandem Romberg and narrow stance positions. A dual task paradigm was used which consisted of a postural control task and a visual working memory task. The child’s version of the ANT was used to assess attentional capacity. A developmental trend was observed in the maturation of postural control in wide stance and modified tandem Romberg stance. Young children (4-6 years) experienced dual task interference in postural control in both stance positions. There was no significant decrement in the performance of the cognitive task. Postural control in the modified tandem Romberg stance required attentional resources. Children with cerebral palsy, like the typically developing young children, experienced interference in postural control in the dual task condition. This occurred in wide and narrow stance positions. They had a decrement of performance on the cognitive task in narrow stance compared to wide stance. Postural control in narrow stance appeared to require additional attentional resources for the children with cerebral palsy compared to the typically developing young children. However, the attentional capacity of the children with cerebral palsy was comparatively limited. The children with spastic cerebral palsy appeared to allocate attentional resources to the performance of the cognitive task at the expense of postural control. The children with ataxic cerebral palsy allocated attentional resources to postural control, at the expense of the performance of the cognitive task. The children with cerebral palsy were grouped according to levels of function into household and community walkers. Unexpectedly, it was the community walkers who experienced the greater decrement of postural control in wide and narrow stance in the dual task condition. The household walkers stood with the wider stance to maintain stability. The passive biomechanical advantages of the wider stance may have provided them with more stability, allowing them to allocate attentional resources to the performance of the cognitive task.

Robinson, June P. Ethnicity, age, and the effects of contextual interference on the acquisition, retention, and transfer of a motor task, 2004. P.E.D., Indiana University (Paul R. Surburg). (122pp: 2 fiche $12.00, PDF $21.10) PSY 2349

The problem of the study was to determine whether ethnicity and age impact acquisition, retention and transfer in the performance of a motor task. Eighty participants including 20 older and younger African-American adults and 20 older and younger European-American adults were randomly assigned to a block or random practice group. Participants depressed a white button with their forefinger
coincident with the arrival of moving lights displayed on the Bassin Anticipation Timing apparatus. During the acquisition phase, participants in the block group performed 15 trials at each of the following velocities: 3, 5, 7, 9 and 11 mi/hr. Participants in the random group performed 75 trials at velocities of 3, 5, 7, 9, and 11 mi/hr with each velocity occurring no more than three consecutive times within 15 trials. Following a ten-minute interval, each participant performed 20 retention trials using the acquisition velocities. Participants then performed 10 transfer trials using velocities of 2 and 12 mi/hr. Performance scores for the acquisition, retention and transfer phases were calculated as absolute constant error. Analysis of the data revealed that during acquisition, older African-American participants were slower during the block and random treatments than the older European-American group and older African-American participants in the block practice schedule performed slower than the older African-American group in the random treatment group. Both older ethnic groups performed slower than their younger counterparts for the block treatment. During retention, the older African-American participants were slower during the block and random treatments than the older European-American group and older African-American participants in the block practice schedule performed slower than the older African-American group in the random treatment group. Both older ethnic groups performed slower than their younger counterparts for the block treatment. During retention, the older African-American participants were slower than their younger counterparts; and older African-American participants were slower than the older European-American participants. For transfer, the older ethnic groups were also slower than the younger groups during block treatment at a velocity of 12 mph. Older African-Americans in the block treatment group were slower than older European-Americans in the block treatment group at a velocity of 12 mph; and older African-American participants in the block treatment performed slower than older African-American participants in the random treatment group during a velocity of 12 mph. In conclusion, a limited contextual inference effect was found in this study.

