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PART I: TITLES AND ABSTRACTS

The abstracts are reproduced as provided by the authors in their dissertations. They were not edited for uniformity of style.

PHYSICAL EDUCATION

ADMINISTRATION

Adams, Karen A. Measurement of student-athletes’ perceptions of their intercollegiate head coaches on conceptual, human, and technical managerial skills, 1997. Ed.D., Temple University (Michael W. Jackson). (291pp 3f $12.00) PE 3742

The purpose of the study was to construct a test to measure student-athletes’ perceptions of their intercollegiate head coaches on conceptual, human, and technical managerial skills. The objectives of the study were: (a) to formulate initial statements and test protocol, (b) to establish content validity through expert analysis and assessment of the initial test for reliability and usability, and (d) to field test the final form of the test and analyze the data collected. The result of the study was the development of a valid, reliable, objective, and a usable test. The test provides information to the head coach and administrator from the student-athletes’ perspective. The student-athletes have the most sustained and on going involvement with the coach. The test results provide both formative and summative information to the evaluation process. The study was designed to examine whether basketball head coaches of men’s teams differ from head coaches of women’s teams for the six factors affecting their timeout decisions. Subjects were 80 (men’s teams=40, women’s teams=40) head coaches employed in the NCAA Division I, II, and III varsity teams in New York and New England. A 6-factor scale developed by Duke and Corlett (1992) consisting of 24 items with a 5-point Likert response scale was used to test subjects. Using a one-way MANOVA analysis, no significant (p>.05) differences were found between the coaches of men’s and women’s teams for the six factors affecting their timeout decisions. The intercorrelations among the subscales were significant (p<.05) and ranged from .588 to .247; only the correlations of ‘Strategy’ with ‘Emotional State of the Players’ (r=.207) and with ‘Physical State of the Players’ (r=.015) were non-significant (Table r (78)=±.218, p>.05). The head coaches of men’s teams had the following similar rank-order with the head coaches of women’s teams for the importance of factors involved in their timeout decisions: (1) ‘Physical State of the Players’; (2) ‘Strategy’; (3) ‘Defensive Game Events’; (4) ‘Offensive Game Events’; (5) ‘Attentional State of the Players’; and (6) ‘Emotional State of the Players’. An alpha reliability analysis was also employed to test the internal consistency for each of the six subscales. The subscales of ‘Defensive Game Events’ (a=.841) and ‘Physical State of the Players’ (a=.709) had acceptable reliabilities. However, the subscales of ‘Attentional State of the Players’ (a=.606), ‘Emotional State of the Players’ (a=.603), ‘Offensive Game Events’ (a=.470), and ‘Strategy’ (a=.457) were found to have unacceptable reliabilities. In addition, implications for further research are suggested.

Chen, Li. Timeout decisions of basketball coaches of men’s and women’s collegiate teams, 1996. M.S., Springfield College (Kenneth A. Wall). (141pp 2f $8.00) PE 3747

Feeney, Tara B. Perceptions of high school student-athletes of coaching competence, 1996. M.S., Springfield College (Barbara E. Jensen). (109pp 2f $8.00) PE 3752

This study was designed to determine the perceptions of high school student-athletes of coaching competence of certified coaches and non-certified coaches for three different coach/athlete gender groups: male coach/male athlete; female coach/female athlete; and male coach/female athlete. A total of 80 high school athletes from
Connecticut (N=43) where coaching certification is required, and Massachusetts (N=37) where coaching certification is not required, voluntarily participated in the completion of the Coaches Evaluation Instrument (CEI) (Docheff, 1989). Four varsity interscholastic teams were included: girls’ and boys’ basketball, boys’ wrestling, and girls’ gymnastics. The CEI is a 31-item questionnaire consisting of the following six subscales and one global question: ‘communication’; ‘knowledge of sport’; ‘methods and organization’; ‘management of players’; ‘motivation’; ‘professional, ethical, and personal behaviors’; and the global question, ‘coaching effectiveness’. A total of seven independent groups t-tests (certification status) and seven independent groups one-way analyses of variance (ANOVA) (coach/athlete gender group) were calculated for the six subscales and the one global question. Significantly (p<.05) higher mean ratings were found for non-certified coaches than certified coaches for all the subscales except ‘knowledge of sport’. Also, significantly (p<.05) higher mean ratings were found for the male coach/male athlete and the male coach/female athlete gender groups than the female coach/female athlete gender group in all six subscales and the global question. Significant findings for the non-certified coach were due, in part, to some non-certified coaches who had attended various individual coaching clinics.

Hayward, Sharman L. Directors of athletics’ attitudes toward women, 1996. M.S., Springfield College (Susan E. Langlois). (132 pp 2f $8.00) PE 3758

The attitudes of NCAA directors of athletics (N=119) toward women in non-traditional roles were examined. A 2 X 2 ANOVA was used to compare the directors of athletics’ scores on the Situational Attitude Scale Women - 4 (Form A) (Shueman & Seldacek, 1977). Significant (p<.05) main effects were found for both gender and division. A significant (p<.05) interaction was also revealed. An ANOVA was computed to compare gender differences on the percentage of female coaches hired; no significant (p>.05) difference was found. No relationship was found between percentages of female coaches hired and directors of athletics’ scores on the SASW-4 (Form A). However, it was shown that female directors of athletics have a more positive, liberal attitude toward women in non-traditional roles than male directors of athletics. Division III directors of athletics’ attitudes toward women in non-traditional roles were more conservative than directors of athletics’ attitudes at Divisions I and II. These gender and division differences could have serious implications, making it more difficult to increase the number of women in coaching and administration.


This thesis traced the development of National Collegiate Athletic Association (NCAA) freshman eligibility from 1905 through the 1996-97 academic year. Data were collected from historical documents, books and previous studies. Also, the files of the National Collegiate Athletic Association (NCAA) were reviewed, including minutes of business and committee meetings, NCAA convention proceedings, NCAA periodicals, personal interviews, reports and many other bulletins and information sent out from the NCAA national office. The debate over freshman eligibility in intercollegiate athletics has endured for over a century. In an attempt to end the controversial opinions which surround the academic deficiencies of student-athletes and questionable academic practices of collegiate institutions the NCAA has instituted initial-eligibility standards. From 1905 until the late 1960s most schools barred freshman from varsity competition. The first nationally binding rule for initial-eligibility was the 1.600 grade-point average rule which was replaced a few years later by the 2.000 rule. Current initial-eligibility standards include a sliding index scale of grade-point average in 13 core courses coupled with a qualifying SAT or ACT score.

Lee, Karin A. An analysis of unsportsmanlike behavior and ejections in the member high schools of the North Carolina High School Athletic Association, 1997. M.A., University of North Carolina at Chapel Hill (Edgar W. Shields, Jr.). (69 pp 1f $4.00) PE 3760

This study solicited the opinions of three-hundred and twenty-one athletic directors on unsportsmanlike behavior with an emphasis on ejections. A forty item questionnaire was constructed and mailed to all athletic directors in the member schools of the North Carolina High School Athletic Association. The questionnaire queried the athletic directors about sportsmanship policies within the high schools, unsportsmanlike behavior and actions taken by the schools when unsportsmanlike behavior resulted in ejections and with the North Carolina High School Athletic Association's policy and records on ejections. In conclusion, three recommendations were made to try and decrease the problem of unsportsmanlike behavior and ejections. The first recommendation was to implement a sportsmanship committee. The second was an evaluation by coaches and officials of all sporting events, especially soccer, during the sport season and a full report at the end of the season. The third recommendation was mandatory sportsmanship policies for all schools in the membership of the NCHSAA. These recommendations, along with the policies of the NCHSAA, unsportsmanlike behavior can decrease in the North Carolina high schools.
The relationship between perceived level of coaching staff cohesion and win/loss percentage was tested for the head and assistant field hockey coaches of intercollegiate field hockey teams. At the conclusion of the regular season, coaches completed a revised version of the Multidimensional Sport Cohesion Instrument (MSCI) (Yukelson, Weinberg, & Jackson, 1984) and reported win/loss record through a Coaching Questionnaire. Four subscales of cohesion were assessed: ‘attraction to the group’, ‘quality of teamwork’, ‘unity of purpose’, and ‘valued roles’. The differences in the four subscales of the revised version of the MSCI (Yukelson et al., 1984) were analyzed using a repeated measures MANOVA. No significant (p>.05) differences were found between the mean vectors for the head and assistant field hockey coaches on the four subscales of the MSCI. Head and assistant field hockey coaches have similar perceptions of coaching staff cohesion. Pearson product-moment correlation coefficients were used to determine the relationship between the perceived levels of coaching staff cohesion and win/loss percentage. Win/loss percentage was not significantly (p>.05) correlated with the perceived level of cohesion of the coaching staff. Teams of coaches who were more cohesive were not more successful when win/loss percentage was examined.

Wang, Yao T. A comparison of the coach leadership behavior preferred by male and female track and field athletes, 1996. M.S., Springfield College (Betty J. Mann). (108pp 2f $8.00) PE 3781

The study was designed to identify the coach leadership behaviors preferred by male and female track and field athletes. A total of 90 (male=45, female=45) Division III college level track and field athletes from Western Massachusetts served as participants. Five, two way 2 x 3 independent groups factorial analyses of variance were used to compare gender and events (running, jumping, and throwing) differences in preferred leadership behaviors of coaches on each of the following five subscales of the preferred version of the Leadership Scale for Sports (LSS) (Chelladurai & Saleh, 1980): ‘Training and Instruction’, ‘Autocratic Behavior’, ‘Democratic Behavior’, ‘Positive Feedback’, and ‘Social Support’. Using a Newman-Keuls post hoc analysis, a significant (p<.05) main effect for both gender and events was found in the ‘Autocratic Behavior’ subscale score. Male athletes preferred their coaches to have ‘Autocratic Behavior’ more than female athletes. Running event athletes preferred their coaches to have ‘Autocratic Behavior’ more than throwing event athletes. In addition, regarding the ranking of the five factors, male and female track and field athletes were found to prefer their coaches to have leadership behaviors according to the following descending order: ‘Positive Feedback’, ‘Training and Instruction’, ‘Democratic Behavior’, ‘Social Support’, and ‘Autocratic Behavior’.


This study chronologically documents and depicts the history of the governance of women’s intercollegiate athletics prior to the NCAA “takeover”. The study was divided into four time frames: 1941-1975, 1976-1978, 1979-1981, and finally 1982, each representing unique changes in
the structure of the AIAW. The beginning of the story was told in chapter I and it documents the early years of women’s intercollegiate athletic governance. The primary resource utilized for chapter I was the dissertation completed by Virginia Hunt in 1976. The time frame stemming from 1976-1978 was labeled the “growing pains” years because there was vast internal and external growth and change which greatly affected the AIAW. The 1979-1981 time frame was consumed with organizational and divisional restructuring, as well as the organization’s fight for survival. To the men and women who loved and lived the “educational model” of intercollegiate athletics, this period was both crucial and consequently devastating. The final period of 1982 involved the difficult choice to close the AIAW doors, and the subsequent demise of the women’s intercollegiate athletic governance association. Literature pertaining to the governance of AIAW and archival materials from the University of Maryland were examined. Personal interviews were conducted with seven AIAW Presidents and two Executive Directors.

PEDAGOGY

August, Jonathan A. Teaching, learning and evaluating clinical skills in athletic training, 1997. “A research paper” M.A., Ball State University (Thomas Weidner). (33pp 1f $4.00) PE 3745

Quality clinical instruction is one of the primary essentials for professional preparation in athletic training. Competency based education and evaluation implemented through an understanding of the domains of learning, can aid clinical instruction and subsequent professional performance. This paper will examine the importance of establishing educational goals and objectives, the significance of understanding cognitive, psychomotor and affective domains of learning, and the merits of various methods used in evaluating performance. Emphasis must be placed on consistency and standardization in clinical education in athletic training professional preparation programs.

Babington, Cynthia A. Traditional and non-traditional predictors of academic success of freshmen student athletes at Indiana University, 1996. P.E.D., Indiana University (Clinton H. Strong). (153pp 2f $8.00) PE 3746

Traditional and non-traditional variables were collected for freshmen student athletes who entered in the Fall of 1992. These variables included: standardized test scores, high school rank, high school core GPA as determined by the provisions of Proposition 48, first semester and academic year grade point averages, and non-cognitive variables collected via the Non-Cognitive Questionnaire and an information survey. Student athletes were divided by academic success and within subgroups based on gender, race, receipt of a scholarship and participation in a revenue sport. The results of the study indicated that a combination of traditional and non-traditional variables was effective in discriminating academic successors from non-successors. Equations that combined traditional and non-traditional variables classified better than equations that included only traditional predictors. Support of academic plans was an important variable in every significant equation. Female student athletes and revenue student athletes were classified most successfully when only non-traditional variables were included.

Darracott, Shirley H. Individual differences in variability and pattern of performance as a consideration in the selection of a representative score from multiple trial physical performance data, 1995. Ph.D., University of Georgia (Ted A. Baumgartner). (124pp 2f $8.00) PE 3749

The primary purpose of this study was to investigate some assumptions based on classical test theory that have been considered when representative scores were selected and reliability estimated using multiplie trial data. Specifically, it has been assumed that (a) pattern of performance is the same for all subjects across trials, (b) error scores are normally distributed around the mean score, (c) variance of the errors of measurement is the same for all subjects, and (d) mean score estimates are more reliable that best score estimates. A secondary purpose was to examine the effectiveness of the cosine clustering method for summarizing variability and pattern of performance across trials. Previously collected data sets containing repeated measures of shuttle run and long jump performances for 262 subjects were analyzed. Additional repeated measures data utilizing multiple observers were collected for 24 subjects on both tests to partition the undifferentiated error component into measurement error and within-subject variability. Within-subject variability accounted for 94 or more of the total error variance. Skewness coefficients and standard deviations of the 262 within-subject score distributions were plotted to examine the normality and variability of the distributions. More within-subject score distributions were skewed toward poor performances than toward good performances for both data sets. A large range in standard deviations of the within-subject score distributions was found. A cluster analysis using the cosine similarity measure and within-group average linkage was performed to investigate and summarize the differences in within-subject variability and pattern of performance across trials. For each trial of each test at least one cluster profile depicted an atypical poor performance. Examination of the variability of the within-subject score profiles for each cluster, and Tukey’s test for nonadditivity and alpha if item-removed coefficients revealed that the clustering method was effective for creating subgroups that were more homogeneous in pattern and variability than the whole group. Finally, reliability estimates were computed.
Within day reliability coefficients exceeded .99 when within subject variability was removed from the error variance term. Stability estimates for best score were comparable to the stability estimates for the mean Index words: Within-subject Variability, Repeated Measures, Physical Performance Tests, Cluster Analysis, Classical Test Theory.

DiLorenzo, Peter A. *Status of physical education basic instruction programs at selected two-year colleges in the United States*, 1997. M.Ed., Temple University (Thomas Evaul). (120pp 2f $8.00) PE 3751

The purpose of this study was to determine the status of Basic Instruction Programs (BIPs) at two-year institutions of higher education throughout the United States. A questionnaire was designed to collect data that would measure the status of basic instruction programs relative to organization, philosophies/program objectives, staffing patterns, scope courses offered, grading, physical education requirements, funding, and curriculum. After compiling data from 149 questionnaires, selected respondents from the returned questionnaires were contacted for interviews. The following is a summary of the findings: 1. The BIP was found to exist in 82% of two-year institutions. 2. The BIP is under the coordination of the department chairperson in 71% of two-year institutions. 3. A written statement of philosophy or program objectives for the BIP existed in 63% of two-year institutions. This philosophy was last reviewed and updated one to two years ago in 57% of two-year institutions. 4. The most common staffing pattern among two-year institutions is part-time instructors with no coaching or other extracurricular responsibilities. The second most common staffing pattern among two-year institutions is full time instructors with coaching or other extracurricular responsibilities. 5. Fitness activities was the most common type of course offered in the BIP followed by individual sports and team sports (99%). The most popular BIP course was weight training (60%). The BIP was required in 66% of two-year institutions. Two credits was the most common requirement. 7. All of the two-year institutions surveyed use the regular college budget (government appropriations and tuition money) as their primary source of funding. Other sources of funding included student fees in 28% of two-year institutions. 8. Curriculum guides were found in 91% of two-year institutions. The majority of curriculum guides contained goals and objectives, content outlines, and evaluation or grading plans. 9. It was determined that 76% of two-year institutions share their facilities with community groups, and 89% charge a fee for this. In addition, 94% believe this sharing does not limit the BIP course offerings. Five BIP coordinators and six BIP faculty were interviewed. Few differences were revealed in the interviews between the BIP coordinators and faculty in the five institutions. Both groups of respondents indicated the same responses to all questions except those in the areas of screening and facility sharing. Four of the five BIP coordinators indicated screening for enrollment in BIP courses while all faculty indicated there was no screening. All BIP coordinators revealed the sharing of facilities does not interfere with BIP course offerings while four of six interviewed faculty indicated this sharing does interfere. The most problematic interference occurred in the evening or on weekends.

Lewis, Janet E. *Student-athlete perceptions regarding the academic support services at the University of North Carolina-Chapel Hill*, 1996. M.A., University of North Carolina at Chapel Hill (John Billing). (89pp 1f $4.00) PE 3761

The purpose of this study was to determine current and future needs for academic support services of student-athletes at the University of North Carolina Chapel Hill based upon the student-athlete’s perceptions. Data was collected using a questionnaire distributed via team meetings in the 1996 Spring semester. Three hundred and ninety three questionnaires were completed out of a potential population of 645. Overall, the academic support services were viewed very beneficial. Those receiving the highest ratings suggested that tutors abided by the honor code, the career planning services were useful and the need for student program offices. Men and revenue sport athletes believed the primary concern of the Academics Center was to merely pass their courses. First year students rated the Freshman Orientation program lower than the other students. Among the recommendations were to: purchase additional computers, add an additional staff member and to reevaluate the Freshman Orientation program.

Tiernan, Mark. *The coaching philosophy of Dr. Don Shondell*, 1997. “A research paper” M.A., Ball State University (Valerie Wayda). (89pp 1f $4.00) PE 3778

A coaching philosophy is important because it guides one’s actions. So, a healthy philosophy will help a coach to make appropriate decisions. Therefore, by documenting a successful coach’s philosophy other coaches will be able to gather information and ideas for their own philosophy. The primary purpose of this study was to identify the coaching techniques and philosophy of the second winningest men’s volleyball coach in NCAA history. Coach Shondell has coached Ball State University men’s volleyball teams for the past thirty-three years. Coach Shondell has compiled a 732-254-6 record for a .741 winning percentage and was selected by the book titled, *America’s Greatest Coaches*, as the second-best men’s volleyball coach of all-time. In 1980 he was also named Ball State University’s School of Physical Education Outstanding Teacher of the Year. Before data collection began, the experimenter was trained to use the Coaching Behavior Assessment System (CBAS). Next, the researcher observed
and recorded four practice sessions using the CBAS. Following the observations, coach Shondell, two current players, and his assistant coach were interviewed. Topics discussed included motivation of athletes, teaching techniques, physical conditioning, team management, coaching motives, the coach-player relationship, as well as questions pertaining to behaviors observed using the CBAS. Through observations, interviews, and previous literature about coach Shondell, a philosophy emerged from six themes; specifically, practice is his domain, staying flexible and never feeling like he knows it all, trying to be positive with people, the relationship with his players is what’s really important, trying to help athletes make their own decisions, and helping his players mature.


Executive directors from the 50 state athletic associations and the District of Columbia were contacted to determine the requirements to coach at the high school level in each state of the United States. The executive directors were asked to provide their opinions on these requirements and possible educational courses that should be completed in order to enhance the chances of becoming a competent coach. Descriptive statistics and tables were used to describe the executive directors’ responses and opinions on the following: the state coaching certification requirements, the requirements for producing competent coaches, shortages of full time coaches, playing experience, apprenticeships and recommended course work for prospective coaches. Descriptive paragraphs were written to describe the current coaching requirements, use of volunteer coaches and the continuing education requirements for each state. The results of this study indicate that there is not a specific curriculum that must be completed by prospective coaches in each state in the United States. The majority of state athletic executive directors believe their state requirements are adequate in attracting competent coaches. Course work in sports medicine, organization and administration, psychology of sport, supervised coaching and philosophy of sport are the most recommended for individuals who wish to pursue a career in coaching. The executive directors indicated that an apprenticeship program would be beneficial in developing prospective coaches.