SOCIAL PSYCHOLOGY

Blessing, Aaron C. The effect of structured team building on athlete satisfaction in NCAA Division III men’s and women’s soccer players, 2004. M.S., Ball State University (Roch A. King). (91pp: 1 fiche $6.00, PDF $19.55) PSY 2352

Previous research has explored the benefits of structured teambuilding interventions in the team sport environment (Voight & Callaghan, 2001). Structured teambuilding has a positive effect on cohesion, and the link between cohesiveness and successful athletic performance has been well documented (Canon, Colman, Wheeler, & Stevens, 2002), but little research has been carried out in terms of student-athlete enjoyment of their athletic experience based on the incorporation of structured teambuilding as part of the training environment. This study was designed to examine the effect of structured teambuilding on athlete satisfaction in NCAA Division III men’s and women’s soccer. One hundred and eleven student-athletes from six NCAA Division III soccer teams participated. Sixty-five student-athletes played for teams that used structured teambuilding (STB). Forty-six student-athletes played for teams that did not use structured teambuilding (NSTB). Students indicated average playing time per game and completed the Athlete Satisfaction Questionnaire (ASQ) (Riemer & Chelladurai, 1998) at the conclusion of his or her regular season, but prior to any post-season competition. A 2 (use of team building) x 3 (playing status) ANOVA revealed significant main effects for use of team building, F(1,105)=9.34, p<.003, and playing status, F(2,105)=9.10, p<.001. Post-hoc analysis revealed significant differences in 8 of the 15 subscales of the ASQ: individual performance, ability utilization, personal treatment, training and instruction, team social contribution, and personal dedication. STB student-athletes recorded significantly higher satisfaction when compared with their NSTB counterparts. Implications for the use of structured teambuilding as a tool for team development, drawing particular attention to the satisfaction of players, are discussed.

Childs, Jamie L. An investigation of athletic identity among interscholastic and collegiate athletes, 2002. M.S., Georgia Southern University (Kevin L. Burke). (55pp: 1 fiche $6.00, PDF $17.75) PSY 2344

The extent to which athletes identify with sports is becoming more prevalent among society as the pressures to perform well increases. However, a limited amount of research has been conducted that addresses specific characteristics of those with a strong athletic identity. The degree to which competition level, gender, race, team sport participation versus individual sport participation, and one sport versus multiple sports participation affects athletic identity was investigated. A comparison between the athletic identity scores of those who planned to continue with their athletic careers either on the collegiate or professional level to those who did not was also investigated. The Athletic Identity Measurement Scale (AIMS) (Brewer, Van Raalte, & Linder, 1993) and a demographic questionnaire assessing gender, age, race, type of sport involvement, level of competition, and one question regarding the participants’ future plans of continuing with their athletic career were completed by 221 varsity athletes (48 men, 173 women). Participants were from four high schools and three colleges in the Southeastern portion of the United States, participating in a variety of 15 sports with respect to level of competition. Results indicated a significant difference between high school participants (M=36.21, SD=7.87) and college participants (M=38.65, SD=7.33), p=.021. A significant difference was also found between those participants who planned to continue with their athletic career following their current level of involvement (M=38.93, SD=7.28) and those who did not (M=35.47, SD=7.76), p=.001. No significant differences were found among gender, race, individual versus team sports, or one sport versus multiple sports. Results revealed that collegiate athletes identify more strongly with sports than
The majority of research in this area was conducted more than 20 years ago, which indicated a need for more current research. There was a need to learn how a parent’s previous or current sport participation could impact their child’s sport experience. Parents and their children completed questionnaires to determine the role of parental influence upon child sport socialization. Participants included students in the 6th, 8th, 9th, and 10th grade physical education classes at a Mid-west school and their parents. Thirty-eight children, 24 fathers, and 31 mothers were included in the sample. No significant difference was found in the sport participation rates of children whose parents participated in sports previously and children whose parents were not active sport participants in the past. A positive relationship was found between parents who had a positive overall sport experience and their child’s perception of their encouragement to pursue the same sport in which parents had previously participated.