DANCE


The dissertation presents the history of tap dance, also known as clog dance, as it was taught as an activity within Physical Education during the decades 1920-1950. Central to this study is the description and analysis of nineteen books written by and for tap dance teachers in schools and colleges. These books were widely used by tap dance teachers throughout the United States during the decades under study. and contain justifications for the inclusion of tap in education, explanations of the fundamental movements of tap, examples of solo and group choreographies used for class and performance, and photographs and drawings of dancers. Biographical portraits of the twelve authors of the nineteen books focuses on their professional achievements and their contributions to the promotion and spread of tap dance in education. Data contained in the nineteen tap dance manuals is supplemented by information from articles about tap dance in education published in Physical Education journals, primarily *Journal of Health and Physical Education and Mind and Body*. Course catalogs provided record of college and university tap dance courses. Documentation of college tap dance performances and other tap/clog activity was gleaned from yearbooks and special archival collections at various institutions. Additional information was obtained through personal and telephone interviews and correspondence with former tap dance students and/or tap dance teachers, including Hermine Sauthoff Davidson, author of *Tap Dance For Fun* (1941). The dissertation addresses issues of racism and Eurocentrism found throughout the literature of tap dance in education. Denial of the African-American origins of tap dance by tap dance teachers/authors is documented. Examples of blackface minstrel imagery contained in the tap dance manuals and other literature are noted and discussed. Reasons for the eventual exclusion of tap dance from the Physical Education curriculum are proposed and discussed, including; 1) elitist, racist, and Eurocentric attitudes toward tap dance; 2) the effects of World War II on the Physical Education curriculum and teaching staff; 3) the rise of modern dance to the dominant position of dance styles taught in the educational setting; and; 4) the decline of the popularity of tap dance in the Hollywood movies and Broadway musicals.

De Spain, Kent S. *Solo movement improvisation: constructing understanding through lived somatic experience*, 1997. Ed.D., Temple University (Edrie Ferdun). (375pp 4f $16.00) PE 3750
This study was designed as an investigation into the nature and processes of movement improvisation (dance improvisation) within the modern or post-modern dance traditions, primarily using a constructivist approach to the gathering of source material and the development of theory. Because of the scarcity of previous academic research in this area, the study sought out the “authority” of experienced practitioners of the form, relying on them to translate their real-time experiences during timed sessions of solo improvising into verbal (audiotaped) reports. Audiotaped reports were transcribed and interpreted in an effort to identify common and unique experiences. The participants were then given an opportunity, through focus groups, to reflect on these experiences. Using the session reports, the transcripts of the focus groups, and a series of personal interviews conducted with well-known improvisers (Steve Kriekhaus, Simone Forti, Lisa Nelson, and Steve Paxton) as sources, the author proceeded to identify and discuss common issues of improvising and then construct a theoretical model for understanding the material and processes involved.


This study was designed to examine whether and how certification granting teacher preparation programs in university dance departments are preparing students for entering teaching in an educational climate based on ten contemporary themes of reform in education. The study also addressed barriers impeding the redesigning of curricula and practices in dance teacher preparation. The study surveyed seniors, alumni, and program coordinators from selected dance teacher certification programs. Questionnaires focused on programmatic changes in each program in relation to implementing national reforms; programmatic changes included current and proposed curriculum adaptations and instructional approaches/strategies. Further data emerged from written documentation from these institutions. The study was further informed by professionals outside the institutions—the field-specific voices—including current literature in the field, state educational regulations and curricular frameworks, state-published articles, and conference presentation’s at the state, district and national levels. Reforms were found to be reflected in the dance certification programs; predictably, some reforms were more fully integrated than others. However, even if the faculty know what the reform measures call for, students generally do not. When students are aware of the reforms’ titles, they are not being made aware of the ideas being propounded by the reform initiatives and, thus, may not apply the reforms in K-12 dance education upon graduation. The results of this study reveal information about issues such as inconsistent understanding of current reform, little interfacing between schools of education and dance departments, and the relationship between K-12 schools and university programs. The study identifies obstacles to implementing change in teacher preparation which must be confronted and resolved before dance can embrace and be embraced by the total education community. As a field, we need to apply the recommendations being made in general education reform to dance education and take appropriate steps to make them operational. Future researchers can draw from the results to help design and construct an expanded dance education curriculum that relates more concretely to the challenges of and issues in contemporary education.


The purpose of this dissertation was to develop and incorporate a valid and reliable measurement protocol to quantify improvement in pelvic tilt (PelT) and lumbar lordosis (LL) alignment from somatic training. The first series of studies assessed whether PelT and LL were valid and reliable measures of lower spine and pelvic alignment. These studies also determined a tempo for timing execution of dynamic movements and checked for a testing effect from repeated trials in a given day. The next two studies examined the effect of dance technique training and somatic training on PelT and LL during quiet stance and dynamic dance movement. The final study utilized a multiple baseline design to assess the effect of somatic training on PelT and LL during quiet stance and dynamic dance movement. PelT and LL were found to be valid measures during static assessment of habitual and extreme ranges of lumbar-pelvic motion, since the results demonstrated the anticipated increase or decrease from habitual standing. A challenging yet executable tempo (90 beats per minute) was chosen to maintain consistent timing execution across dynamic conditions. PelT and LL were stable across repeated trials on a given day. Test retest reliability appears to be limited by day-to-day PelT and LL variability. There were no improvements found in PelT and LL with particular classes of dance technique training. One subject actually had a higher degree of posttest lumbar lordosis during quiet stance and a dynamic condition (e.g., by 3.9° and 4.3° respectively). Improvements in LL were indicated with somatic training for all three subjects in almost all conditions (e.g., for Subject 1/Condition 1: 45.2±7.1° pre- vs. 32.6±3.4° post). A multiple baseline assessment revealed measurable LL improvements for almost all subjects. An independent (sometimes inverse) relationship between PelT and LL was indicated with each
subject. The presence of a testing effect and day-to-day variability suggest that future studies should continue to use multiple repeated measures, while also controlling the effect of conditions, use of same foot position tracing after training, and arm position during conditions.

Roach, Catherine A. *Nine narratives: an intermingling of collaboration and body narrative in a dance-making process*, 1996. M.S., University of Oregon (Sherrie Barr). (107pp 2f $8.00) PE 3770

I established five distinctive dance rehearsal groups which, with unique rehearsal interactions enhanced by collaboration, approached the flattened end of a hierarchic spectrum. Adopting the feminist practice of oral narrative as a methodological guide, I explored a dance-making process which developed the personal narratives of eight dancers and myself. Employing body narrative as the primary mode of communication, we shared our stories with each other. As director dancer, I was able to expand my own creative voice by intermingling collaboration and body narrative within each process. Each person in each group was a subjective, decision-making individual who informed our process to such an extent that duplication of the project would result in different dances. The thesis concert, *Nine Narratives*, led from the intimate settings of two solos, a duet, and a trio, to the communal atmosphere created in a group dance.

Smith, Colleen A. *Collaboration: a dancer’s phenomenological study of the combined vision in art-making*, 1997. Ph.D., Texas Woman’s University (Penelope Hanstein). (189pp 2f $8.00) PE 3775

Collaboration implies a synthesis of ideas, a synergistic integration of elements, in which the total effect is greater than the sum of the individual effects. As people collaborate they make decisions, both conscious and intuitive, and develop patterns of working together. These patterns often evolve into very different working relationships with sometimes distinct and sometimes changing social structures. Artists who collaborate make the decision to work together for various reasons. Their motives may ultimately rule the nature of the collaboration and have a marked impact on the work of art. Although the term collaboration appears frequently in arts literature, the critical characteristics that define collaboration as a concept and as a process are not clearly articulated. The purpose of this study was to engage in an in-depth philosophical investigation of collaborative art-making in order to develop an explanatory theory which describes artistic collaboration. The development of the theory is based on the collaborative process involved in dance-making as a particular mode of rendering in art-making. An important avenue to gain fundamental knowledge concerning art-making is to seek information from those who make art. Because the creative process embodied in artistic collaboration deals with human phenomena, qualitative research methodology from the human sciences was utilized to obtain knowledge and understanding of collaboration. Phenomenology provided a way to elucidate essential structures of the world of collaboration with descriptive accounts. In order to develop this phenomenological understanding of collaboration, a series of interviews were conducted to obtain knowledge concerning specific instances of collaborations. The phenomenological data from these descriptions, along with theory from the social sciences, was utilized to complete the final step of theory generation. The theory determines that collaboration is like a journey with no road map to show the way. The complex nature of collaboration does not allow for a neatly packaged configuration of features demonstrating the true or best process. It is more like a labyrinth of interlacing elements. There are, however, certain concepts and ideas that can assist artists as they proceed to develop their own unique world of collaboration. This philosophical theory defines and explains the phenomenon termed artistic collaboration as a concept and process, providing a dancer’s perspective on the combined vision in art-making.

Truitt, Edward R. *Sarah’s dance: an original performance piece integrating dramatic dance and text*, 1996. M.S., University of Oregon (Jennifer Craig). (131pp 2f $8.00) PE 3779

In my choreographic investigation I explored ways in which human emotion can be expressed through the integrated use of dance and spoken text. I created and produced a dramatic performance with an original plot exploring selected human concerns and emotions. The drama was advanced through equal emphasis on, and integration of, dance and scripted text. The process of creating and producing *Sarah’s Dance* was evaluated through analysis of the three main roles I undertook as playwright, choreographer and director. If dance and text are carefully interlaced, they can provide an audience with an enhanced theatrical encounter, and potentially, an intense cathartic experience. Through the integrated use of movement and words, it was the goal of Sarah’s Dance to communicate the human concerns of loss, grief and forgiveness.

Vaccaro, Kimberly A.C. *Moved by the spirit: illuminating the voice of Mura Dehn and her efforts to promote and document jazz dance*, 1997. Ed.D., Temple University (Sarah Hilsendager). (310pp 4f $16.00) PE 3780

This dissertation investigated the writings of Mura Dehn, an artist who spent a lifetime promoting and documenting African-American social dance and jazz dance as they existed between 1920 and 1940, a time frame she referred to as the “Golden Age of Jazz.” According to Mura Dehn jazz dance, though largely marginalized by Eurocentric biases
BIOMECHANICS

Gagnon, Jeff L. Mechanical work and kinematic differences between overground and treadmill walking. 1996. M.S., Springfield College (H. Joseph Scheuenzuber). (112pp 2f $8.00) PE 3754

The purpose of this investigation was to determine if differences in mechanical work, stride length, stride rate, duration of single limb support, and duration of double limb support exist between overground and treadmill walking when the correct coordinate systems were utilized. Ten clinically normal male and female subjects participated in this investigation. Kinematic data were recorded for the left side of the body during both walking conditions. From the kinematic data, internal mechanical work, stride length, stride rate, single limb support time, and double limb support time values were calculated. The mean stride rate value for the treadmill condition (0.92±0.06 strides·s⁻¹) was significantly (p<.05) greater than the overground walking condition (0.92±0.06 strides·s⁻¹). However, this may have been the result of the inability to equate the walking velocities of the two conditions exactly. No differences for the other dependent variables were found between overground and treadmill walking. The results of the study suggested that the mechanical energy values obtained while walking on a treadmill were similar to those obtained while walking overground at a similar velocity.

Griffith, Gareth E. An electromyographic comparison of seated and standing up-hill cycling. 1997. M.S., University of North Carolina at Greensboro (Kathleen Williams). (98pp 2f $8.00) PE 3757

The primary question addressed in this paper is what differences in muscle activity patterns exist between seated and standing cycling positions when pedaling up a constant grade at a constant speed and cadence? A secondary question is what differences in muscle activity patterns exist at two different cadences when pedaling up a constant grade at a constant speed and position? Electromyographic (EMG) activity was monitored with surface electrodes to assess muscle activity in rectus femoris (RF), vastus lateralis (VL), biceps femoris (BF), gluteus maximus (GM), gastrocnemius (GC), tibialis anterior (TA), rectus abdominus (RA) and erector spinae (ES). Participants (n=10) pedaled a road bicycle on an inclined treadmill (10 % grade) at a low (52.6±0.47 rpm) and a high (80.8±0.61 rpm) cadence in both seated and standing positions at a constant speed (21.1±0.10 km/hr). Measures of EMG activity calculated per pedal revolution included onset and offset timing, duration of activity, timing of peak EMG amplitude and peak EMG amplitude. Standing increased overall muscular activity in up-hill cycling compared to a seated position. Measures of overall muscular activity (i.e., duration and peak EMG amplitude) indicated that VL, GM and RA were significantly more active in standing position compared to a seated position. RF displayed significant interaction effects between position and cadence but showed more overall activity in a standing position regardless of cadence. BF displayed a significantly greater duration of activity but had no significant change in peak EMG amplitude. TA, RA and ES displayed no significant change in overall muscular activity. In regard to cadence, TA was the only muscle to show a significant increase in measures of overall muscular activity at a high cadence.


The purpose of this study was to identify combinations of basket height and shooting distance which allow fourth grade children to use a mature movement pattern to produce the combination of release height, projection velocity, and entry angle which will lead to a successful
free throw shot. Subjects were 36 fourth grade children having limited basketball experience. During a six-week training period, subjects were taught to perform the mature basketball shooting pattern and given opportunities to practice the skill. Subjects were matched according to standing reach height and randomly assigned to a basket height group shooting at either 8, 8.5, or 9 ft. Each subject was videotaped from the frontal and lateral views shooting five shots at each of three free throw distances: 8, 10, and 12 ft. A checklist was employed to evaluate each shot for performance technique during the data collection. Data from the lateral view camera were digitized using the Peak5 Performance System. Only those shots meeting the minimum velocity and form criteria were included in the analysis. For shots to represent a mature shooting pattern, the criteria of a release above the head, a one-handed release, and either elbow in alignment with the shoulder or backspin on the ball had to be met. A two factor analysis of variance with repeated measures on one factor, shooting distance, was used to statistically analyze the data. A significant difference for the main effect of distance was found at the p<.05 level. A Newman Keuls post-hoc test revealed significant differences between the 8 and 12 ft distances and between the 10 and 12 ft distances, but not between the 8 and 10 ft distances. Results of this study indicate that basket height does not significantly influence free throw shooting technique. Shorter free throw shooting distances, however, allow fourth grade children to maintain a mature shooting pattern while shooting foul shots.

This study was designed to determine the difference in Q angle in an unloaded and loaded condition as well as the relationship between this Q angle change and eccentric quadriceps strength. Subjects (N=30) were healthy adult females with no diagnosed dysfunction of the right knee. Video recording was used to collect the kinematic data for Q angle measurement. Strength data were obtained using a KinCom isokinetic dynamometer. Appropriate video frames were selected to determine an unloaded and loaded condition during a jogging stride. Unloaded and loaded Q angles were measured using a repeated digitized images. The difference between and unloaded and loaded Q angle was determined using a repeated measures t-ratio. The change in Q angle was calculated and correlated with eccentric quadriceps strength. The mean unloaded Q angle was significantly (p<.05) greater than the mean loaded Q angle. A significant (p<.05) positive correlation was found between Q angle change and relative torque. Quadriceps strength may be a predictor of Q angle change during loading but mechanics must also be analyzed. The change in Q angle during loading and the relationship to quadriceps strength appeared to be representative of normal knee mechanics during movement.

Simeone, Mark A. The acceleration phase in the baseball pitching sequence, 1997. M.S., Springfield College (H. Joseph Scheuchenzuber). (82pp If $4.00) PE 3774

Maximal external rotation, average and peak internal angular velocity of the shoulder during the acceleration phase of the pitching sequence, and linear ball velocity at pitch release were analyzed for 41 college baseball pitchers. Average and peak internal angular velocity of the shoulder, and linear ball velocity were hypothesized to have significant positive relationships. Each subject threw fast balls at maximum velocity to a fixed strike zone. A high speed motion picture camera produced cinematographic images on film that were later replayed and digitized to determine positional shoulder joint measurements. Linear ball velocity was measured by the rectangular coordinates of the baseball for each of the 4 film frames following the separation of ball and hand. A Pearson product-moment correlation coefficient was computed for each of the variables. No statistically significant (p>.05) relationships were found among maximal external rotation of the shoulder, average internal angular velocity of the shoulder, and linear ball velocity at pitch release. No statistically significant (p>.05) relationship was found between maximal external rotation of the shoulder and peak internal angular velocity of the shoulder. However, a statistically significant (p>.05) relationship was found between average and peak internal angular velocity of the shoulder. No statistically significant (p>.05) relationship was found between peak internal angular velocity of the shoulder and linear ball velocity at pitch release. College baseball pitchers who have lower average internal angular velocity of the shoulder tend to have lower peak internal angular velocity of the shoulder, whereas, those who have higher average internal angular velocity of the shoulder tend to have higher peak internal angular velocity of the shoulder during the acceleration phase of the pitching sequence.


The purpose of this investigation was to determine the effect that placement at 70%, 80%, and 90% of the moment limb length would have on isometric force measurements and reliability of measures taken with a Nicholas Manual Muscle Tester on two testing days. Thirty-one college women (ages 18-24) performed maximal isometric knee extensions and shoulder abductions on both dominant and nondominant sides of the body. Each subject performed...
develop preventative interventions to reduce injury rates. Needed to continue the investigation of intrinsic risk factors athletes (Petrie, 1992). Research using multiple variables is informative interpretation of the Life Events Survey for Collegiate sample size, lack of motivation of the athletes and subjective influences on the lack of mean differences were the small scores were found in the intrinsic risk factors measured between injured and non-injured athletes. Possible influences on the lack of mean differences were the small sample size, lack of motivation of the athletes and subjective interpretation of the Life Events Survey for Collegiate Athletes (Petrie, 1992). Research using multiple variables is needed to continue the investigation of intrinsic risk factors to better understand the complexity of sports injury and to develop preventative interventions to reduce injury rates.

Intrinsic risk factors measured during a preseason screening included cardiorespiratory endurance, flexibility deficits, and negative life stress. Test-retest reliability coefficients for shoulder abduction ranged from 0.91 to 0.96 and from 0.92 to 0.98 for knee extension. Test-retest reliability coefficients for shoulder abduction ranged from 0.87 to 0.96 and from 0.87 to 0.96 for knee extension. INDEX WORDS: Nicholas Manual Muscle Tester, Isometric Force, Moment Limb, Knee Extension, Shoulder Abduction

SPORTS MEDICINE

Allen, Kristen L. Differences in intrinsic risk factors for injured and non-injured athletes, 1997. M.S., Springfield College (Charles J. Redmond). (124pp 2f $8.00) PE 3743

The investigation was designed to determine whether differences existed in intrinsic risk factors between injured and non-injured freshman football players. Intrinsic risk factors are physiological and psychosocial characteristics which may predispose an athlete to injury. Subjects from the freshman football team at Springfield College (N=22) were divided at the end of the season into two groups, injured and non-injured, dependent upon whether they sustained an injury during the football season. Intrinsic risk factors measured during a preseason screening included cardiorespiratory endurance, flexibility deficits, and negative life stress. Independent groups t-tests were used to analyze differences in intrinsic risk factors between groups. No significant (p>.05) differences in mean scores were found in the intrinsic risk factors measured between injured and non-injured athletes. Possible influences on the lack of mean differences were the small sample size, lack of motivation of the athletes and subjective interpretation of the Life Events Survey for Collegiate Athletes (Petrie, 1992). Research using multiple variables is needed to continue the investigation of intrinsic risk factors to better understand the complexity of sports injury and to develop preventative interventions to reduce injury rates.