Jones, Tiffany R. Perceived athletic competence and perceptions of parental attitudes of youth sport participation, 2004. M.S., Springfield College (Mimi Murray). (140pp: 2 fiche $12.00, PDF $22.00) PSY 2367

The study was designed to determine the relationship between perceived athletic competence and the perceptions of parental attitudes toward youth sport participation. The participants (N=284) were asked to complete the Athletic Competence subscale of the Perceived Competence Scale for Children (PCSC; Harter, 1982) and the Revised Your Family and Gymnastics Questionnaire (R-YFGQ; Weiss & Hayashi, 1995). Youth participants with more positively perceived athletic competence reported more positive perceptions of parental attitudes toward sport. A 2X3X2 factorial analysis of variance (ANOVA) was utilized to detect the differences between gender, age groups, and perceived attitudes of Mothers and Fathers toward their youth sport participation. Male youth sport participants in the Under 10 and Under 12 age groups reported the perceptions of Father attitudes toward sport as more negative than the perceptions of Mother attitudes. For female youth sport participants, the perceptions of Mother attitudes were perceived more negatively by females than Father attitudes for the three age groups. Perceived athletic competence was higher for males Under 14; but no differences in males and females were found for the younger age groups.


The purpose of this study was to determine if the rate of social interactions of delayed and non-delayed preschool children after a short term teacher directed intervention program differed significantly from the rate of social interactions in a free choice situation. To facilitate this, a physical education program for eleven delayed and eleven non-delayed children was created. Three groups of delayed and non-delayed preschoolers were formed. All children participated in a 16 day physical education program which included a three minute video taped observation period each day. Each group was involved in an identically structured program of physical education. The results of the statistical analysis with reference to the major hypotheses of this study are summarized below as follows. 1. The hypothesis that there will be no significant difference in the total social interaction rate of delayed and non-delayed children, after an intervention program was accepted. The analysis showed that there was a significant difference in interaction rates between verbal and non-verbal children, the verbal children having a higher rate of interaction. There was no significant difference by treatments and no significant interaction effect. 3. The hypothesis that there will be no significant difference in the rate of interaction between verbal and non-verbal children, after an intervention program was rejected. The analysis showed that there was a significant difference in interaction rates between verbal and non-verbal children, the verbal children having a higher rate of interaction. There was no significant difference by treatments and no significant interaction effect. 4. The hypothesis that there will be no significant difference in the rate of social interaction between delayed and non-delayed preschool children, after an intervention program was accepted. No significant differences were found among groups and treatments, and no significant interaction effect was observed.


The purpose of this study is to examine the adjustment issues facing international students attending American colleges and universities and the types of social support in an era post 9-11. Student-athletes face a variety of challenges when playing competitive sport. Foreign student-athletes have additional heavy burdens with physical training and
language problems. International students and international student-athletes attending one of five universities in the State of Indiana (N=102) completed a survey packet including Demographic, Social Support Survey (SSS) and Acculturative Stress Scale for International Students (ASSIS). The findings of this study would suggest that the participating international students, including talented foreign student-athletes, had low acculturative stress despite studying abroad in the United States in a post 9-11 era. Social support may not be related to acculturative stress for the participants in this study. However, there is no doubt that it is important for international students to immediately adjust to a new environment to minimize the potential of adjustment issues arising. This study may be helpful in identifying international students potentially at need of special assistance and support service. Coaches or academic counselors should pay more attention on the support services and acculturative stress of international students in their initial period.

Mankad, Aditi. Elite vs. recreational cricketers: a comparison of achievement goal and social goal orientations and cultural self perspectives, 2005. M.S., Purdue University (Lavon Williams). (130 pp: 2 fiche $12.00, PDF $21.50) PSY 2347