Cook, Dane B. A description of leg muscle pain and the effect of acetylsalicyclic acid on the perception of pain and effort during and after cycle ergometry, 1995. M.A., University of Georgia (Patrick J. O’Connor). (85pp 1f $4.00) PE 3748

Pain during exercise has rarely been investigated. All studies of pain during exercise have failed to examine the pain of muscle contraction itself, primarily in an attempt to examine post exercise analgesia (Droste et al., 1990; Padawer and Levine, 1992). There is a need to examine muscular pain during exercise. Indeed, the pain of the exercise is as likely to contribute to the post exercise analgesia as that of an initial experimental pain stimulus. Further, experimental pain in many instances is not likely to generalize to muscle pain. The potential role of muscle pain in human performance also is poorly understood. Thus, knowledge about the pain experienced during exercise or competition could provide valuable information to both regular exercisers and athletes. Insight into muscle pain experienced during exercise would be especially beneficial to those individuals who refrain from exercise because it is or it may be painful. Thus, a pilot study was conducted in order to examine the pain experienced during a ramped maximal cycle test. Information obtained from the pilot study revealed that maximal cycle ergometry resulted in intense muscle pain. With this descriptive information questions concerning the mechanisms that underlie leg muscle pain during exercise could be addressed. Biochemicals such as prostaglandins, bradykinin, substance P, histamine, and lactic acid are thought to play a role in the transmission of the nociceptive signal during exercise. Prostaglandins have been shown to be released during the muscle contraction (Mense, 1993). Aspirin selectively blocks the production of prostaglandins (Vane and Botting, 1992). Accordingly, the primary purpose of the thesis was to examine the hypothesis that prostaglandins alter the perception of leg muscle pain during ramped maximal cycle ergometry.

Greenfield, Dominic. Perceived adequacy of professional preparation in sport psychology among NCAA Division I A head athletic trainers, 1997. “A thesis project” M.S., Ball State University (Thomas Weidner). (72pp 1f $4.00) PE 3756

The purpose of this study was to assess Head Athletic Trainers (ATC) of NCAA Division I collegiate institutions perceived adequacy of professional preparation in implementing injury-related sport psychology skills and strategies. A survey instrument was developed and sent to all Head ATCs at NCAA Division I A institutions. Descriptive statistics were computed for information regarding educational background, years of experience, number of varsity sports served, sport psychology backgrounds, specific sport psychology management strategies used and related perceived competence. Also, independent t-tests were conducted to examine differences in responses.
Between professional preparation/backgrounds of the respondents and their perceived adequacy of preparation when utilizing sport psychology management strategies. Results indicate that 48% of NCAA Division I Head ATCs have completed a formal course in sport psychology, and that perceived confidence when utilizing sport psychology skills and strategies are higher for this group. Better understanding of the role sport psychology plays in injury rehabilitation will allow ATCs to enhance their athletes’ physical recovery from injury.

McChesney, John W. Total knee replacement and age-related declines in proprioception: their effects on postural control, 1996. Ph.D., University of Oregon (Marjorie Woollacott). (97pp 1f $4.00) PE 3763

The primary purpose of this study was to further define the role of proprioception as an integral sensory system in posture control. The secondary purpose of this research is to evaluate the effect of total knee replacement (TKR) on motor performance with regard to joint position sense (JPS) and postural control. The final purpose is to determine if a decrease in proprioception, in terms of JPS at the knee and ankle, is a main contributing factor to the observed postural dyscontrol in older adults. It is hoped that this research will add to the posture control literature basic information that will increase the theoretical understanding of somatosensation and its relationship to the control of posture. Results of these studies suggest a slight effect by total knee replacement on reproduction joint position sense and, more importantly, the significant negative effect of a decrease in threshold joint position sense on posture control. In the first experiment, a slight difference was observed in knee JPS abilities between subjects who had TKR and controls. No differences between their posture control abilities were found. Results from the second experiment support the hypothesis that a decrease in JPS negatively affects postural control. Subjects with decreased threshold to detection of passive motion of the knee and ankle demonstrated increased center of pressure (COP) displacement amplitude and movement velocity, as compared to controls. No differences were found in the automatic postural responses between subjects with good and poor JPS. This study has contributed to our theoretical understanding of somatosensation and its relationship to posture control by providing the knowledge that a decrease in JPS is associated with increased COP variance. Results from these experiments should aid orthopaedic surgeons in their counseling of candidate patients regarding elective TKR by allowing them to better address the issue concerning the consequence TKR on a patient’s balance and indicate the lack of a significant negative effect. Finally, results from this study provide compelling reasons that proprioceptive training be incorporated into all rehabilitative protocols applied to older adults demonstrating a decrease in joint position sense at the knee or ankle.

Modlesky, Christopher M. Estimates of body composition using a four-component model in individuals with musculoskeletal development, 1995. M.A., University of Georgia (Kirk J. Cureton). (117pp 2f $8.00) PE 3765

The purpose of this study was to determine whether the assumed density and composition of the FFM, and estimates of %Fat from body density using the Siri equation (%F) are valid in weight trainers with high musculoskeletal development and 14 non-weight-training controls with average musculoskeletal development. Measures of body density by underwater weighing (Dw), body water by deuterium dilution, and bone mineral by whole-body dual-energy X ray absorptiometry were obtained in young white men, 14 weight trainers with high musculoskeletal development and 14 non-weight-training controls with average musculoskeletal development. %Fatw was significantly higher (p≤0.05) than %Fat estimated from body density, water and mineral (%Fat1×w) using a four-component model in weight trainers (17.3±4.6 vs 13.2±5.1%), but not in controls (14.8±3.1 vs 14.2±3.6%). The greater discrepancy between %Fatw and %Fat1×w was explained by lower Dw in weight trainers (1.089±0.005g/cc) than in controls (1.099±0.007g/cc). The lower Dw in the weight trainers was due to higher water (74.8±1.2 vs 72.6±2.0%), and lower mineral (5.3±0.3 vs 5.9±0.4%) and protein (19.9±1.4 vs 21.5±1.9%) fractions of the FFM. It was concluded that in young white men with high musculoskeletal development, Dw is lower than the assumed value of 1.1g/cc and %Fat is overestimated from Dw using the Siri equation. Index terms: body fat; body water; mineral; densitometry; DEXA.


The purpose of this research study was to test whether performance on five commonly used cognitive tests administered in a controlled clinical environment differed compared to administration in an uncontrolled sideline environment. Additionally, this study investigated the effect of testing environment order on the learning effect for each cognitive test. An independent samples t-test revealed no significant differences between scores taken from the controlled environment as compared to the uncontrolled environment for any of the five tests (p>0.05). A repeated measures analysis of variance (ANOVA) revealed a significant learning effect for all five cognitive tests (p<0.05). A paired samples t-test using delta scores (first test - second test) sorted by order of testing environment revealed a significant difference for only the Stroop Test (p<0.05). The utilization of cognitive testing in an
immediate sideline evaluation, coupled with other physical diagnostic tests, may give the clinician a more accurate and objective assessment for the safe return of a mildly head injured athlete.


Postural stability is often used by clinicians as a source of objective information to assist in the assessment of mild head injury (MHI). The purpose of this study was to investigate several variations of the Romberg test that could be used in MHI assessment without needing complex or expensive balance equipment. Nine athletes sustaining a MHI and nine matched control subjects were tested at days one, three and five postinjury using three different stances (double leg, single leg and tandem) on two different surfaces (firm and foam). Statistical analysis revealed that the original Romberg test may not be sensitive enough to detect deficits in postural stability following MHI. Significant differences were revealed at day one postinjury during the single leg and tandem stances on foam indicating a more accurate method of using postural stability measures in MHI assessment (p<.05). Clinicians should consider using these two tests during sideline or clinical MHI assessments.

Rudd, Lorraine L. A comparison of career advancement for male and female head athletic trainers at the NCAA Division I, II and III levels, 1997. “A thesis paper” M.S., Ball State University (Michael S. Ferrara). (39pp 1f $4.00) PE 3771

This study investigated items which influence career advancement of male and female head athletic trainers. Past evidence suggests willingness/ability to relocate, child rearing, an established network, and the “glass ceiling” phenomenon (positions of power that can be seen, but not achieved) affected career advancement. A questionnaire was mailed to 184 female and 75 male NCAA Division I, II and III head athletic trainers. There was a response rate of 70.2% (n=129) females and 86.7% (n=65) males. Major findings included significant (p<.05) differences between gender in demographics (age, marital status, etc.), and athletic training experience (sport assignments, years a certified athletic trainer, etc.). A large percentage of male head athletic trainers desired change in position title or Division level. Twenty percent of female respondents indicated a career goal to leave the athletic training profession. Female respondents indicated gender did not affect career advancement, and willingness to relocate somewhat helped. Conclusions were that many of the barriers associated with female career advancement were not found to be associated with the profession of head athletic trainer. However, the high percentage of single female head athletic trainers and the lack of female head athletic trainers not experiencing a sport commonly worked by the head athletic trainer are areas of concern.

Schultz, Rebecca W.M. Validation of the shear test of the lumbar spine, 1995. “A pilot study” P.T.MOMT, Ola Grimsby Institute (none given). (25pp 1f $4.00) PE 3772

The purpose of this study was to determine whether the Shear Test of the lumbar spine is a valid method to diagnose lumbar disc degeneration and/or disc herniation. In order to accomplish the purpose of this study, answer to the following question was sought: To what extent can a lumbar Shear Test be compared to the results of Magnetic Resonance Image in determining lumbar disc herniation and/or disc degeneration? The validation of the special tests that are used in a lumbar evaluation is an important area of research that has been in remiss for all involved in lumbar spine patient care. Special tests are used as one tool in the evaluation process to establish a working premise/diagnosis in order to treat patients. Eleven individuals (mean age 58.9 years; range 26-70 years) with low back pain symptomatology. Two sources of data were used for this study. The first is the result of the Shear Test performed by the researcher during the lumbar evaluation. The data on the Shear Test was obtained from patients who were diagnosed with low back pain by a physician and who would be seeking treatment at the Peter Trailov Physical Therapy Clinic. The patient would have had back pain six months or less. The data on the results of the Magnetic Resonance Image was obtained from the radiological report from the attending physician. The results of the Shear Test and the Magnetic Resonance Image were compared. The data analysis which was employed to test the hypothesis is the correlation between nominal level data. This test analyzed the sensitivity and specificity of the results. Five of the eleven subjects were a true positive test (sensitivity) which is a 45% agreement between the Shear Test and the results of the Magnetic Resonance Image. Four of the eleven subjects were a false positive (specificity) which is a 55% disagreement between the Shear Test and the results of the Magnetic Resonance Image. When the Shear test was negative when performed by the therapist and the Magnetic Resonance Image was positive for disc herniation, there was a -20% lack of agreement. There were no true negatives in this small sample population. The Shear Test was 45% in agreement with the results of the Magnetic Resonance Image for disc herniation in this study consisting of eleven subjects with low back pain.

Shaughnessy, Jason E. Relationship between wrestling success and four isokinetic strength measure variables, 1997. M.S., Springfield College (H. Joseph Scheuchenzuber). (103pp 2f $8.00) PE 3773
The study was designed to determine the relationship between the level of wrestling success, wrestling experience, and four isokinetic muscular strength measures. The subjects (N=33) were measured to determine their level of success using a Performance Index (PI) formula derived by Horswill (1981). The subjects were measured to determine the isokinetic muscular strength of (a) concentric knee extension; (b) eccentric knee flexion; (c) concentric elbow flexion; and (d) concentric elbow extension. Pearson product-moment correlation coefficients were calculated to analyze the relationships between the variables tested. No significant (p>.05) correlations were found between the PI score and the four isokinetic muscular strength measures. The relationship between PI score and experience approached statistical significance; those with more experience tended to have higher PI scores. The homogenous PI scores in the current study could have limited the relationship between success and strength. Although, high PI values were not found to relate to strength, variables such as technique, mental preparation, and other factors could relate to success. In future research, multiple regression analysis can be used to identify a combination of muscles that might predict wrestling success.

Stanchina, Carol J. *A comparison of balance/stability assessment systems*, 49. M.A., University of North Carolina at Chapel Hill (William E. Prentice, Jr.). (49pp 1f $4.00) PE 3776

**Objective:** To compare four different balance/stability assessment systems and to determine the extent of the relationship, if any, between scores obtained from each of them. Design and Setting: Forty-eight normal students at the University of North Carolina at Chapel Hill were tested on four different balance/stability assessment systems. Subjects: Twenty-four males and 24 females with no known balance disorder, and no history of lower extremity musculoskeletal or head injury within the 12 months prior to testing. Measurements: Subjects completed three trials of balance/stability tests on four different systems, yielding a Stability Index score on the Biodex, a Balance Index score on the Breg K.A.T. 2000, a Stability Index score on the Cybex Fastex, and a Target Sway score on the NeuroCom Smart Balance Master interfaced with a long force plate. Results: Significant Pearson correlations (p<.05) were found between the Biodex and K.A.T. data and between the Biodex and Fastex data. Conclusions: As the NeuroCom showed no significant correlation to the other three systems, it appears that it is testing some different functional ability. The NeuroCom’s Target Sway score is likely a measure of true balance, while the Biodex, K.A.T., and Fastex are assessing stability. The large number of perfect BI scores on the K.A.T. indicates that it is not sensitive at the setting of 6.0 psi. Key Words: Balance assessment, stability assessment, Biodex Stability System, Breg K.A.T. 2000, Cybex Fastex, NeuroCom Smart Balance Master.

Wysocki, Marc P. *Peak performance characteristics of certified athletic trainers and emergency medical technicians in emergency situations*, 1996. M.S., Springfield College (S. Chepko). (91pp 1f $4.00) PE 3784

The purpose of this study was to examine peak performance characteristics of Certified Athletic Trainers and Emergency Medical Technicians. Participants, consisting of 60 athletic trainers and 30 emergency medical technicians, were asked to rate their concern with outcome, perceptions of time and effort, attentional focus, and feelings of confidence during their exceptional and typical performance during an emergency situation. An independent groups t-ratio was calculated for ratings of peak performance characteristics. Results revealed that concerns for outcome and focus of the task at hand were associated with exceptional performance for both health care professionals. For athletic trainers, increased confidence and time perception were associated with peak performance. For emergency medical technicians, none of the five characteristics rose to the top as a defining characteristic. A content analysis was performed for the open-ended sections of the questionnaire. Responses from both types of health care professionals coincided with characteristics of athletes who experienced a peak performance.

**PHYSIOLOGY AND EXERCISE EPIDEMIOLOGY**

Ardelt, Margaret E. *Ventilatory responsiveness to acetazolamide during normoxic and hypoxic rest and exercise*, 1997. Ph.D., Indiana University (Joel M. Stager). (107pp 2f $8.00) PH 1545

Acetazolamide (ACZ), a carbonic anhydrase inhibitor, is thought to prevent acute mountain sickness by stimulating ventilation (Ve) and improving arterial saturation (SaO2) during hypoxia. However, studies measuring increases in Ve and SaO2 with ACZ have produced inconsistent results, particularly those dealing with exercise. Thus, to further investigate the effect of ACZ on Ve and SaO2 under controlled laboratory conditions during both rest and exercise, 15 physically active men (18-36 yrs) were assessed for Ve/Vo2 during normoxic (F1O2=21%) and hypoxic (F1O2=13%) rest and exercise (50% VO2max), with placebo (PLA) and ACZ (3x250mg/24hrs) with one week between treatments. Additionally isocapnic and poikilocapnic hypoxic ventilatory responses, and normoxic and hypoxic hypercapnic ventilatory responses were assessed. Differences between conditions were determined using paired T-
tests. Alpha levels were adjusted by the Bonferroni method for a priori planned comparisons. Hypoxia resulted in a statistically significant increase in $V_e/VO_2$ at rest, at exercise, with PLA, and with ACZ. ACZ produced an increase in $V_e/VO_2$ in normoxia, hypoxia, at rest, and at exercise.

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<th>Rest</th>
<th>Exercise</th>
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<td>$V_e/VO_2$</td>
<td></td>
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<tr>
<td>Normoxia</td>
<td>21.8±1.86</td>
<td>25.6±2.74*</td>
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<tr>
<td>Hypoxia</td>
<td>19.8±1.88</td>
<td>23.4±2.58*</td>
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<tr>
<td>Normoxia</td>
<td>25.1±2.30</td>
<td>29.7±4.10*</td>
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<tr>
<td>Hypoxia</td>
<td>23.4±2.58*</td>
<td>30.7±4.36*</td>
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*Normoxia significantly different from Hypoxia, p<.05;  
jACZ significantly different from PLA, p<.05

ACZ also produced a significant increase in $SaO_2$ during hypoxic exercise (PLA, 77.6±6.59%; ACZ, 80.2±6.87%; p<.05). The increases in $V_e/VO_2$ that occurred with ACZ were not related to any measures of inherent chemoresponsiveness. Nevertheless, ACZ is concluded to be a ventilatory stimulant.

Barton, Andrew R. The effects of a crosstraining program on strength development, 1996. M.S., Springfield College (Tina M. Manos). (171pp 2f $8.00) PH 1546

Simultaneous training programs have produced mixed results when comparing strength gains against pure strength training programs. The researcher examined the amount of muscular strength that could be developed when combining strength and endurance training into one exercise using the Crossrobics 1650 exercise machine from Stairmaster. Sixteen untrained female subjects ($M$ age=27 years) were randomly assigned to a crosstraining (CR) group or strength group (S) for 8 weeks of analysis. The CR group improved strength and extension strength from 0-3, 3-6, and 0-8 weeks of training. The CR group did not increase knee extension strength and increased knee extension strength from 0-8 weeks. Both groups showed increases in knee flexion strength at every testing occasion except 3-6 weeks. The S group increased 1-RM leg press strength at each testing occasion, while the CR group improved 1-RM leg press at each testing occasion except 6-8 weeks. The CR group also increased $VO_2max$ from 0-8 weeks. The researcher concluded that the Crossrobics workout is an effective means to produce gains in lower body strength and cardiorespiratory endurance.


Six female subjects on the Weight Watchers diet program (3 exercise, 3 nonexercise) were studied to determine whether or not differences exist in weight, fat mass and circumference measurements. The subjects were tested in each of the eight dependent variables: weight, fat mass and six circumference measurements, both before and after a 10-week dietary intervention. Fat mass was determined by hydrostatic weighing and circumference measurements were obtained at the arm, chest, waist, abdomen, proximal thigh and mid thigh. A total of eight mixed factorial ANOVA were run utilizing the MANOVA procedure from SPSS. No significant ($p>.05$) interactions were found between group and time for weight, fat mass and circumference measurements. Weight, fat mass, and circumference measurements were equivalent for exercise and nonexercise subjects. Weight decreased in both the exercise and nonexercise group following the 10-week dietary intervention. Fat mass and circumference measurements were not significantly influenced by the 10-week program in both groups. Recommendations for future investigations would be to have a larger subject population, greater control in both the diet and the exercise aspects and, lastly, to increase the duration of the diet program to enhance any effects exercise might have on body composition.

Creviston, Todd A. The effects of a stair climbing program on leg strength, flexibility and functional mobility in men and women aged 76 to 86 years, 1996. M.S.Ed., Northern Illinois University (James Rimmer). (87pp 1f $4.00) PH 1548

The problem was to determine if a 12-week stair climbing program would increase leg strength, functional mobility, and hamstring flexibility. The training group consisted of one male and five females (M age 81.0±3.46 yrs) and the control group consisted of one male and four females (M age 82.8±2.95 yrs). The MERAC Isokinetic dynamometer (Universal Cedar Rapids, Iowa) measured peak torque during flexion and extension at 60, 180, and 300 deg/sec at the hip, knee and ankle. Functional mobility included timed trials of stair climbing (eight steps) and walking 9.1 m. Flexibility was assessed using a modified Sit and Reach test. Training group subjects exercised for up to 20 min, three times per wk, for 12 wks on the StairMaster 4000CT (StairMaster Sports Medical Tulsa, Oklahoma). Nineteen of 21 intraclass reliability measures were moderately high to very high (0.74 to 0.99). The Mann-Whitney U calculated the difference between pre- and posttest scores. Knee extension at 60 deg/sec, stair climb and the 9.1 m walk were statistically significant. A wide variation in strength scores was seen in both groups. This wide variability in strength scores may be related to the heterogeneity of the sample or the small sample size.

Felix, Scott D. Swimming performance following different recovery protocols, 1996. M.S., Springfield College (Sam A.E. Headley). (112pp 2f $8.00) PH 1549

The study was to design and compare lactate levels and subsequent swimming performance following a maximal swim using three different recovery protocols: swimming; rowing; and passive rest. Participants from the Springfield College swim team (N=10) were tested under each
recovery protocol. Experimental sessions were separated by at least one day. Each session consisted of two 200-yd freestyle swims, separated by 14 min of recovery. The 14-min recovery period was broken into three sections: 2 min to prepare for the recovery; 10 min of recovery; and 2 min to prepare for the second trial swim. Variables measured were blood lactate concentrations across time and the time difference between trial swims. Blood was taken at rest and at 2, 7, and 12 min during the recovery period. A 3 x 4 repeated measures ANOVA was used to analyze the difference in lactate levels across recovery protocols and across time. A one-way repeated measures ANOVA was used to analyze time differences between the two trials across the three recovery protocols. A significantly (p<.05) lower mean time difference and mean lactate levels for swimming recovery was found as compared to the mean time difference and mean lactate levels for passive rest recovery. No difference (p>.05) was found between swimming and rowing recovery protocols for mean lactate levels and mean time difference between trials. Swimming recovery resulted in less of a decrement in subsequent swimming performance than passive rest, possibly as a result of enhanced lactate removal.