The purpose of this study was to compare elite and recreational athletes from a non-Western culture in terms of their collectivism (sport and non-sport), sport exposure, self perspectives (sport and non-sport), achievement goal orientations (task and ego), and social goal orientations (affiliation, status, and recognition). It was hypothesized that all participants would be highly collectivist (non-sport) and have a predominantly interdependent self perspective (non-sport); that is, there would be no group differences. However, recreational athletes would score higher on sport-related collectivism and interdependent self perspectives. Elite athletes were predicted to have a higher sport exposure than recreational athletes; and to highly endorse ego, status and recognition orientations. Recreational athletes were expected to highly endorse an affiliation orientation. There was no hypothesized difference between participants relative to task orientation. Exploratory qualitative data was also obtained in order to confirm that non-Western definitions of physical and non-physical success were aligned with traditional Western views. Results showed that all participants were highly collectivist (sport and non-sport) and had highly interdependent self perspectives (sport and non-sport). Thus, hypothesis one and three were partially supported. Hypothesis two was supported; elite and recreational athletes significantly differed in their relative exposure to the sporting environment (Wilks’ Lambda =.25, F(3,42)=53.03, p<.001, ηp2=.75). Finally, hypothesis four was not supported; participants did not significantly differ in the achievement and social goal orientations they endorsed (Wilks’ Lambda =.96, F(3,42)=1.43, ns, ηp2=.04). This study found support for Markus and Kitayama’s (1991) self perspective theory; further theoretical implications are discussed. Alternative explanations and limitations are also presented.

McCann, Peggy S. Parent-coach and child-athlete retrospective perceptions of the dual role in youth sport, 2005. Ph.D., Michigan State University (Martha E. Ewing). (260 pp: 3 fiche $18.00, PDF $28.00) PSY 2362

The purposes of this study were: (a) to explore how the parent-coach dual role influences the relationship between the parent-coach and child, both positive and negative; and (b) to explore the influence of the parent-coach’s feedback in forming the athlete’s self-perceptions, affective responses, and motivational outcomes. Using Harter’s (1978, 1981) Competence Motivation Theory as a framework, four research questions were addressed: (a) What is the role of feedback on self-perceptions, level of enjoyment, and motivational outcomes over time?, (b) How does the dual role of the parent as coach influence the relationship between the child-athlete and parent-coach?, (c) What are the positive outcomes for children who have parents as coaches and for parents who coach their own children, and (d) What are the negative outcomes for children who have parents as coaches and for parents who coach their own children? Five father-daughter, five father-son, and one mother-daughter dyads were interviewed retrospectively. Interviews were transcribed and analyzed by three researchers using content analysis procedures. The results revealed nine general dimensions for child-athletes including dual-role influence on relationship, positive outcomes for child-athlete, negative outcomes for child athlete, perception of feedback type, general interpretation of feedback, impact on child athlete’s confidence in ability, motivational orientation for child-athlete, instilled values and beliefs about sport, and impact on enjoyment. Seven general dimensions emerged for parent-coaches: dual-role influence on relationship, positive outcomes/personal rewards for parent-coach, frustrations of parent-coach, parent-coaches’ perception of their feedback, interpretation of child’s response to feedback, perception of child’s motivation to continue in sport, perception of child’s enjoyment. These results indicated that child-athletes and parent-coaches perceived their experiences in a congruent manner and, overall, these experiences were positive and ultimately strengthened the relationship. Parent-coaches who were moderately involved in their child’s experiences created the most harmony in the relationship. Additionally, support for Harter’s (1978, 1981) model emerged. Athletes, who perceived positive and instructional feedback from their parent, indicated that they had heightened levels of self-perceptions as well as enjoyment and a desire to continue sport participation. For these athletes, a positive relationship developed with their parent that is maintained today. One athlete indicated that the experience was negative and feedback was perceived as pressuring and controlling, which resulted in lowered self-perceptions as well as enjoyment and a desire to continue in the sport. The child
currently views the relationship as uni-dimensional, existing through common sport interests only. Perceptions of feedback appeared to be mediated by age and gender. Athletes were open to parent-coach feedback during younger years, but were resistant to feedback during adolescence, especially if provided outside the sport arena. However, these adolescents were open to additional feedback and instruction when they requested it. Additionally, daughters viewed expectations from their father-coach as pressuring, whereas sons viewed expectations as an indication of their competence.
This index includes keywords for titles published by Kinesiology Publications in *Kinesiology Abstracts*, Volume 18, No. 1 (April 2005).