Gavin, Timothy P. *Mechanisms for the decline in arterial oxygenation during exercise in normoxia and acute hypoxia*, 1996. Ph.D., Indiana University (Joel M. Stager). (132pp 2f $8.00) PH 1550

Thirteen trained men performed two VO2max cycle exercise tests; normoxia (151.1 Torr) and hypoxia (96.0 Torr) and HVR and HCVR tests. At maximum, VO2 (4.42±0.39 l/min vs. 3.14±0.32 l/min) and CaO2 (20.82±1.38 ml/dl vs. 15.00±2.12 ml/dl) declined with hypoxia (P<0.05). A large hypoxic increase in Vc/VO2 did not prevent the decline in VO2max (r=0.65). No relationships were identified between HVR or HCVR and hypoxic Vc. Thirteen trained men performed two VO2max tests; running and cycling. At maximum, VO2 (4.83±0.41 l/min vs. 4.61±0.49 l/min) was higher, while SaO2 (88.1±2.9 % vs. 92.6±2.0 %) and Ve (130.3±14.18 l/min vs. 124.9±18.09 l/min) were lower during running. Above 80%, running Vc/VO2 was lower, which preceded the difference occurred in SaO2 above 90%. Nine trained men performed a running VO2max test, immediately followed by walking (4.8 KPH and 0% grade). SaO2 was lower at end exercise (88.5%) when compared to pre exercise rest (95.8%). SaO2 was also lower at each minute of post exercise walking.

Harris, Chad. *The influence of velocity on the metabolic and mechanical task cost of treadmill running*, 1995. Ph.D., Oregon State University (Anthony R. Wilcox). (171pp 2f $8.00) PH 1551

The purpose of this investigation was to assess the influence of running speed on the metabolic cost relative to distance traveled (MBTC), the gross mechanical cost (Work,W), and on mechanical cost relative to distance traveled (MTC). Twelve, trained male runners performed 8-minute treadmill runs at 6 running speeds (range 140 to 240 m·min⁻¹). Testing was repeated on a second day. Net oxygen consumption was measured, and normalized for running speed to provide a MBTC value (ml·kg⁻¹·m⁻¹) which could be compared across speeds. Two synchronized cameras were positioned to obtain right and left sagittal views of the runners during each trial. Two strides were subsequently digitized. Coordinate data were smoothed using a Butterworth filter. Cutoff frequencies (X, Y directions) were determined for each point using residual analysis procedures. Both sagittal view video recordings were merged resulting in a 12 segment model. From positional changes and estimated inertial characteristics of the segments, instantaneous segmental and total body energy levels were calculated. From the changes in total body energy levels, W was determined using three algorithms each unique in the degree of energy transfer allowed. Values for power also were normalized for running speed to provide a MTC value (J·kg⁻¹·m⁻¹) which could be compared across speeds. Repeated measures ANOVA was performed to test for differences in means between the two trials. No differences were found between trials. Therefore, trial data were averaged and regression analysis was used to describe the response of the metabolic and mechanical variables across speeds. Linear models best described the relationship between dependent variables and speed. MBTC did not change with speed (p=0.113). W increased with speed when energy transfers were restricted (p<0.001), but did not change when complete transfers were allowed (p=.26). MTC decreased significantly with speed (p<0.001) for all algorithms. This study suggests that to run a given distance, speed does not influence metabolic cost, while it is inversely related to mechanical cost. Furthermore, gross mechanical cost is strongly influenced by energy transfers within and between body segments.


Ten male Ss were used to determine if the HealthRider provides an adequate aerobic training stimulus, and to investigate the HR/VO2 relationship achieved while exercising on the HealthRider in comparison to treadmill walking. Following a familiarization period, Ss completed a maximal treadmill test and a series of submaximal bouts on the HealthRider. Individual regression equations were developed from the data obtained during the VO2max treadmill test which would predict VO2 for each S based on HR. The achieved HR from the various positions on the HealthRider were used to predict VO2 which would have occurred on the treadmill at that HR. There was a significant (p<.05) main effect for position with the lower leg front arm (LLFA) position producing significantly lower
HR, VO₂, and RPE values were lower in each leg than VO₂max. This finding was consistent for both the no elevation and elevated positions. There were no significant (p>0.05) main effects for HR and VO₂ for the elevated positions. There was a significant (p<0.05) main effect for RPE with the elevated conditions having a higher mean RPE (13.1) than the no elevation conditions (11.1). On average, Ss exercised at 66% of HRmax and 40% of VO₂max on the HealthRider. Predicted VO₂ was higher than the actual VO₂ for each condition with the ULFA, lower leg rear arm elevated (LLRAE) and upper leg front arm elevated (ULFAE) positions achieving significance (p<0.05). This indicates that the HR/VO₂ relationship is different for the HealthRider compared to treadmill exercise. It was concluded that exercising on the HealthRider provides an aerobic workout which is in the lower end of the recommended range by the ACSM. Additionally, HR may not be a good indicator of exercise intensity, since HR is elevated relative to oxygen consumption.

Janot, Jeffrey M. Heart rate and perceived exertion responses during climbing in beginner and recreational sport climbers, 1997. M.S., University of Wisconsin-La Crosse (Jeffrey Paul Steffen). (50pp 1f $4.00) PH 1553

This study was designed to determine if heart rate (HR) and perceived exertion responses (RPE) differed between beginner and recreational sport climbers. Thirty-four beginner (n=10 males, 7 females) and recreational (n=10 males, 7 females) climbers were instructed to climb 2 routes that varied in difficulty (5.6 and 5.8) on an indoor climbing wall. HR responses were recorded at rest (HRrest), during the climb (HRclimb), and after each climb (HRrecov). RPE values were also recorded after each climb. Significant (p<0.05) differences were found in HRrest, HRclimb, and RPE values between climbing groups in males for routes 2 and 4. Significant (p<0.05) differences were also found in HRrest, HRclimb, and RPE between climbing groups in females for routes 2 and 4. An analysis of HRrest and HRrecov revealed significant (p<0.05) differences for routes 2 and 4 in male beginner climbers. The differences found between beginner and recreational climbers could have been due to route familiarity, efficient climbing technique, a pressor response, or psychological influences. The extent to which these factors affected the HR and RPE responses was not explored in this investigation.

Kenton, Mark A. Chronic exercise and the effects on the immune response, 1996. M.S., Springfield College (Vincent J. Paolone). (118pp 2f $8.00) PH 1554

Ss for this study were 10 female athletes from Springfield College. The experimental (E) group consisted of five female athletes from the women's basketball team. The E group was utilized to examine the effects of a 6 week period of chronic exercise on the immune response. Five out of season female athletes were utilized as a comparison (C) group. The C group was not involved in any type of conditioning. Baseline data was gathered prior to the start of the basketball season and included the performance of a VO₂peak test and a blood draw via venipuncture. Data was again collected after a 6 wk training period. Variables evaluated were: (a) CD4 helper T cell count; (b) CD3 T cell count; (c) CD8 T cell count; (d) CD4/CD8 T cell ratio; (e) total lymphocyte count; (f) total white blood cell count; and (g) peak oxygen consumption (VO₂peak). A 2 x 2 ANOVA with repeated measures across time was used to analyze the data. CD8 T cells were initially greater (p<0.05) in the E group at baseline. The CD8 T cells decreased (p<0.05) in the E group after 6 wks of training. The CD4/CD8 T cell ratio increased (p<0.05) in the exercise group after 6 weeks of training. The remaining immune system variables as well as the VO₂peak values were unaffected (p>0.05) in both groups.

Kleinschmidt, Lori A. Physiological responses to a basketball season, 1997. M.S., University of Wisconsin-La Crosse (Nancy K. Butts). (64pp 1f $4.00) PH 1555

Pre- and postseason measurements of aerobic and anaerobic power were determined for women's intercollegiate basketball players (WIBP) on the 1995-96 University of Wisconsin-La Crosse team (N=13). Aerobic power was measured by a treadmill VO₂max test while anaerobic power was determined by the Wingate Cycle Ergometry Test. Using dependent t-tests, it was found that neither aerobic nor anaerobic power changed significantly (p>0.05) over the season. Additionally, HRmax data were collected during a preseason VO₂max test, a team practice, a scrimmage, and an actual game and were compared using a one way ANOVA with repeated measures. HRmax values for 7 of the 13 WIBP were found to be significantly (p<0.001) higher during both the scrimmage and game than the practice and the preseason VO₂max test using Tukey's post hoc procedure. Similarly, HRmax values for 11 of the 13 WIBP were found to be significantly (p<0.001) higher during the scrimmage than both the practice and the preseason VO₂max test. However, the higher HRmax values found during the scrimmage and game situations were not sustained due to the characteristics of competitive basketball.


The data from studies of skeletal muscle sarcoplasmic reticulum (SR) function indicate upregulation of calcium sequestering capacity of the SR following exercise training.
The purpose of this study was to investigate whether moderate or high intensity exercise training has an effect on the gene expression of rat hindlimb muscle SR calcium adenosine triphosphatase isoforms (SERCA1a and SERCA2a). Animals were trained by treadmill running for 6 weeks at either moderate or high intensity exercise or for 12 weeks of high intensity exercise. The moderate intensity exercise training consisted of 5 days/week, 20 m/min, 0% grade, 60 min/day. The high intensity exercise training consisted of 5 days/week, 5 x 1-min exertion at a velocity of 75 m/min, at a 15% grade, with a 1-min interval of 20m/min, 15% grade. Using a northern blot analysis, mRNA expression of the SERCA1a and SERCA2a isoforms was determined in the following hindlimb muscles: gastrocnemius (predominantly fast-twitch muscle) and soleus (predominantly slow-twitch muscle) from the animals trained for 6 weeks; and the deep vastus lateralis (fast- and slow-twitch red muscle) and superficial vastus lateralis (predominantly fast-twitch white muscle) from the animals trained for 12 weeks. The northern blot analysis revealed statistically significant increases in gastrocnemius SERCA2a mRNA expression following both moderate intensity and high intensity training. The soleus muscle also exhibited a significant increase in SERCA2a mRNA expression following high intensity training. There was no significant change in SERCA1a mRNA expression. An unexpected finding was that the glycolytic enzyme glyceraldehyde-3-phosphate dehydrogenase (GAPDH) mRNA expression in predominantly fast-twitch muscles was found to increase significantly following both 6 and 12 weeks of exercise training. It was concluded that both moderate and high intensity exercise increase SERCA2a mRNA expression; and, the GAPDH mRNA expression increases in predominantly fast-twitch muscles.


Volunteer subjects for this study were 5 males and 5 females from Springfield College. The subjects were moderately fit, Caucasians, and between the ages of 21-35. The subjects were asked to attend three sessions. During the first session body fat and maximum oxygen consumption were tested for each subject. The subjects then participated in two trials, an alcohol trial and a control trial. During each trial the subjects ingested a solution of lemonade and alcohol depending on the trial. The subjects were then asked to exercise for 30 min in a Sports Star Trim Suit. During this time heart rate, blood lactate, oxygen consumption, RER, RPE, core temperature, skin temperature, and mean body temperature were measured. A 2 x 2 x 4 Mixed Factorial ANOVA was used to analyze the data. The dependent variables (p<.05) increased throughout the 30 min of exercise. The females core temperature was higher (p<.05) than the males at baseline and during the second time period.

Leung, Wai M. An electromyographic comparison of abdominal exercises on selected commercially available equipment, 1997. M.S., Springfield College (H. Joseph Scheuchenzuber). (114pp $8.00) PH 1558

Differences in myoelectric (EMG) activity in the rectus abdominis, rectus femoris, and sacrospinalis were examined among abdominal exercises as performed on NordicTrack Abworks (NOR), AbRoller Plus (ABR), and modified curl-up (CURL). Subjects (20 males and 17 females) aged 19 to 40 years performed 5 repetitions, at 5 s per repetition, on each exercise mode. The root mean square (RMS) and integrated RMS (iRMS) (RMS times the duration of muscle activation) of the EMG signal were obtained from the rectus abdominis, rectus femoris, and sacrospinalis. The data were analyzed using a repeated measures one-way analysis of variance. For the rectus abdominis, no difference in RMS was found among the three modes of exercises. The iRMS was higher on NOR than on ABR, which, in turn, was higher than on CURL. For the rectus femoris which is a hip flexor, both the RMS and iRMS were lower during CURL than on ABR, which, in turn, was lower than on NOR. For the sacrospinalis, no differences were evident for either the RMS or iRMS among the three exercise modes. In conclusion, the CURL is the safest exercise with minimum hip flexor involvement whereas the NOR is more effective in training the abdominal muscles.

Pardo, Javier. Effects of sodium bicarbonate loading on running time to exhaustion in male and female runners, 1996. M.S., Springfield College (Vincent J. Paolone). (157pp $8.00) PH 1559

Four males and 4 females were studied to investigate the effects of sodium bicarbonate ingestion on running time to exhaustion, blood pH and lactate, respiratory variables, heart rate (HR), and rate of perceived exertion (RPE). Subjects were tested in two identical sessions in which they were given sodium bicarbonate and placebo in a double-blind fashion. The dose for both conditions consisted of 300 mg per kilogram of total body weight. The exercise protocol consisted of two 3-minute warm-up stages (40% and 65% VO2peak) and a final stage to exhaustion (95% VO2peak). The alpha level was set at .05. Following sodium bicarbonate ingestion blood pH was increased. Running time to exhaustion was increased after sodium bicarbonate ingestion. No significant interaction was found between gender and time to exhaustion. Higher blood lactate concentrations were associated with sodium bicarbonate ingestion. Sodium bicarbonate ingestion had no effect on the respiratory variables, heart rate, and rate of perceived exertion.
Ten males were studied to examine the effects of a decongestant on rest, exercise, recovery, and orthostasis during 6° of head down tilt (HDT). Subjects were positioned in the HDT for a total of 6 hr: 2 hr 45 min rest, 30 min exercise, and 2 hr 45 min recovery. Following recovery, subjects were tilted to 0° for 5 min, then tilted to+70°. Sessions were identical except for the ingestion of a drug or placebo treatment. Variables evaluated during rest, exercise, and recovery conditions were: systolic blood pressure (SBP), diastolic blood pressure (DBP), heart rate (HR), stroke volume (SV), cardiac output (Q), pulse pressure (PP), mean arterial pressure (MAP), total peripheral resistance (TPR), and forearm blood flow (FBF). During the orthostatic test, variables measured were HR and MAP. Time effects occurred during resting conditions for HR, SV, SBP, DBP, PP, and MAP. Normal changes with exercise were found for all variables. During the recovery condition time and treatment effects occurred. Time effects occurred for HR and SBP, while treatment effects occurred for DBP and MAP. During the orthostatic test no effect occurred between drug and placebo treatments for HR and MAP.

Sfakianos, Angela M. Validation of the Physical Activity Scale for the Elderly using the Caltrac accelerometer, 1997. M.A., University of North Carolina at Chapel Hill (Pamela S. Robinson). (77pp 1f $4.00) PH 1561

This study measured the validity and reliability of the Physical Activity Scale for the Elderly (PASE) in 33 volunteers (12 male, 21 female) aged 70 to 88 years (mean 78.4±4.89) in a local retirement community. Validity was measured using the Caltrac accelerometer (Hemokinetics, WI). The mean Caltrac score was 1055.24±81.84 movement counts. Reliability was tested by having the subjects take the PASE one month after the first administration. The mean scores from the first administration (PASE 1) and second administration (PASE 2) of the PASE were 89.97±65.57 and 94.67±59.89, respectively. There was a positive correlation between each administration of the PASE and the Caltrac (PASE 1, r=0.62, p<0.05; PASE 2, r=0.48, p<0.05). These correlations indicate that the PASE is a valid measure of physical activity in an elderly population. The reliability estimate for the two administrations of the PASE was 0.77. This estimate indicates that the PASE has stability reliability in measuring physical activity in an independent living elderly population. These results suggest that the PASE is a moderately good instrument for assessing physical activity in an older population. Modifications in the structure and the format of the questionnaire may increase the validity. Also, adjusting the questionnaire to fit the particular population may improve its validity.

Southwick, Nancy L. The establishment of blood pressure norms for the Indiana University Adult Fitness Program, 1996. M.S., Indiana University (Janet P. Wallace). (89pp 1f $4.00) PH 1562

Abnormal blood pressure response during exercise may be indicative of underlying hypertension and/or coronary artery disease. Therefore, standardized blood pressure norms need to be established for the exercise test setting. In order to establish blood pressure norms for the Indiana University Adult Fitness Program, the blood pressure responses on 177 graded exercise tests from normotensive adults were analyzed from existing data. Subject exclusion criteria were as follows: (a) diagnosed hypertensive, (b) exhibited high blood pressure (systolic ≥140 mmHg and/or diastolic ≥90 mm Hg) on exercise test day, (c) on medication that affected blood pressure, and/or (d) performed a running protocol. Systolic and diastolic blood pressures were analyzed for rest, and 40%, 60%, 80%, and 100% of peak oxygen consumption achieved during a modified Balke or Ramp treadmill protocol and for 1 through 5 minutes of an active recovery. The data were grouped at each collection point and means and standard deviations (SD) were generated using descriptive statistics. A one-tailed nomogram was formulated with a 95% confidence interval using the mean value±1.65 SD. A normal blood pressure range was also developed using the mean±1 SD. The results of this investigation will provide the Indiana University Adult Fitness Program with normal blood pressure ranges for exercise testing. Abnormal blood pressure responses can be identified and used by both the physician and Adult Fitness Program for further medical recommendations and/or the appropriate exercise prescription.

Tsuruike, Masaaki. Sensory and motor functions in the quadriceps muscles of patients with anterior cruciate ligament reconstruction, 1996. M.S., Indiana University (David M. Koceja). (183pp 2f $8.00) PH 1563

The patellar tendon-tap stretch reflexes were examined in 6 neurologically healthy young subjects (M=27.1 years) who had undergone ACL reconstruction at least 8 months before the investigation (8-123 months). Each subject was tested for maximum quadriceps and hamstrings isokinetic contractions utilizing 3 different angular velocities: 60, 180, 240 deg/sec. Each subject was also examined for the conditioned patellar tendon-tap reflex utilizing 3 different conditioning intervals: 25, 75, 150 ms, and a unilateral reflex on two separate days. For the conditioned patellar tendon-tap reflex test, peak isometric force and contraction
time were measured by using a strain gauge. Also, peak-to-
peak EMG was measured by using bipolar surface elec-
 trodes over the rectus femoris. All data were collected 
with a microcomputer (sample rate=1 kHz). For the isokinetic 
contraction test, an ANOVA model revealed that there 
were significantly lower values of peak torque generated 
by the quadriceps of the ACL leg when compared with the 
Non ACL leg, whereas there were no significant differ-
ences in the values of peak torque generated by the 
hamstrings between the ACL leg and the Non ACL leg. For 
the stretch reflex test, the Dunnett’s post hoc test and trend 
analysis determined that for both the ACL leg and the Non 
ACL leg the size of stretch reflex was significantly facilit-
ted by the long-latency conditioning intervals, whereas it 
was significantly inhibited by the short-latency condition-
ing interval. However, a repeated measure ANOVA model 
failed to reveal any significant differences in both the 
unilateral and conditioned stretch reflexes between the 
ACL leg and the Non ACL leg. These results indicate that 
ACL reconstruction which produces a significant bilateral strength deficit, does not alter stretch reflex function.

Uhlin, Katherine L. Human milk calcium, phosphorus, sodium 
and potassium concentrations following maximal exercise, 1996. 
M.S., Indiana University (Alyce D. Fly). (78pp 1f $4.00) PH 
1564

Fourteen healthy lactating women (ages 25-38 years; 
between 2 and 8 months postpartum) participated in a 
maximal exercise test or 30 minute rest period to determine 
the influence of exercise on the concentration of selected 
milk minerals. The order of these treatments was random-
zied. Milk was expressed before treatment and at 10, 30, 
and 60 minutes post-exercise or rest treatment. Milk was 
prepared using nitric and sulfuric acids. Aliquots were 
analyzed for total phosphorus concentration by colorimet-
ric assay and for calcium, sodium, and potassium by ICP 
atomic emission spectrophotometry. Interwomen variation 
was responsible for most variation in mineral concentra-
tions. Baseline mineral concentration was not different 
although it was collected on separate days. Repeated 
expression of milk at 10, 30, and 60 minutes did not alter 
mineral concentration. Maximal exercise did not alter milk 
mineral concentration of phosphorus, calcium, potassium, 
and sodium. Infants’ apparent intake of these minerals is 
not affected during maximal exercise since concentration 
did not change. No differences in milk macronutrient 
(protein, carbohydrate, and fat) concentration or volume 
has been observed in existing literature. There remains no 
contraindication for exercise during lactation.

Williams, Bryce C. Aging and body composition: a 12 year 
longitudinal study of middle-aged and elderly women, 1996. 
M.S., University of Wisconsin-La Crosse (Nancy K. Butts). 
(93pp 1f $4.00) PH 1565

The current study was designed to investigate age-related 
changes in body composition among 27 Caucasian women 
aged 42-75 years, 12 years subsequent to initial testing. 
Subjects were recruited from a pool of 68 women who 
participated in a prior study. Height, weight, BMI, RV, 
density, % BF, FFW, skinfold measures, and WHR were 
assessed with density, % BF, and FFW determined by 
hydrodensitometry. A 1-way REANOV A was used to 
examine differences among the means. All variables with 
the exception of WHR displayed significant (p<.01) 
changes over the course of 12 years. Height decreased .6 
cm while weight and BMI increased by 10%. Percent body 
fat increased 4.3% due primarily to increased fat weight. Of 
note, FFW rose 1.4 kg from baseline measures. It was 
thorized that the FFW increase was attributable to the 
increase in total body mass. Cross-sectional comparisons 
were made between subgroups divided by age and activity 
level. A 2-way REANOVA was used for analysis. All 
subgroups showed similar body composition changes to 
those of the entire group. However, no significant (p>.05) 
interaction was noted between either young and old or 
trained and untrained women.

HEALTH EDUCATION

Anadu, Edith C. Factors affecting risk perception about 
drinking water and response to public notification, 1997. Ph.D., 
Oregon State University (Anna K. Harding). (175pp 2f 
$8.00) HE 586

Contamination of drinking water occurs despite strict 
regulations, yet few studies have been conducted to assess 
the public’s perception of risk about drinking water. The 
purpose of this study was to assess risk perception 
associated with drinking water supplied by small water 
systems and to determine alternative measures that people 
take in response to public notification (PN). The study also 
explored whether health belief model (HBM) variables and 
general risk perception about drinking water, were 
significant predictors of response to PN. Participants were 
selected from four small Oregon cities (one with a long-
term filtration problem and the other with a short-term 
contamination problem) and two cities without such 
problems using a stratified random sampling technique. A 
total of 391 telephone interviews were completed for an 
average response rate of 69 percent. Results indicated 
higher risk perception about drinking water among 
residents of the city with a long-term drinking water 
problem (Falls City) when compared to the city with a 
short-term problem (Jefferson) (p=.008). A higher propor-
tion of residents in Jefferson than in Falls City responded to 
the PN by boiling water (p=.011), and by taking any action 
(p=.023) in response to PN. There was a significant 
difference between the cities with respect to regular bottled
water consumption patterns (p=.0002), with Falls City showing the highest mean ranking for bottled water consumption, of all the cities. Logistic regression analysis supported the HBM variables perceived seriousness (OR=2.05, p=.001), and household size (OR=2.2; p=.027) as predictors of response to PN by taking any action. Perceived seriousness (OR=0.5; p=.004) and income (OR=2.3; p=.000) emerged as predictors of response to PN by drinking bottled water. General risk perception was a significant negative predictor of response to PN by boiling water (OR=0.57; p=.019). Mail from the city water utility, county health department and newspapers were the top three sources respondents used to obtain information about drinking water. In all the cities, three quarters of the respondents indicated willingness to pay for the improvement of drinking water, particularly to correct problems related to chemical and microbiological contamination.

Buser, Deborah E. Occupational exposure characterization of vacuum pump maintenance technicians in a semiconductor manufacturing environment, 1997. M.S., Oregon State University (Annette M. Rossignol). (86pp 1f $4.00) HE 587

In the semiconductor industry, numerous potential occupational exposures exist as a result of the diversity of chemical and physical hazards unique to integrated circuit manufacturing. The hazards associated with maintenance tasks are challenging because the sporadic nature of the tasks make exposure monitoring difficult. In particular, vacuum pump maintenance is hazardous due to the close contact with chemical waste by-products. The purpose of this study was to characterize the chemical and physical occupational exposures associated with vacuum pump maintenance (VPM) in a semiconductor manufacturing environment. The study population consisted of 9 VPM technicians at a semiconductor manufacturing plant in Oregon. VPM tasks were observed and prioritized according to potential risk of exposure. For each task studied, an exposure monitoring strategy was developed to quantify both chemical and noise exposures. Personal and area air samples of potential waste gases were conducted during maintenance tasks. All air samples were below established governmental standards. Detectable levels were found for three tasks: 0.040 milligrams per cubic meter (mg/m³) of hydrochloric acid, 0.014 mg/m³ of chlorine, and 0.08 mg/m³ of fluoride containing gases during tasks associated with the metal etch tool, polynitride etch tool, and tungsten deposition tool, respectively. Several bulk samples of waste residues collected during the tasks where corrosive having low pH levels. Representative noise sampling was conducted during a 12 hour shift to characterize noise exposures. Noise samples revealed that 43% of the samples were above the 80 dBA action limit thus requiring the VPM technicians to be involved in a hearing conservation program. Field observations revealed that there were many chemical hazards associated with waste gases and residues, therefore it is likely that occupational exposures occur even though they were not detected at significant levels in this study. In addition, there were several ergonomic risk factors associated with dismantling the pump during the maintenance activities. Specific improvements in personal protective equipment, general work practices, ergonomics, and engineering controls will help to reduce the potential for occupational exposures unique to VPM. Results from this study indicate the need to conduct in depth hazard evaluations of high risk populations such as the VPM technicians.


The purpose of this investigation was to examine the effect of an incentive-based wellness challenge program on physical fitness in industrial workers. Forty (25 male, 15 female) ARCO Cherry Point Refinery employees volunteered to participate in the fitness testing, as well as the wellness challenge program. Subjects were tested before beginning the wellness challenge program and again, one year later. Cardiorespiratory fitness was tested using the YMCA submaximal bike test. Body composition was measured by the skinfold method to determine percent body fat and determining the waist to hip ratio and body mass index. Muscular strength and endurance was measured by the handgrip test, timed one-minute sit-ups, and maximal push ups. Flexibility was evaluated by the sit and reach test, a back extension test, and a shoulder extension test. All participants met the incentive criteria of earning 250 fitness points. A two-way repeated measure ANOVA with a repeated measure of pre-test/post-test and a subject variable of gender was used to determine any changes in the measured variables. The statistical analyses revealed significant improvements (p<.05) in the amount of push ups performed, timed one-minute sit-ups, hand grip strength, trunk flexion, and shoulder extension. The results of the statistical analyses showed that employees directed more attention to training the musculoskeletal system. Overall, these results suggest that an incentive-based wellness program improved specific physical fitness parameters in industrial workers.

Deprey, Teresa M. Nurse practitioners' views on menopause: attitudes and prescribing practices, 1997. M.S., Oregon State University (Rebecca J. Donatelle). (125pp 2f $8.00) HE 589

Menopause is a critical life-cycle transition for women, and is associated with osteoporosis and cardiovascular disease, leading causes of morbidity and mortality in US women. Efforts to curb symptoms of menopause include HRT and ERT, although conflicting evidence exists linking ERT and HRT with the risk of breast cancer. Physicians attitudes...
and preferred mode of treatment have been extensively studied, but with the increased utilization of nurse practitioners in the field, a new paradigm is being established. The overall goal of this study was to assess the nurse practitioners' knowledge and attitudes about menopause, hormone replacement therapy and estrogen replacement therapy. More specifically, the objectives include: 1) determine methods of patient education for menopausal women; 2) examine whether attitudes of menopause are predictors of preferred modes of treatment; and 3) determine whether demographic factors of nurse practitioners are predictors of preferred modes of treatment. A random selection of nurse practitioners from the state of Oregon were mailed a self-administered survey along with a stamped, addressed envelope. The questionnaire focused on knowledge of menopausal treatments, attitudes of menopause, continuing education in the menopause research, and methods of patient education. Follow-up surveys were mailed to non-responders at two and four-week intervals following the first mailing. Response rate was 60% with a sample size of 192. Results describe the management practices of nurse practitioners and what influenced their prescribing and management practices. The influences included the following factors: perceptions about adequacy of formal education, continuing education and attitudes about menopause and managing menopause. Only 47.4% of the respondents felt that their formal education in menopause treatment and protocols was adequate. When asked how they treated women, a majority (64.6%) of the nurse practitioners depended on the women and her beliefs about menopause, HRT, and ERT when they considered how they cared for a menopausal woman. Sixty-one percent were very likely to take time during a visit to discuss the changes a woman was going through, while 23.7% were most likely to answer questions if the client had any, otherwise leave the introduction of menopause to the client. When contraindications were present, all nurse practitioners were less likely to prescribe both ERT and HRT. A surprising trend was the high number of participants who were uncertain about how they would prescribe when contraindications were present. In summary, this study describes Oregon nurse practitioners attitudes about menopause, the perceived adequacy of their formal education, and likelihood of prescribing ERT and HRT. Since almost 50% of the nurse practitioners felt their education was inadequate in menopause, a systematic analysis of masters level nurse practitioner programs in the area of menopause and menopausal treatments is needed. Ideally, a nationwide survey comparing physicians and nurse practitioners prescribing practices would help quantify differences between the two types of health care providers.

Ellingson, Lyndall A. Breast self-examination, the Health Belief Model and sexual orientation in women, 1996. Ph.D., Indiana University (William L. Yarber). (132 pp $8.00) HE 590

A convenience sample of 303 women, 35 years or older, completed the Champion Health Belief Scale (1993) which measures perceptions and feelings toward breast cancer and breast self-examination. The majority of subjects were European-American and college educated, 51% self-identified as heterosexual and 49% as lesbian. A significant chi-square value was found for breast self-examination practice and sexual orientation (χ²(4, 303)=6.79, p<.05). Heterosexual women were more likely to be regular practitioners than lesbian women (45% vs. 21%, respectively). Discriminant function analysis found only the HBM variable “health motivation” to successfully classify heterosexual and lesbian women (Wilks’ lambda=.978, p<.01). A significant “health motivation” sub-scale difference was found between heterosexual and lesbian women on the item that asked about “regular preventive medical check-ups” (F=19.07 (1,301), p=.001). Multiple regression analysis found the HBM constructs susceptibility, health motivation, barriers, and confidence to explain a significant portion of the variance in BSE (R²=.33, p<.01). Sexual orientation was not found to be a significant contributor to explained BSE variance in the presence of the HBM variables, and it was concluded that sexual orientation was not a modifying variable of the HBM for this sample.


Former phase II patients (N=26) served as the subjects for this study. The Home Exercise Activity Questionnaire was utilized to determine the home exercise compliance for subjects who had completed the cardiac rehabilitation program at Allegheny General Hospital 6 weeks, 3 months, and 6 months prior to data collection. The mean home exercise compliance scores for the 6-week, 3-month, and 6-month post phase II groups were not significantly (p>.05) different. The Self-Motivation Inventory (SMI) (Dishman, Ickes, & Morgan, 1980) was utilized to assess the self motivation of the post phase II subjects. Pearson product-moment correlation was used to determine the relationship between the compliance and self-motivation of the 3 groups: 6-week (r=.379, p>.05); 3-month (r=.270, p>.05); and 6-month (r=-.056, p>.05). The home exercise compliance for post phase II subjects who are evaluated 6 weeks, 3 months, or 6 months after completing a rehabilitation program appears to be similar. In addition, the home exercise compliance and self-motivation of post phase II subjects does not appear to be related.

524 (18-22 year old) African-American (AA) undergraduate college students, consisting of 287 female and 237 male subjects. The subjects were investigated to determine whether attitudes, subjective norms, and perceived behavioral control influenced their behavioral intention to use condoms, and if there was any relationship between age, religiosity, and class level in predicting behavioral intention. Open ended questions were developed to elicit important salient beliefs regarding condom use by AA college students. These beliefs, solicited from AA students at Indiana University, Bloomington, IN., were used to construct the statements on the “Intention to Use Condom Questionnaire”. Data, with alpha level of .05, was analyzed by SPSS, 6.0. The variables were examined using Pearson moment correlation, ANOVA, multiple regression, and when applicable Bonferroni post hoc comparison. The analysis revealed that there were gender differences among the variables toward intention to use condoms, that age and religious activities were positively correlated to behavioral intention, and perceived behavioral control was the strongest predictor to use condoms for both genders. AA college students with the most positive attitude, with most favorable subjective norm, with the strongest perceived behavioral control toward condom use were more likely to use condoms to prevent HIV/STD.

Knobloch, Mary Jo *The effects of a farm youth hearing study on parental hearing protection knowledge, attitudes and behavior*, 1996. M.P.H., University of Wisconsin-La Crosse (Gary D. Gilmore). (60pp 1f $4.00) HE 593

Farmers are exposed to noise levels that may result in hearing loss as early as adolescence. A school-based noise-induced hearing loss study targeting adolescent farm students was implemented. Youth were clustered by schools (either control or intervention) with intervention schools receiving a hearing conservation program. The effects of the study on parents hearing conservation knowledge, attitude, and behavior is the focus of this research. Subjects were parents of students (N=523). Parents were mailed a survey and a response rate of 66% was achieved. Fifty-six percent of the intervention parents reported use of hearing protection devices (HPDs) when exposed to loud machinery as compared to 44% of the control parents. Results indicated that intervention parents significantly (p<.05) changed hearing protection with 31% beginning HPD use after the hearing study started as compared to only 7% of control group parents. Data revealed that 80.4% of intervention parents intend to use HPDs in the future compared to 67.9% of control parents.

There was no significant difference in hearing protection knowledge or attitude between the intervention and control groups of parents.


This study utilized a psychological theory to understand perceptions of a specific population regarding health maintenance behavior for a chronic health condition. Preliminary surveys (n=22) were conducted using a 20% convenience sample of migrant Hispanic agricultural workers and their family members with non-insulin dependent diabetes mellitus (NIDDM) in Wisconsin to elicit salient beliefs concerning use of regular professional medical care for non-insulin dependent diabetes. An Intent to Obtain Regular Medical Services for NIDDM Inventory was completed by 70% (N=68) of the known population of Hispanic agricultural workers and their family members with NIDDM in Wisconsin to gather demographic, salient belief, attitude, social influence, and perceived behavioral control information regarding obtaining regular professional medical care for NIDDM. Instruments were designed according to the process developed by Ajzen and Fishbein (1980), and Ajzen (1986) applying the Theory of Planned Behavior methodology. Results revealed a moderately significant correlation (r=.409) between normative beliefs multiplied by motivation to comply and subjective norm. Also, a moderately significant correlation (r=.499) between control beliefs multiplied by perceived facilitation and perceived behavioral control. These relationships were significant at the .05 level. Regression analysis showed the relative influence of attitude, subjective norm, and perceived behavioral control on intention to obtain regular professional medical care for any individual in the population of migrant agricultural workers with NIDDM in Wisconsin. The beta weights were as follows and indicated the relative contribution of the variables in determining the intention: .238 (attitude)+.263 (subjective norm)+.131 (perceived behavioral control). Thus, subjective norm was the strongest contributor to intention to obtain regular medical care for NIDDM. The variance (R²) was calculated at .45, indicating that the components of the Theory of Planned Behavior only accounted for 14.5% of the variance affecting intention to obtain regular medical care for NIDDM in the migrant Hispanic agricultural population in Wisconsin.

Storsved, John R., II. *Frequency and quantity of alcohol use of NCAA Division III student-athletes participating in the Minnesota Intercollegiate Athletic Conference*, 1996. H.S.D., Indiana University (Nancy T. Ellis). (100pp 2f $8.00) HE 595
Three hundred forty-three student-athletes from four colleges participating in the MIAC and at the NCAA Division III level were surveyed concerning frequency and quantity of alcohol use. The subjects were members of one of the following sports teams: women’s track, men’s track, women’s softball, men’s baseball, women’s tennis, and men’s tennis. A modified version of the Core Alcohol and Drug Survey (Presley, et al., 1994) was used to collect the following information: frequency and quantity of alcohol use, sport activity, gender, ethnic origin, location of subject’s high school, and grade point average. The Chi-square test of independence was used to test associations between frequency of alcohol use, quantity of alcohol use, and the five variables. Significant associations were found between the frequency of alcohol use and the following variables: sport activity ($X^2(25)=127.99; p=.0000$), grade point average ($X^2(1)=27.49; p=.0058$), and gender ($X^2(1)=22.64; p=.0001$). Significant associations were found between quantity of alcohol use and the following variables: sport activity ($X^2(25)=24.65; p=.0069$), grade point average ($X^2(1)=77.79; p=.0000$), and gender ($X^2(1)=40.92; p=.0000$). It was concluded that female athletes, athletes reporting an “A” grade point average, and athletes on certain sports teams drank alcohol less frequently and in lesser quantities.

Street-Muscato, Louise. *Assessment of the impact of tobacco enforcement citation on Oregon tobacco retailers' knowledge, attitudes, practices and policies towards minors' access*, 1997. Ph.D., Oregon State University (Chunheui Chi). (150pp 2f $8.00) HE 596

The purpose of this study is to assess whether or not enforcement of the Minors and Tobacco Laws in the form of a citation had an impact on the knowledge, attitudes, practices and policies of over-the-counter tobacco retailers in Oregon. Demographic factors, such as store type, store size, ownership type, and location of the store that may contribute to the retailers response to receiving a citation for selling tobacco to a minor, were examined. The study examines two randomly selected groups of over-the-counter tobacco retailers in Oregon. The treatment group received a citation selling tobacco products to a minor while the control did not. A mail survey was sent to retailers selected for the study. The survey instrument measured the characteristics in each group, representing knowledge, attitudes, practices, and policies relating to the Oregon Minors and Tobacco Laws. The unit of analysis was owners or managers of retail stores. Cross tabulation and a chi-square test statistic was used to assess and determine if there was a significant association between selected variables. Multiple regression was employed to determine if there is a relationship between composite dependent variables representing retailers’ attitudes and practices and several demographic variables. Stores that had received a citation were more vigilant in compliance practices and perceptions than stores that had not received a compliance check and citation. Retailers’ believe that both negative and positive strategies are necessary to achieve retailer compliance, retailers need more educational materials for training employees, and that a training video and a device to help clerks calculate the age on a minors ID would be useful. Retailers in both groups opposed the licensing of retailers to sell tobacco. Owners and owner operated stores in country settings were found to be resistant to policies aimed at reducing minors’ access to tobacco products.

Tam, Lai-Kuen I. *A prevention and early intervention protocol for carpal tunnel syndrome in work settings*, 1997. “A graduate project” M.P.H., University of Wisconsin-La Crosse (Gerald Matheson). (126pp 2f $8.00) HE 597

Carpal tunnel syndrome (CTS) is frequently discussed under the category of repetitive strain injuries, or cumulative trauma disorders. It is described as the most common peripheral compressive neuropathy. A relative epidemic of CTS has been noted for past two decades. Many authors explained this epidemic as a result of increased use of computers and specialization in jobs. Traditional management approach of CTS is both treatment-oriented and segmental which focuses on treatment of localized symptomatic areas. However, increasing evidence shows that there is a high correlation between thoracic outlet syndrome and cervical radiculopathy with CTS, indicating a probable “double crush phenomenon”. Ergonomic design, body mechanics, posture, excessive muscle tension, and neck muscle dysfunctions are also major risk factors related to the onset of the syndrome. Increasing number of health-care professionals suggest a holistic and prevention-oriented approach to the problem. However, this writer found that resources in this direction are still limited and inadequate. In order to close this gap, a prevention and early intervention protocol for CTS in work settings was developed. This protocol describes both needs assessment and program implementation. The intervention program consists of four components, a group session on “ergonomics and body mechanics”, an initial on-site assessment, another group session on “stress and relaxation skills”, and follow-up on-site reassessment. The program design was based on adult learning principles and the health belief model. Intervention techniques include use of surface electromyography, individual, and group practice. Twenty-five appendices, including a marketing information packet, teaching materials, and assessment forms are provided.