Each title in Part I is indexed using keywords selected and assigned from the *Sport Thesaurus*, published by the Sport Information Resource Centre (SIRC), located in Gloucester, 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

<table>
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## STATISTICS

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<td>Pearson Product-Moment</td>
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<td>Spearman-Brown Prophecy Formula</td>
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<td>Scheffe’s Method</td>
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<td>Standard Error of the Estimate</td>
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KEYWORDS

**ABNORMALITY**
Lovell, E. M. [D, Q-DE, RC, W, RPM, %] PSY 2356

**ACCELEROMETER**

**ACCIDENT**

**ACCOUNTABILITY**
Shanklin, J. R. [D, Q-DE, %, G] PE 4657

**ACQUIRED IMMUNODEFICIENCY SYNDROME**
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Hayes, B. T. [D, L-DE, MAV, TU, RC, G] PE 4671

**ADMINISTRATION**
Dumas, T. N. [D, H-DE, %] PE 4662

**ADOLESCENT**
Drury, B. E. [D, H, P-DE] PE 4670
McLaughlin, J. M. [D, Q-DE, U, RD] PSY 2357

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Mozisek, K. D. [D, DA-DE] PE 4678

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Foose, A. K. [D, I, Q-DE, %, G] HE 820
Myllykangas, S. A. [D, I-DE] HE 821
Stuckless, J. G. [D, I, Q-DE, RC, %] PSY 2358

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Robinson, J. P. [D, Q, TC-DE, AV, RM, G] PSY 2349

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Sheppard, V. A. [D, Q-DE, %] RC 586

**ANKLE JOINT**
Andre, P. H. [D, Q-DE, T, %] PSY 2348
Hunt, E. J. [D, I-DE, %] PSY 2355

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Tanaka, T. [D, TC, Q-DE, MAV, AV] PE 4675

**ANTIOXIDANT**
Breen, D. M. [D, J, I, IA, Q-DE, %, FA, RC, G] RC 581

**ARCHITECTURE**
Chan, P. P. [D, J, I, IA, Q-DE, %, FA, RC, G] RC 581

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Nagelkirk, P. R. [D, A, L-DE, %, T, RM, AV, TU, G] HE 831

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Tanaka, T. [D, TC, Q-DE, MAV, AV] PE 4675

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Lovell, E. M. [D, Q-DE, RC, W, RPM, %] PSY 2356

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Robinson, J. P. [D, Q, TC-DE, AV, RM, G] PSY 2349

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**AWARENESS**
Sule, A. M. [D, Q-DE, %] PE 4658

**BADMINTON**
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**BASKETBALL**
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Warkins, J. L. [D, I, C-DE] PE 4647

**BEHAVIOUR**
Hickmann, S. A. [D, Q, I-DE, %, R] PSY 2345

**BENCH**
Drury, B. E. [D, H, P-DE] PE 4670

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Sun, J. [D, A, MA-DE, AV, %, G] PE 4646
Tanaka, T. [D, TC, Q-DE, MAV, AV] PE 4675

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Wong, B. J. [D, L-DE, %, T, AV, RM, G] PH 1819

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Nagelkirk, P. R. [D, A, L-DE, %, T, RM, AV, TU, G] HE 831

**BLOOD VESSEL**
Wong, B. J. [D, L-DE, %, T, AV, RM, G] PH 1819

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**BODY IMAGE**
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Pearl, M. L.  [D, Q, AR-DE, RM, AV, TU, G] PE 4649

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Kemp, N. H.  [D, Q, A-DE, MR, AV, RPM, CS] PE 4677

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Watson, M. K.  [d-de] PE 4659

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Tanaka, T.  [D, TC, Q-DE, MAV, AV] PE 4675

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McCann, P. S.  [D, Q, I-DE, %] PSY 2362

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