Teske, Heidi M. *Validity of body composition assessment methods for male cardiac patients*, 1997. M.S., University of Wisconsin-La Crosse (John P. Porcari). (49pp 1f $4.00) HE 598
Six body composition assessment methods were administered to each of 24 male cardiac rehabilitation (CR) patients (M age=63 yrs) in the La Crosse Exercise and Health Program. Methods included skinfold measurement, circumference measurement, near infrared interactance via the Futrex-5000, bioelectrical impedance via both the BioAnalogics ElectroLipoGraph and the Tanita TBF-150, and hydrostatic weighing, the criterion measure. A repeated measures ANOVA indicated no significant difference (p>.05) between circumferences and skinfolds as compared to the criterion measure. Circumferences were most closely related to hydrostatic weighing with a constant error (CE) of .06%. Skinfolds were also closely related (CE=1.13%), but not recommended for the CR population based on the greater potential for measurement error. Near infrared interactance presented the best SEE (3.5%) and the best correlation (r=.84) with hydrostatic weighing, however the CE was 3.76%. This may be a viable method if the instrument is adjusted specific to the CR population because it is consistent, easy to use, and requires little training Bioelectrical impedance by either method is not recommended as it underestimated percent body fat by 4.8-8.1% and required a 12 hour fasting period which is not conducive for the CR population. It appears that the best method for determining percent body fat in the CR population is circumference measurement since it is accurate, easy to administer, inexpensive, and has little associated tester error.

Van Ess, Erica. *Investigation of the presence and change over time of water quality parameters in selected natural swimming areas in Oregon*, 1997. M.S., Oregon State University (Anna K. Harding). (73pp 1f $4.00) HE 599

Few studies, and none in Oregon, have examined the presence and change of water quality parameters over time in popular natural swimming areas. This information is necessary to better understand water quality and risk of illness from either fecal contamination or cross-infection from other swimmers. The purpose of this study was to quantitatively measure bacterial and selected physical and chemical parameters, and collect background information for changes to the current state water quality criteria. Five natural swimming areas in Linn, Benton and Polk counties were chosen and sampled biweekly for physical, chemical, and bacterial parameters over a nine week period from June 28 to August 31, 1996. The results showed differences in bacterial levels over the sampling period which often varied by degrees of magnitude between sites. For example, the range in Escherichia coli levels was between 0 and 1000 colonies/100mL sample for two sites on the same sampling day. Similarly, the range in fecal coliform levels was between 5 and 500 colonies/100mL sample. The daily colony counts at each site exceeded the state standards at least 10% of the time for *E. coli* and 21% of the time for fecal coliform. At the most popular swimming site, Park, the fecal coliform regulatory levels were exceeded 79% of the time and *E. coli* levels were exceeded 42% of the time. This may be due to turbidity, high bather load, or a broken sewer line. The 30 day log mean of these values shows consistently elevated fecal coliform problems only at Montieth Park. For the other sites, the log means did not exceed the state and federal regulatory limits for fecal coliform or *E. coli*. This raises questions about which estimates should be used to assess public health risk. None of the other parameters in this study were correlated with bacterial counts, so it appears that none of these factors is solely responsible for elevated bacterial levels. Further testing should be done at Montieth Park to determine the cause of the elevated fecal coliform levels. Any follow-up studies should test several different indicator organisms in addition to *E. coli* for comparison and assessment of their relationship to public health risk.

Walter, Sandra M. *Examining the effects of drug testing on drug use at the secondary education level*, 1997. “A thesis project” M.S., Ball State University (William C. Thompson). (104pp 2f $8.00) HE 600

The primary purpose of this study was to determine if a drug testing program could impact or change student drug use at the secondary education level. Secondary purposes were to 1) assess the perceptions of secondary education students toward licit and illicit drugs, drug use, and the newly implemented drug testing program, and 2) to examine why drug use may continue even after a drug testing program has been implemented. Data was collected through the use of questionnaires, discussion groups, and one-on-one interviews. Examination of the questionnaire data indicated that student drug use was not substantially deterred by the newly implemented drug testing program over a three to four month time period. Also, students’ perceptions of the newly implemented drug testing program were mainly that of disagreement. Students commented that they felt the drug testing policy was implemented to “catch them” using drugs rather than “help them” with a possible drug addiction. One of the main reasons that the drug testing program did not have a great deterrent effect on student drug use, as suggested by the students, was that the odds were not high enough that they would be selected to be drug tested. In some instances, drug testing was not proving to be a deterrent to drug use, but rather a deterrent to participation in school activities. However, for some students, drug testing was proving to be a deterrent to drug use. As quoted from one of the discussion group members: “It’s a step in the-right direction.”

RECREATION AND LEISURE

Jacobson, Sharon A. An examination of leisure in the lives of old lesbians from an ecological perspective, 1996. Ed.D., University of Georgia (Diane Marie Sandahl). (305pp 4f $16.00) RC 503

Contemporary leisure theory has emphasized ways that leisure can enhance or reaffirm one’s sense of self. Social sanctioning against characteristics such as age, gender, and sexual orientation has the potential to be a source of negative feedback about the self. This study was approached from an ecological perspective and examined how being a member of one disempowered population, old lesbians, influenced and was influenced by leisure. Sixteen lesbians, over the age of 60, completed an open-ended mailback questionnaire about their lives and their leisure. Two semi-structured in-depth-interviews were conducted with eight of these women. These interviews were transcribed and analyzed using Hycner’s (1985) guidelines for phenomenological analysis. Five general themes: (a) negative social sanctions and resistance; (b) not fitting in and making one’s self fit in; (c) being made invisible and making one’s self invisible; (d) isolation from and by others; and (e) the presence of men and one unique theme, leaving and entering a heterosexual identity were identified. The ecological perspective proved useful for illustrating the extent to which these women’s lives and leisure were impacted and controlled by prevailing social attitudes and negative social sanctions. Leisure was not always a sanctuary for them; often it presented a painful reminder of how they did not fit in with the rest of the world. However, leisure also served as a context for resistance against these negative social sanctions. Women who were able to create their own community of friends, and actively engaged with those people in formal or informal gatherings, found a source of strength, vitality and re-affirmation. It is important for leisure researchers to understand how societal values are enacted and reinforced through leisure contexts. Leisure does not operate in isolation from the rest of culture; people who feel devalued in their leisure are likely to feel devalued in other domains of their life. Index words: Aging, Ecological Perspective, Leisure, Lesbians, Participatory Action Research, Phenomenological Analysis.

Kiger, John R. An examination of the determinants to the overall recreational sports participation among college students, 1996. Re.D., Indiana University (W. Donald Martin). (149pp 2f $8.00) RC 504

This study examined which undergraduate college students do participate in recreational sports and to examine the determinants of the level of participation. The two categories of recreational sports examined were intramural and informal sports. A questionnaire was mailed to 988 undergraduate students from a large Midwestern university selected randomly by computer. The sample consisted of 436 usable questionnaires which represented 44.13 percent of the population surveyed. Chi-square analysis was utilized to examine the nominal data generated by the survey questionnaire. A factor analysis was conducted on the items measuring motivations for recreational sports participation. Three motivational factors were produced from the factor analysis. These factors were analyzed along with the categorical independent variables for use in a multiple regression analysis. Conclusions from the data analysis indicate: a student’s gender does influence the likelihood to participate in intramural and informal recreational sports; residence location does influence the likelihood of participating in intramural recreational sports and the level of participation in intramural recreational sports; previous sports participation does influence the likelihood to participate in both intramural and informal recreational sports; extrinsic and intrinsic motivations influence the level of participation in intramural recreational sports; and intrinsic motivations influence the level of participation in informal recreational sports.

Lewis, James B. A case study of the process of tourism development in rural communities in the state of Indiana, 1996. Ph.D., Indiana University (Daniel D. McLean). (305pp 4f $16.00) RC 505

Twenty-nine tourism influencers were interviewed in four rural communities in Indiana concerning the process of tourism development in their community. Using qualitative case studies, a model of the tourism development process was formulated and all models were compared to formulate an overall model. Six themes emerged from the data as important to the tourism process. They were (a) the involvement of community organizations; (b) investment of local resources; (c) local control of the process; (d) the effect of tourism on the economy; (e) resident support for tourism; and (f) tourism development planning. The conclusions illustrate that tourism was initiated locally, involved local organizations, locally controlled, and used local resources. It was also a self development project, or was developed from within, as opposed to from outside of the community. This study raises additional questions about tourism. Tourism models suggest that as tourism is developed, it passes through stages in which control of development grows beyond the scope of a community. These findings are contrary to that model. In the case communities, tourism evolved, grew through a formation and development stage, and then tended to centralize. It did not grow and develop beyond the scope of the community.
A detailed questionnaire was sent to 100 nursing homes in WI and 69% returned a usable questionnaire. Of these facilities, 96.9% were classified as skilled with an average of 110.5 residents per facility, 2.2 females to each male. There were 4.4 staff members per facility, a ratio of 25 residents per staff member. The majority (51%) of the respondents felt they had adequate space for physical leisure activities (PLA) and 84.5% had a budget allotment for PLA of less than 10%. Thirteen groups of PLA were identified with the group, exercise activities including balls, being most frequently offered (86.2%). An average session lasted from 30.6 to 60.9 mins for 1.2 to 3.9 sessions/week. More females than males participated and more participants were active than passive. Eleven categories of equipment were identified with balls being used by the most facilities (97.1%). Modified equipment and staff assistance were used to help residents participate in PLA, and occupational, physical, recreational, and speech therapies were also utilized by residents. Respondents listed additions they would like to incorporate and problems preventing these changes. Only one of the 33 returned mission statements included PLA.

Reader, Karen. Ropes course universality, 1996. M.S., University of Wisconsin-La Crosse (Patrick DiRocco). (69pp 1f $4.00) RC 507

Ropes courses throughout the United States (N=102) were surveyed to determine the ability of the courses to accommodate people with disabilities from the standpoint of attitude, program, and structure (universality). A questionnaire consisting primarily of Likert-type questions was used to establish baseline data on the current universality of surveyed ropes courses. Questions on the five separate components in Sugerman’s Model of Universality were used to determine total universality. These components included: resource information, personal attitudes, provision of information, structural accessibility, and program implementation. Results indicated that most respondents had very positive attitudes towards including people with disabilities on the ropes course. Respondents tended to perceive their courses as structurally accessible to people with physical limitations with the exception of people who used wheelchairs. Results indicated that staff training and available resources were not being utilized by many courses to enhance universality. Information on how to include people with physical disabilities on the ropes course (in the form of resources, training, workshops, and inservices) needs to be developed and readily available to facilitators and directors.


The problem of this study was to investigate (a) perceptions of U.S. ski resort marketing representatives (USMR) and Japanese ski tour operating professionals (JTOP) of their organization’s international marketing activity level (IMAL) and (b) influences of perceived IMAL upon their promotional activity toward Japanese skiers. The study also described the image and promotional considerations that JTOP have of U.S. ski resorts. 250 JTOP and 17 USMR responded to a mailed survey questionnaire. The results revealed no significant difference between the two samples in their perception of IMAL. A significant relationship was found between (1) USMR’s perceived market potential of the Japanese skiers and their actual IMAL, (2) JTOP’s perceived IMAL and their knowledge level of U.S. ski destinations, and (3) JTOP’s knowledge level of U.S. ski destinations and their promotional motivation level toward them. JTOP had a strongly positive image of U.S. ski destinations as being spacious and scenic. They also viewed snow conditions as powdery and ski runs as diverse. On the other hand, they perceived the same ski destinations as not being easily accessible and tour packages as being difficult to organize. JTOP considered transportation and accommodation to be the most important tourism factors to improve U.S. ski package promotion while they considered ski resort attractions to be the least important. Both U.S. ski resorts and Japanese tour operators are still in the infancy stage of developing a skiing clientele from Japan to the United States. The study facilitated the initial step for both USMR and JTOP to make a decision in developing a new market which may eventually generate mutual profit.

Stiefvater, Robert E., Jr. The social construction of leisure for illegal recreational drug users, 1996. Re.D., Indiana University (Ruth V. Russell). (178pp 2f $8.00) RC 509

The purpose of this study was to investigate the meaning of leisure to individuals who define themselves as users of illegal recreational drugs. The primary focus of this study was to identify the attributes or subjective properties of leisure associated with recreational drug use. A model that represents the established subjective properties was created after reviewing leisure research studies that identified the attributes, or subjective properties, of leisure. The model represents both leisure activity-general and activity-specific attributes. Leisure activity-general attributes are associated in approximately the same degree by all leisure activities. These include intrinsic satisfaction, perceived freedom, arousal, and involvement. Leisure activity-specific attributes relate to subjective properties that are achieved through participation in some leisure activities.
activities more than by participation in other leisure activities. These include mastery, spontaneity, creativity, and relaxation. Through the interview process with the 14 participants, it became clear that for them the attributes of the model did indeed fit their leisure experiences, both their mainstream leisure experiences and their experiences of using recreational drugs. In addition to finding that the model created for mainstream recreational behavior did fit participants’ experience of recreational drug use, analysis of participants’ remarks revealed three additional leisure properties: control, connecting, and enhancing.

Tarrell, Julie M. A descriptive study of the current status of physical leisure activities in community based residential facilities in Wisconsin, 1996. M.S., University of Wisconsin-La Crosse (Nancy K. Butts). (101pp 2f $8.00) RC 510

A detailed questionnaire was constructed to assess current physical leisure activities in 100 Community Based Residential Facilities (CBRF) in Wisconsin that provide services to those with infirmities of aging. A 55% response rate was achieved. The majority (60%) of facilities represented were licensed as Class C having a ratio of 3:1 in terms of female and male residents. CBRF offer an average of 11.2 activity programs per week with 78.3% of the facilities allotting less than 20% of their annual budget for physical leisure activities or exercise groups. Only 32.7% of CBRF provided residents with some form of recognition for accomplishing physical goals, usually in the form of verbal praise (29.4%). The majority of facilities (96.1%) implemented physical leisure activities in rooms that served other purposes and 72.5% of the respondents were satisfied with this arrangement. The majority of exercise related equipment was represented by balls (21.6%), aerobic tapes (9.9%), and bowling sets (8.2%). Walking was the most common form of activity, which was implemented in 53.8% of the CBRF. Participation in any activity ranged from 1.5 to 5.5 days per week. Length of exercise sessions ranged from 10 to 60 minutes. The majority (85%) of therapeutic services were provided by an outside organization. Some additional comments that were provided by CBRF staff included the need for more structured physical activities, a room designated for activities, more qualified staff, equipment designed for elderly individuals, and an increased budget. A summary of results was sent to each participating CBRF to provide some useful information for their current activity programs.

Yaffe, Robin M. Leisure and adjustment to date rape, 1996. Ed.D., University of Georgia (Douglas A. Kleiber). (140pp 2f $8.00) RC 511

Leisure appears to be implicated in the date rape experience; but, this aspect of date rape has not previously been explored. Because of the trauma associated with date rape, women who have been raped in the context of a date may have particular problems with such leisure-related experiences as relaxation and enjoyment. Nevertheless, because of the inherent characteristics associated with leisure (e.g., enjoyment, intrinsic motivation, self-expression, and a sense of freedom), it might also be used to alleviate the stress associated with the date rape event and/or to assist in the readjustment and transformation process. Therefore, the purpose of this study was to explore the relevance of leisure in the date rape experience and any changes that might have occurred to the participants’ lifestyles as a result of their date rape experiences, and to determine if leisure was in any way implicated in the process of coping with date rape. Nine women who had experienced date rape participated in in-depth electronic mail and telephone interviews. Data were analyzed using strategies associated with grounded theory and heuristic inquiry. Three primary categories emerged from the data: Patterns of Disrupted Sociability, Vehicles of Escape and Vehicle of Reintegration. Patterns of Disrupted Sociability included social interaction problems related to (a) feeling out of control, (b) loss of trust, (c) withdrawal and isolation from others, (d) submitting to unwanted sex out of fear of reprisal, and (e) problems in dealing with men. The women’s rape experiences also fostered the need for diversion. Vehicles of Escape characterized the various withdrawal responses that followed in the immediate aftermath of the rape experience. Vehicles of Reintegration included the steps the women took to regain their sociability and lessen the need to block their thoughts and feelings. Vehicles of Reintegration that were reported as being helpful were (a) meeting and getting to know friends, (b) the support of new lovers and partners, (c) the assistance provided by support groups, (d) involvement with family, work, and volunteer activities, and (e) new social arrangements. Index words: Leisure, Date Rape, Adjustment, Coping, Women, Grounded Theory, Heuristic Inquiry, E-mail

PSYCHOLOGY

ANXIETY

Borrelli, Dina M. Examining the relationship among measures of anxiety, self-confidence, arousal, and performance of elite field hockey players, 1997. “A thesis project” M.S., Ball State University (Valerie Wayda). (85pp 1f $4.00) PSY 1938

The primary purpose of this study was to examine the relationship among levels of trait and state anxiety, self-confidence, arousal and performance of athletes throughout a competition. A secondary purpose was to examine the usefulness of a variety of instruments used to obtain levels of anxiety, self-confidence, arousal, and performance. Trait anxiety was measured by the Sport Competiti-
tion Anxiety Test (SCAT) (Martens, 1990) and levels of state anxiety and self confidence were measured using the Competitive State Anxiety Inventory-2 (CSAI-2) (Martens, 1990). Pre-game and game arousal levels were distinguished by monitoring heart rates via heart rate monitors. Performance of each athlete was evaluated by the head coach. An overall rating or score was determined through the use of a Performance Rating Inventory which was developed specifically for this study. Thirteen members of the Ball State Field Hockey Team, ranging in ages from 18-22 years, agreed to participate in this study. Data was collected for 19 competitions from their regular season schedule. The SCAT was administered to the athletes in a non-competitive environment to determine trait anxiety levels. Levels of state anxiety (cognitive and somatic), self confidence, arousal, and performance were obtained for every competition played. Pearson Product-Moment Correlation was used to determine the relationship among levels of trait and state anxiety and arousal to playing performance. Overall, there was no statistically significant relationships found among these levels. A follow-up analysis examined the data by the three most competitive and three least competitive games of the season. Group means were graphed according to pre-game and game arousal and no significant difference was shown between the two levels of competitiveness. Group means of the three subscales of the CSAI-2 (cognitive, somatic and self-confidence) were also graphed. Cognitive and somatic state anxiety levels were at its highest and self-confidence was at its lowest for the more competitive games and cognitive and somatic state anxiety were at its lowest and self-confidence was at its highest for the least competitive games. As a result of these findings, physiologically the athletes approached both types of games similarly. The difference was in the mental approach which ultimately could of been the difference in a win or a loss.

Leary, Kimberly M. The relationships of competitive trait anxiety, attentional focus, age, and experience level of equestrians, 1997. M.S., Springfield College (Mimi Murray). (146pp 2f $8.00) PSY 1947

This study was designed to determine the relationships of competitive trait anxiety, aspects of attentional focus, age, and experience level in intermediate and advanced equestrians. The Sport Competition Anxiety Test for Adults (SCAT-A) (Martens, 1977) and the attentional subscales of the Test of Attentional and Interpersonal Style (TAIS) (Nideffer, 1993) were administered to equestrians (N=78). Age and experience level were obtained from a demographic sheet. Positive significant (p<.05) relationships were found between competitive trait anxiety and age, indicating older riders had higher levels of competitive trait anxiety; and between competitive trait anxiety and the attentional styles of ‘overloaded by external information’, ‘overloaded by internal information’, and ‘reduced attention’ subscales of the TAIS. Riders with higher levels of competitive trait anxiety were more likely to pay attention to unimportant stimuli, were more distracted by their own thoughts, and were less likely to focus properly on relevant cues. A significant (p<.05) negative relationship was found between competitive trait anxiety and the ‘narrow-focused attention’ subscale of the TAIS, indicating that riders with higher levels of competitive trait anxiety were less likely to effectively narrow attention.

ATTITUDES AND VALUES

Shunk, Anna L. Attitude changes on physical fitness after completing a fitness walking class, 1997. “A research paper” M.A., Ball State University (Gwen Robbins). (40pp 1f $4.00) PSY 1958

The purpose of this study was to determine if student’s attitudes and/or walking performance changed after taking a fitness walking class. Sixty-three college students enrolled in fitness walking classes, participated in this project. Subjects completed the one-mile walk as part of their fitness walking class on a pre/post basis. In addition, subjects completed the Attitude Subscale of the Wellness Knowledge, Attitude, and Behavior Instrument (Dinger, 1994). A one-group pre-test post-test design was used to analyze the data. The Two-Way ANOVA revealed there was not a significant change in the students attitude (p=.6457) but there was a significant change in time (p=.0001). Also, there was a significant interaction between the subject’s attitude and an improved time on the one-mile walk test (p=.0023). Subjects pre-tested with a “good attitude” classification on the attitude questionnaire. Although attitude did not rise to the excellent classification after taking the fitness class it did improve, however not significantly. Over the course of the semester the subjects walking performance times improved, yet they still fell into the poor fitness category. The significant interaction revealed that as the subject’s walking times improved, their attitude improved as well.

Stuart, Moira E. An examination of adolescents’ sources of subjective task value in sport, 1997. Ph.D., Oregon State University (). (126pp 2f $8.00) PSY 1961

Sport is an avenue for children and adolescents to improve physical skills as well as enhance their psycho-social development. Despite the benefits of sport, numerous children and adolescents choose not to be physically active. Consequently, several investigators have sought to determine why some children choose to participate in sport, while others do not. The perceived importance or value, attached to an activity is one factor that has been considered central to predicting behavioral choices in
BEHAVIOR ANALYSIS

Ethridge, M. Kriss The effectiveness of individualized mental training program on attentional styles, competitive trait anxiety and performance of female softball players, 1997. “A thesis project” M.S., Ball State University (Valerie Wayda). (91pp 1f $4.00) PSY 1942

While many studies have examined the effects of mental training programs on anxiety and concentration as they pertain to performance, none have examined the effect simultaneously as they relate to performance. Few studies have examined mental training programs, especially individualized mental imagery scripts, as they relate to the athlete’s attentional profile and level of trait anxiety. The purpose of this study was to determine if a mental training program alters attentional profiles and trait anxiety. Additionally, this study determined if a mental training program had a transfer effect on performance. The following null hypotheses were examined: 1) There would not be a significant difference in attentional profiles before or after a mental training program; 2) there would not be a significant difference in trait anxiety scores before or after a mental training program; 3) there would not be a significant difference in an athlete’s performance before or after a mental training program. The subjects (N=20) in this study were comprised of Ball State University Women’s Softball members. The age range of the subjects was between 18 and 23. The instruments used in this study were the Test of Attentional and Interpersonal Styles Self-Assessment (TAIS-SA) (Nideffer, 1980) for attentional styles and the Sport Competition Anxiety Test (SCAT) (Martens, 1977) for competitive trait anxiety. Batting performance was recorded by the investigator as the subjects took batting practice (from a pitching machine) during the normal course of practice. Each subject was given a log sheet and was asked to keep a record of the number of times she used the mental training program per week. This study was a pretest, posttest design, and dependent t-tests (p<.05) were calculated for the six subscales of the TAIS, the SCAT, and performance. There was a statistically significant difference from the pretest to the posttest on the levels of anxiety as measured by the SCAT and on hitting performance. While all scores on the six subscales of the TAIS-SA changed, they were not statistically significant.


The researcher explored the ability of the Sport Orientation Questionnaire (SOQ) (Gill & Deeter, 1988) to predict preference for competition in recreational swimming, and examined gender and developmental differences in competitiveness. Subjects (n=460) were recreational swimmers in Taiwan aged 10 to 75. Subjects’ participation in swimming tournaments represented preference for competition. Six age groupings represented developmental levels. T-tests of all three SOQ subscales differentiated subjects by tournament participation (p<.001). Correlation and logistic regression analyses showed win and goal orientation subscales related to participation only within their correlation to the competitiveness subscale. A 2 X 2 X 6 ANOVA using competitiveness scores found main effects of participation (p<.0001), gender (p<.0001) and age group (p<.0387) and a significant (p<.0201) participation by gender interaction. In a Fisher LSD analysis, the youngest group (10 - 14 years) yielded a significantly (p<.05) higher competitiveness subscale mean. Differences in competitiveness based on tournament participation were greater in females than in males.

Maldari, Monica M. A comparison of the physiological and psychological responses to exercise on a virtual reality recumbent cycle versus a non-virtual reality recumbent cycle, 1997. M.S., University of Wisconsin-La Crosse (John P. Porcari). (64pp 1f $4.00) PSY 1950

This study compared the physiological and psychological responses to exercise on a virtual reality (VR) cycle versus a non-VR cycle. Ss included 18 healthy volunteers (10M, 8F) between the ages of 21 and 41 years. During testing sessions, Ss completed pretest Exercise Induced Feeling (EFI) and Profile of Mood States (POMS) questionnaires,
and performed 20 minutes of self-selected exercise on each cycle. HR, VO₂, RPE, RER and Kcal were recorded every minute. Posttest EFI and POMS questionnaires were completed after each exercise session. Significant increases (p<.05) were found for both VO₂ (12%) and Kcal expenditure (14%) during the VR condition compared to the non-VR condition. POMS scores indicated a significant (p<.05) reduction in Anger after the VR condition. Physical Exhaustion as measured by the EFI increased significantly (p<.05) after the VR condition. There were no significant differences between injured athletes and non-injured athletes on the attentional subscales. The interpretation of analyses completed indicated that there were no differences between injured (n=21) and non-injured (n=18) athletes. Athletes from the non-injured group were randomly selected to equalize group numbers (21 injured, 18 non-injured). Athletes incurring an injury related to a previous injury, as determined by the researcher, were eliminated from the study (21 injured, 18 non-injured). The conclusion of the season, players were categorized into an injured group (n=65) and a non-injured group (n=29). An independent groups t-ratio was used to analyze differences in mean mood states. No significant differences (p>.05) were found between aerobic and anaerobic exercise groups and no significant differences were found in moods at the pre, mid, and posttest times. Aerobic exercise did not appear to elicit positive mood state changes more than anaerobic exercise. Researchers may need to consider exercise which is specifically designed to meet the needs of the individual, in order to facilitate positive changes in mood states.

Switlik, Michael P. Life events and depression of injured and non-injured football players, 1997. M.S., Springfield College (Mimi Murray). (100pp 2f $8.00) PSY 1962

The intent of the researcher was to determine if life event change and depression influenced the occurrence of injury. Participants from a NCAA Division I football team (N=94) were administered the Social and Athletic Readjustment Rating Scale (SARRS) (Bramwell, Masuda, Wagner, & Holmes, 1975) and Beck Depression Inventory (BDI) (Beck & Steer, 1993) prior to the start of preseason practice. Injury was reported at the end of each week via electronic mail and injured athletes were defined as those who had missed one or more practices or one or more games. At the conclusion of the season, participants were categorized into an injured group (n=65) and a non-injured group (n=29). An independent groups t-ratio was used to analyze differences in life events and depression between the two groups. A Pearson product-moment correlation coefficient was used to analyze interscale correlations. The mean depression score of the injured football players was not significantly higher (p>.05) than the non-injured. The mean life events score for the injured football players was not significantly higher (p>.05) than the non-injured. No correlation was found (p>.05) between the scores for life events and depression. The lack of significance may be explained by the age of the participants, the scoring of the life events scale, and the time of administration of the depression scale.

Yoo, Ho S. Exercise vs. imipramine in the treatment of clomipramine-induced depression in male rats, 1995. Ph.D., University of Georgia (Rod K. Dishman). (138pp 2f $8.00) PSY 1970

The antidepressant effect of exercise was tested using the clomipramine (CLI) model of depression (Vogel et al., Neuroscience & Biobehavioral Reviews, 14:85-91, 1990). We examined whether chronic exercise attenuates the reduced
sexual behavior and increased immobility during forced swimming that are features of the CLI model. Male Sprague Dawley pups (N=60) were injected with the 5-hydroxytryptamine (5-HT) reuptake inhibitor clomipramine hydrochloride (40 mg/kg/day IP) from age 8 to 21 d. Another group (N=12) received saline vehicle. At age 4 wk, the CLI pups were randomly assigned to experimental conditions: (1) sedentary (sed); (2) 24 h access to an activity wheel (AW); (3) sed that received the antidepressant drug imipramine hydrochloride (IMP) (10 mg/kg/twice daily) during the last 10 d of the experiment; (4) AW plus IMP; (5) treadmill running (30 m/min for 1 h at 0° incline, 6 d/wk). At age 16 wk, rats underwent sex behavior testing and the Porsolt swim test counterbalanced on separate days 48 h after the last IMP injection and/or the last exercise session. One-way ANOVA and Duncans post hoc test (p<.05) indicated that AW had more frequent mounts, intromissions, ejaculations, and a shorter post ejaculation interval compared with the sed CLI and other treatment groups. The effects of AW were independent and non-additive with IMP. Means for sex behaviors favored the saline controls vs sed CLI, consistent with the CLI model. Groups did not differ on immobility time during the swim test. The ratios of 3-methoxy-4 hydroxyphenylglycol (mHPG)/norepinephrine [NE] and 5-hydroxy-indole-Acetic Acid [5-HIAA]/[5-HT], indexes of NE and 5-HT activities, in brain frontal cortex did not differ among groups, but the effect size of the [5-HT]/[5-HIAA] ratio in AW vs the sed CLI and saline groups was large (SD ~.90). NE levels were higher in all exercise groups and IMP compared with the sed CLI and saline groups. Radioligand (-)[125I] iodocyanopindolol binding density (Bmax) of b-adrenoceptors in brain frontal cortex was lower for AW, IMP, and AW plus IMP. Chronic activity wheel running, but not treadmill training, increased sexual activity independently of increased levels of NE, decreased b-adrenoceptors, and increased citrate synthase activity (m mol/min/g wet wt) in soleus locomotory muscle. The null effects for the Porsolt swim test limit the convergent evidence for an anti depressant effect of wheel running and for the construct validity of the CLI model. Activity wheel running after CLI equaled imipramine treatment for increasing [NE] and decreasing b-adrenoceptor density and exceeded imipramine treatment for increasing sex behavior. Index words: Activity Wheel, Treadmill, Sexual Activity, Porsolt Test, Norepinephrine, Serotonin, b-adrenoceptors.

Zedaker, Jason M. *Physiological and psychological responses to self-selected exercise using a virtual reality and non virtual reality stepper*, 1997. M.S., University of Wisconsin-La Crosse (John P. Porcari). (71pp 1f $4.00) PSY 1971

Health benefits, both physical and mental, result from regular, moderate intensity exercise. The purpose of this investigation was to determine the effects of visual, audio, and interactive stimuli, provided by a virtual reality (VR) stepper, on ratings of perceived exertion (RPE), self-selected exercise intensity, psychological parameters, and exercise enjoyment when compared to a similar non-virtual reality (nonVR) stepper. Eight male (age=25.1±3.8 yr., ht=174.6±5.5 cm, wt=76.9±7.0 kg) and ten female (age=25.5±5.0 yr., ht=165.8±6.1 cm, wt=60.6±6.5 kg) volunteers exercised for 20 minutes at a self selected pace using the VR and nonVR stepper on separate days, in random order. There were significant (p<.05) 10% increases in VO2 (29.8 vs. 32.6 ml/kg/min) and caloric expenditure (10.1 vs. 11.1 Kcal/min) with the VR compared to nonVR condition. There were no significant (p>.05) differences in RPE (14.9 vs. 14.6). No significant trends were observed by the psychological evaluations other than the normal exercise response. Follow-up questionnaires indicated a unanimous preference for the VR stepper over the nonVR stepper. It was believed by the investigator that the external stimuli provided by the VR stepper caused the subjects’ attentional focus to shift externally which resulted in a higher level of exercise intensity, without the feeling of greater exertion.


The role of attributions in predicting future performance has been a popular topic of study for researchers in psychology and sport psychology over the past 25 years. Recently, the area of attributional style has broadened this topic to examine the causal ascription process with a dispositional or trait approach. The present study included 109 varsity and club athletes and was designed primarily to test the predictive validity of gender, self-confidence, and achievement orientation on attributional styles in athletes. In addition, gender differences were examined on self-confidence and achievement orientation in an attempt to confirm previous findings (Gill & Deeter, 1988; Vealey, 1986b). Gender failed to significantly predict attributional dimension scores. Dispositional optimism successfully predicted internal, controllable, and intentional attributions to positive events as well as internal attributions to negative events. Perceived competence failed to significantly predict any of the attributional dimension scores. Achievement orientation variables (competitiveness, win orientation, and goal orientation) were able to predict intentional and global attributions following success, but were unable to predict internal attributions to either positive or negative events. Finally, results also revealed no statistically significant differences between females and males on self-confidence or achievement orientation. Recommendations are made for future research directions.
regarding attributional style in sport and suggestions are offered for the potential extension of the results into the applied sport psychology setting.

**MOTIVATION**

Chaumeton, Nigel R. *The influence of task and ego goal orientations and perceptions of competence on affect and intrinsic motivation in competitive youth tennis*, 1996. Ph.D., University of Oregon (Maureen R. Weiss). (232pp 3f $12.00) PSY 1939

Theories of achievement motivation (e.g., Ames, 1984, Dweck, 1986; Nicholls, 1984, 1989) predict that goal orientations and perceptions of competence influence children’s motivation in physical activities. Specifically, these theorists predict that children who define success in terms of doing better than other children, but who maintain low perceptions of competence, are more likely to exhibit dysfunctional achievement behaviors such as withholding effort, avoiding participation, and displaying lack of persistence. The majority of achievement motivation research conducted in sport psychology has focused on the relationships between goal orientations and conceptually related variables such as intrinsic motivation (e.g., Goudas, Biddle, & Fox, 1994) without accounting for participants’ perceptions of competence. The purpose of this study was to examine the relationships of goal orientations and perceptions of competence with precompetitive anxiety, postcompetitive affect, and intrinsic motivation among 11 to 16 year old tennis players. Tennis athletes (N=319) completed measures of task and ego goal orientations, perceived tennis competence, and precompetitive trait anxiety. Precompetitive state anxiety was assessed immediately prior to a competitive event, and positive and negative affect and intrinsic motivation were assessed at the conclusion of tennis matches. The data were analyzed in a series of multivariate multiple regression analyses conducted for male and female athletes separately. Results revealed an inconsistent pattern of relationships among variables. Nonsignificant relationships were observed in each of the analyses conducted for the female sample. For male participants, task and ego goal orientations did predict a meaningful amount of the variance in postcompetitive affect and intrinsic motivation in both winning and losing participants, but did not predict precompetitive anxiety. In conclusion, this study did not find consistent support for hypotheses derived from Nicholls’ (1984, 1989) theory of achievement motivation. Few participants could be defined as being high ego-oriented, low task-oriented, and low in perceived competence. Additionally, a large proportion of the variance in affect and intrinsic motivation was unexplained by goal orientations and perceptions of competence.

Connely, Teresa A. *The relationship of golf orientation to motivation among women golfers*, 1996. M.S., Springfield College (Mimi Murray). (162pp 2f $8.00) PSY 1940

The study was designed to explore the relationships between goal orientation as defined in the goal perspective theory (Nicholls, 1989), and motivation, as defined in the cognitive evaluation theory (Deci & Ryan, 1985) among women golfers. The Task and Ego in Sport Questionnaire (TEOSQ) (Duda, 1989i Duda & Nicholls, 1992), the Sport Motivation Scale (SMS) (Pelletier, Fortier, Vallerand, Tuson, & Briere, 1995), and the Participation Motivation Questionnaire (PMQ) (Gill, Gross, & Huddleston, 1983) were administered to women golfers (N=469). Golf handicap and age were also obtained. Positive significant (p<.05) relationships were found between task-orientation and both the intrinsic and extrinsic motivation factors. Positive significant (p<.05) relationships were also found between ego-orientation and the extrinsic motivation factors. Negative significant (p<.05) relationships were found between golf handicap and the ‘compete’, and ‘recognition/status’ factors of the PMQ (Gill et al., 1983), as well as with age. In conclusion, task oriented golfers are motivated by both intrinsic and extrinsic determinants. Ego-oriented golfers are motivated by more extrinsic determinants than intrinsic determinants. Better golfers tend to be younger, and are motivated by more extrinsic factors than intrinsic factors.

Freiling, Howard P. *An analysis of the factors that influence fan attendance at minor league baseball games*, 1996. M.A., University of North Carolina at Chapel Hill (Frederick O. Mueller). (67pp 1f $4.00) PSY 1943

The purpose of this study was to ascertain important factors that influenced people to attend Pittsfield Mets minor league baseball games. This information may be utilized by the General Manager of the Pittsfield Mets and general managers throughout minor league baseball to better market their respective teams. A profile of the typical Pittsfield Mets fan was developed as well. A nineteen item questionnaire was administered at fourteen home games. The sample consisted of 272 completed questionnaires. The items were grouped into six categories to determine their importance. Facility factors comprised the most influential category followed by financial/ economic, promotional, social, competitive, and identification factors. Enjoyment of baseball was the highest rated factor that influenced people to attend games. This factor was followed by cleanliness of the stadium, condition of the stadium, price of concessions/souvenirs, and quality of play. The typical fan was a male between thirty-six and forty-five years of age who earned less than $19,000 per year. He attended between one and three games per year.
with his family. He traveled over sixteen miles to attend. He was a non-resident of Pittsfield whose main reason for being in Pittsfield was to watch a game.


Researchers in sport psychology and psychology have identified numerous variables that influence motivational orientation. However, demographic and sport specific variables have largely been ignored by researchers in these fields. The present study was designed to determine the predictive ability six demographic/sport specific variables on motivational orientation. An exploratory analysis was also conducted on the relationship between these variables and various typologies associated with motivational orientation. Results indicated that variables characteristic of specific sport participation were the best predictors of motivational orientation. No independent variables were significantly associated with motivational typologies.

Recommendations are made for future research into motivational orientation, including further analysis of both sport specific and demographic variables, revising current motivational orientation theories, and potential applied implications.


The physical and psychological benefits associated with physical activity have led health and physical educators to advocate an active lifestyle for individuals of all ages. Unfortunately, as youth enter the adolescent years a sharp decline in organized sport participation and physical education enrollment occurs. Research in developmental and sport psychology has shown that peer relationships are especially salient during the teenage years. Therefore, the purpose of this study was to examine a model of peer influence on physical self-worth, affective responses toward physical activity, and physical activity motivation. This model was grounded in Harter’s (1978, 1981a, 1986, 1987) theoretical perspective on motivation and was designed to extend the literature by: (a) examining both peer acceptance and friendship aspects of peer relationships, (b) taking a context-specific approach to the study of peer relationships, and (c) assessing motivation in both cognitive and behavioral terms. The model proposed that peer relationships would predict physical activity motivation through effects upon affect and physical self-worth. Physical maturity was also included in the model because of its potential to influence adolescent physical self perceptions. Female and male adolescents (N=418), ages 12 to 15 years, completed a questionnaire that assessed the model variables. Structural equation modeling was employed to examine the model separately for male and female adolescents. Results provided general support for the proposed model: (a) friendship predicted affective responses to physical activity, (b) peer acceptance predicted physical self-worth, and (c) affect and physical self-worth mediated the association between peer relationship variables and motivation. Alternative models suggested that a high correlation between friendship and peer acceptance may have suppressed some relationships that were proposed by the original model (e.g., peer acceptance indirectly predicting behavioral motivation). Testing of model equivalence indicated that the female and male samples exhibited equivalent relationships among the model variables. The results supported Harter’s theoretical perspective and highlighted the importance of peer relationships to physical activity motivation in male and female adolescents.

**MOTOR LEARNING AND CONTROL**


The purpose of the present study was to test the laboratory predictions of practice variability within and among three golf skills (putting, chipping, and pitching) in a field setting. Participants included a total of 40 golfers (36 males, 4 females) with handicaps ranging from 1 to 14. All participants were right-handed with the exception of one. The age of participants ranged from 17 to 73 years. A 2 (Random vs. Blocked Practice) X 2 (Varied vs. Constant Practice) design was used to create four training conditions: 1) blocked constant; 2) blocked-varied; 3) random-constant; and 4) random-varied. The study was carried out in two main phases: a three week training period followed by a posttraining transfer test. During training, all participants were asked to practice three days per week for three weeks according to the training condition to which they were randomly assigned. Regardless of training condition, each training session consisted of 12 putts, 12 chips, and 12 pitches for a total of 36 golf strokes. Immediately after the ninth and final training session, all participants were given a 15 minute rest. Following the rest, all participants were administered the same transfer test consisting of 24 putts, 12 chips, and 12 pitches. It was hypothesized that during the training phase of the study, golfers in the blocked-constant practice condition perform with the least error in inches from the golf hole and golfers in the random-varied practice condition perform with the greatest error (Hypothesis 1). It was also hypothesized that during the transfer phase of the study, golfers in the random-varied practice...
Timed manual performance testing of the elderly offers a convenient, reliable means to evaluate function, to facilitate identification of decline, and to identify those for whom intervention could slow the rate of loss of functional abilities. Developing tests that are reliable, valid, portable, cost-effective, and easy to use can assist medical and health professionals in reducing the number of elderly for whom increasing age means the certainty of dependence upon others. The primary objective of this study was to establish the validity of the ATMP as a measure of function in the elderly and as an index of need for assistance in activities of daily living. Secondary goals were to determine the number of trials of the test necessary to elicit best performance and to establish the stability of ATMP scores over a brief interval of time. Three trials of the ATMP were administered to 98 volunteer subjects (265 years old) who reside in retirement communities, assisted living centers and nursing homes. Data gathered approximately 6 months earlier on independently living subjects were also included in the analysis. Mean ATMP scores for the three living categories were compared. Significant differences were found between means for all three groups. Age and gender were found to have no significant effect on ATMP scores. A comparison was made to determine the optimum number of trials to administer. It is concluded that the ATMP is a valid, reliable measure of functional abilities and living assistance requirements in a geriatric population. ATMP is not influenced by age or by gender. ATMP scores remain stable over a 6-month interval. For independently living subjects, three trials of the ATMP are sufficient to elicit best performance; for more functionally dependent groups, more trials may be necessary.

Watkinson, Jeffrey. Fractionated components of resisted reaction time in men and women, 1996. M.S., Indiana University (Harold H. Morris). (190pp 2f $8.00) PSY 1966

This study compared physical activity and functional ability in 32 white volunteers aged 70-88. Functional ability was measured with the Cognatemp™ Automated Timed Manual Performance test (Cognatemp™) and the Physical Performance Test (PPT). Physical activity was measured with the Physical Activity Scale for the Elderly (PASE). Mean Cognatemp™ score was 7.76±1.75 seconds. Mean PPT and PASE scores were 22.13±4.04 and 81.5±44.66, respectively. A negative correlation, indicating similarity, was found between the Cognatemp™ and the PASE (r=-0.70, p<.05). The relationship between the PPT and the PASE was positive and statistically significant (r=0.43, p<.05). However, the correlation between the PASE and the Cognatemp™ (r=0.27, p>.05) was non-significant. These findings suggest that physical activity is related to higher levels of functional ability. Lower levels of physical function, as measured by the Cognatemp™, may be considered requisite abilities for basic ADLs and do not display a strong relationship with physical activity in this population. These findings also support a relationship between the Cognatemp™ and the PPT as functional ability measures.

The purpose of this study was to determine whether midline crossing inhibition (MCI) was present in upper and lower extremity movements of children with learning disabilities (LD). Gross motor skill performance was assessed and the relationship between MCI and motor skill performance was investigated. 22 children with LD and 22 children without LD (6-8 years) completed the study. A protocol designed by Eason and Surburg (1993) was used to assess midline crossing behavior. Fundamental motor skill performance was assessed through the use of the Test of Gross Motor Development (TGMD) (Ulrich, 1985). MANOVAs revealed that only the children with LD exhibited MCI. ANOVAs provided evidence that scores achieved for the TGMD were lower for the children with LD as compared to the children without LD. Pearson Product Moment correlation coefficients revealed that significant relationships did not exist between MCI and motor skill performance. Stepwise multiple regression analyses showed that children with LD may be differentiated from children without LD using two types of motor assessments with the best discriminator being the upper extremity MCI index.

**SELF CONCEPT**

Koczajowski, Donna L. *State and trait sport-confidence and physical self-efficacy of professional and amateur female golfers*, 1996. M.S., Springfield College (Mimi Murray). (111pp 2f $8.00) PSY 1946

The investigation was designed to determine the differences between state and trait sport-confidence and physical self-efficacy of professional (n=19) and amateur female golfers (n=16). Subjects completed the State Sport-Confidence Inventory (Vealey, 1986), Trait Sport-Confidence Inventory (Vealey, 1986), and the Physical Self-Efficacy Scale (Ryckman, Robbins, Thornton, & Cantrell, 1982). Analyses performed were independent groups t-ratios and Pearson product-moment correlation coefficients. No significant (p>.05) differences were found for the components of the Physical Self-Efficacy Scale (Ryckman et al., 1982), Perceived Physical Ability (Ryckman et al., 1982), and Physical Self-Presentation Confidence (Ryckman et al., 1982), between the professional and amateur golfers. No significant (p>.05) differences were found for state and trait sport-confidence for the two groups of golfers. No relationship was found for the subscales of the Physical Self-Efficacy Scale (Ryckman et al., 1982) and State and Trait Sport-Confidence Inventories (Vealey, 1986) for the professional and amateur female golfers.


A minimal amount of documentation exists in regard to the experiences of African American female athletes. This study presented parallels between the experiences of African American women in society and how those experiences are mirrored in sport. Stratta’s (1995) ethnographic study on the sport experiences of African American female athletes skillfully discussed, theorized, and presented issues concerning the Black female athletic population. The problem is that no study alone is sufficient to be the voice of a topic. This lack of representation appears to be yet another marginalization of the perspectives of the African American female athlete. Further research is greatly needed in an effort to accurately portray the intricacies and complexities of this topic. The present study attempted to join Stratta’s study in addressing the issues of significance regarding the experiences of African American female athletes and to encourage further discourse and research. A qualitative content analysis was conducted on a sample of nine participants. Data were gained through the use of in-depth interviews. A pilot interview was conducted with one volunteer participant. Preliminary interview questions were formulated and distributed to an expert panel of raters in an effort to identify open-ended questions which appeared in the final interview. The following questions comprised the final instrument: 1. What is it like being an African American female athlete at this university? 2. What are some advantages/disadvantages of being an athlete at this university? 3. Has being a female influenced your sport participation and performance level? 4. How has being an African American female influenced and impacted upon the way you see yourself? 5. What can be done to address the social, academic, and personal needs of African American female athletes in a predominantly white university setting? Several themes were reported throughout the study. The most prominent themes were as follows: 1. The need for recognition; media exposure; respect from teammates, opponents, coaches, and officials; increased support; equal treatment; and more women and men of color in leadership positions. 2. An end to inordinate expectations to “prove” yourself and stereotypes (racial and gender-based). 3. Recognition of, and strategies for dealing with, the economic issues of many African American women athletes. 4. The need for programmatic efforts to enhance awareness and communication skills of athletes and coaches in dealing with racial concerns.

This study investigated the relationship between perceived body image and percent body fat among 39 male college students. Ss were randomly selected from 332 males enrolled in the HPR 105, Health and Physical Well Being, course during the Spring semester of 1996. Perceived body image was determined from the Body Cathexis Scale (Secord & Jourard, 1953) and the Body Silhouette Scale (Stunkard, Sorensen, & Schulsinger, 1983), and hydrostatic weighing was used to determine body composition. A Pearson product moment correlation revealed a significant (p<.001) relationship and a moderate (r=.52) correlation between perceived body image and percent body fat. A one-way ANOVA with repeated measures showed no significant (p>.05) differences between current and ideal, current and attractive, and ideal and attractive body figures. Body cathexis scores revealed that the males were satisfied with their body image and a Pearson product moment correlation showed no significant (p>.05) relationship between the body cathexis score and the current body figure. However, results showed that body cathexis scores increased systematically as self-perception moved toward the skinnier or fatter body silhouette. A dependent t-test showed a significant (p<.05) difference between self-reported and actual height measurements and no significant (p>.05) differences between self-reported and actual weight and BMI measurements. Perceptions of the males revealed satisfaction with their body image, however a slightly slimmer physique was desired.

Ryu, Heeseung Roh. *Korean translation and validation of the Eating Disorder Inventory-2 (EDI-2) and the Bulimia Test-Revised (BULIT-R)*, 1996. M.S., Purdue University (Roseann M. Lyle). (106pp 2f $8.00) PSY 1957

The purpose of this study was to translate two validated screening tests, the *Eating Disorder Inventory-2 (EDI-2)* and *Bulimia Test-Revised (BULIT-R)*, into Korean and to demonstrate the internal consistency and validity of the translated tests. Internal consistency of eight Korean EDI-2 subscales, examined by administering the Korean version of both tests to a Purdue sample (n=45 males, 28 females) and a combined sample (28 females from Purdue and 95 female undergraduate students in Seoul, Korea), ranged from .70 to .93 and from .80 to .90 respectively, and were similar to those derived from the original English version (.83-.93). Likewise, Cronbach alphas for three provisional subscales (.66-.86 and .75-.85 respectively) were similar or higher than those derived from the original English version (.70-.80). The Korean BULIT-R also showed high internal consistency (.94 and .95 respectively). In general, the internal consistency (Cronbach alphas) and content validity (item-total scale correlations) of the translated tests met the criteria established for the original English tests. When bilingual subjects were given both the English and Korean tests one week apart, no differences were observed (p>.01) as a result of order (English 1st or Korean 1st). Thus, construct validity was further demonstrated by examining the correlations between the Korean test results and the English test results. Correlations for the EDI-2 ranged from .59 to .88 for females (n=145) and from .58 to .78 for males (n=57) and were significant (p=.0001). Correlations for the BULIT-R were .94 for females (n=145) and .72 for males (n=57) and were significant (p=.0001). The convergent validity of the Korean translation of the BULIT-R was examined by comparing it to the Bulimia subscale of the EDI-2 (r=.78, p=.0001). Thus, this study supported the effectiveness of translating diagnostic instruments with proven efficacy in western society into Korean despite cultural differences. Also, responses to open-ended questions provided anecdotal evidence of the existence of anorexia and bulimia nervosa in Korea in spite of an apparent lack of accurate information regarding these eating disorders.


A self-report scale for perceived self-efficacy (SE) was administered to adolescent (13-18 yr) subjects (N=18) who were swimmers for the La Crosse Area YMCA 2 times before their final meet of the season and 1 time after. S’s performance (P) in the final meet was classified as either successful (F) or unsuccessful (NF) based on their time for a 100 yard swim. Performances that resulted in an improvement upon previous lifetime best times were successful and no improvement was not successful. Data were examined for correlations between SE and P, fluctuations in P, and relationship of P and SE. No significant relationship was found between mean SE scores and P. There were fluctuations in P that differed for F and NF. F S’s reported an increase in SE every time tested. NF S’s experienced a decrease in SE from Test (T) 1 to T2, then an increase in SE from T2 to T3. The increase in SE by both groups after the P could be a result of verbal persuasion employed by the S’s coach after the P but before the administration of T3.

Triola, Danielle P. *Commitment to physical activity and body-image distortion in college students*, 1996. M.S., Springfield College (Tina M. Manos). (101pp 2f $8.00) PSY 1964

The investigation was designed to determine if there were differences in commitment to physical activity scores in college students with high and low body-image distortion percentages and to determine if there were gender differences in commitment to physical activity scores. Springfield College students from four different Fitness for Life skills classes (N=100) who participated in physical activity 3 times per week for 20-60 minutes, excluding participation in physical education skills classes, volunteered to be participants in this study. The participants filled out a 12-
scores. Also, no significant (p>.05) main effect was found for gender or body-image distortion with regard to commitment to physical activity scores. Also, no significant (p>.05) interaction was found between gender and body image distortion with respect to commitment to physical activity scores.

Walluk, Laura A. Body image and restricted eating patterns among female athletes, 1997. M.S., Washington State University (Marilyn Mowatt). (94pp 1f $4.00) PSY 1965

Restricted eating patterns in women have been shown to be related to low body image (Garner, et al., 1980; Hawkins, et al., 1983; Cash & Brown, 1989; Mooney, et al., 1994) and dieting has been shown to be prevalent in the female athletic population (Burckes Miller & Black, 1988; Dick, 1991; Sundgot-Borgen Jorunn, 1994; O’Connor, et al., 1995; Rhea, et al., 1996). Female athletes between the 18 and 23 years old, attending a large rural university in the northwestern United States and participating in intercollegiate athletics, were asked to complete four surveys. The Body Silhouette Drawings Survey (BSDS), the Social Physique Anxiety Scale Survey (SPASS), and the Weight Discrepancy Factor Survey (WDFS) were used to assess level of body image of the female athletes and the Restricted Eating Patterns Survey (REPS) was used to assess their eating habits. Approximately 85% of the athletes were of a ‘desirable’ weight for their height, as determined by the Panel of Energy, Obesity, and Body Weight Standards (Mullen, McDermott, Gold, & Belcastro, 1996) but only 68.3% were moderately to extremely happy with their weight. All body image surveys (BSDS, SPASS, & WDFS) had low to moderately significant correlations to the individual questions of the REPS. The results conclude that body image is related to the restricted eating patterns of female athletes.

Weier, Kimberly L. The relationship between perceived body image and percent body fat among female college students, 1996. M.S., University of Wisconsin-La Crosse (Nancy K. Butts). (71pp 1f $4.00) PSY 1967

This study investigated the relationship between percent body fat and perceived body image among 42 female college students. Ss were randomly selected from 407 females in the HPR 105, Health & Physical Well Being course during the Spring semester of 1996. Body composition was determined through hydrostatic weighing, and the Body Cathexis Scale (Secord & Jourard, 1953) and the Body Silhouette Scale (Stunkard, Sorenson, & Schulsinger, 1983) were used to measure the females’ perceived body image. Using a Pearson product moment correlation, the statistical analysis between percent body fat and perceived body image revealed a significant (p<.001) relationship with a moderate correlation of r=.59. A one-way ANOVA was used to compare current, ideal, and most attractive body figures. A significant difference was found between the groups, and a Tukey’s post-hoc test revealed that all variables with the exception of the ideal body figure vs. the most attractive body figure displayed a significant (p<.01) difference. The Body Cathexis Scale revealed that the females were mostly dissatisfied with their hips, weight, legs, body build, and physical profile. As the silhouette size increased, a trend was noted whereby the body cathexis score also increased. However, a Pearson product moment correlation revealed no significant (p>.05) relationship between the two variables. A paired t-test was used to compare the accuracy of self-reported and actual height, weight, and BMI measurements. The females significantly (p<.05) understated their weight and significantly (p<.001) overreported their height, which also produced a significant (p<.01) difference between the self-reported and actual BMI measurements.

SOCIAL PSYCHOLOGY

Goldenberg, Marni A. Understanding the benefits of ropes course experiences using means-end analysis, 1997. M.S., Purdue University (Thomas J. Templin). (89pp 1f $4.00) PSY 1944

Ropes courses are a means for a group to work together solving problems and completing tasks. Previous research has identified a number of important benefits that result from participating in a ropes course program. The purpose of this study was to go beyond simply identifying these benefits and examine the interrelationships among them. These interrelationships were explored using means-end analysis, an approach for linking the benefits derived from a product, service, or experience with the higher level outcomes and personal values important to a particular individual. A sample of 125 participants from two different types of courses provided information about the outcomes associated with completing a ropes course program. The data was analyzed and summary charts called hierarchical value maps were created using the linkages participants provided in the survey. The hierarchical value maps provided considerable insights into the benefits and higher level outcomes and values associated with a ropes course experience.

Questionnaires answered by 339 female college students included in a study to determine whether the quality of daughter-father relationship during six developmental periods was related to the daughter’s being a victim of sexual coercion during college when comparing women from intact and divorced families. The daughters’ coercive sexual behavior score was used as the dependent variable and family structure (intact and divorce family) and quality of the daughter-father relationship (high and low) for the six developmental periods were used as the independent variables. The Scheme multiple range test was selected a priori to be used should any significant interaction effects be revealed during the ANOVA procedures. There were two significant relationships on negative correlation between the quality of daughters’ relationship with their fathers and their sexual victimization score for the age 13 to 16 age period and for 16 to 18 age period. In both age periods were found significant differences between the groups bases on family structure, father rating and on the interaction between family structure and father rating also.

Poitras, John D. The communication process between a coach and an athlete as a predictor of success or failure, 1997. “A research paper” M.A., Ball State University (Valerie Wayda). (32pp 1f $4.00) PSY 1955

The popularity of sports in the world today is growing rapidly, and so are participation rates. In order for one sports team to be successful, team members must not only be physically and mentally prepared, but they need to be good communicators. The ability to communicate effectively may be the cornerstone for a successful team. Coaches are constantly communicating with the people around them. Every movement a coach makes and every body gesture employed constitutes communication. How effective a coach utilizes the communication process may set a precedent his team. The importance of the communication process must be conveyed and understood by everyone. In addition, becoming an active listener increases a person’s chances of communicating well. The head coach for any sports team has the responsibility in making sure that the pathways of communication are always open and free of discrimination.

**STRESS**

Guinan, Diane M. Predictive relationships among perceived stress, possible selves, and physical activity in elderly individuals with knee osteoarthritis, 1997. Ph.D., University of North Carolina at Greensboro (Diane L. Gill). (183pp 2f $8.00) PSY 1945

Physical activity plays an important role in health and quality of life among the elderly, especially those with knee osteoarthritis. The perception of stress, influenced by one’s perception of future positive and negative possibilities, is thought to be associated with physical activity and performance of daily activities. This investigation was designed to examine these relationships. Specifically, the purposes of this investigation were to (a) examine the relationship between perceived stress and physical activity, (b) examine the relationship between possible selves (future possibilities that individuals hope for and seek to achieve, or fear and seek to avoid) and physical activity, (c) examine the relationship between perceived stress and possible selves, and (d) determine whether perceived stress and possible selves provide unique contributions to predictions of physical activity. Data analysis was conducted on 118 older adults (58 females and 60 males) over the age of 60, reporting knee pain on most days of the month, and experiencing disability due to knee pain. These participants were a subset of the participants involved in the Observational Arthritis Study in Seniors (OASIS) project being conducted at the Bowman Gray School of Medicine at Wake Forest University. Measurements of perceived stress and possible selves were collected through phone interviews. Perceived stress was measured using the Perceived Stress Scale and possible selves were measured using an open-ended possible selves interview and closed-ended possible selves scale. The open ended responses were used to determine balanced-pairs (pairs of antithetical hoped-for and feared future possibilities) and activity-related possible selves (degree to which participants’ combined hopes and fears included thoughts of physical activity). The closed ended measure was used to determine positive and negative possible selves (perceived likelihood of experiencing positive and negative life occurrences. In addition, scores of physical activity (PASE: Physical Activity Scale for the Elderly), knee pain (Knee Pain Scale), comorbidity (associated medical conditions), general fitness (6-minute walk), age, and gender were provided by the OASIS researchers. A series of multiple regression analyses were conducted with gender, age, general fitness, comorbidity, and knee pain entered as covariates. The results revealed significant relationships between (a) activity-related possible selves and physical activity, and (b) negative possible selves and perceived stress. Overall, the results indicate that participants whose hopes and fears of the future involved physical activities were more likely to be involved in physical activities. In addition, participants who reported a greater likelihood of experiencing negative life events or negative self descriptions of the future were more likely to report greater perceived stress. Methodological considerations and future research directions are presented.
PART II

KEYWORDS INDEX

for

VOLUME 10, NO. 2

This index includes keywords for titles published in microfiche format by Microform Publications in Volume 10, No. 2 (Oct. 1997).

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 keywords list for each title. 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 first keyword for each title was used to generate the primary topical categories for the index; they appear in bold typeface. Titles having the same first keywords (primary topical category) are grouped under that category. The remaining keywords for each separate title are indented and listed, from general to specific, followed by the research and statistical methods used in the study contained in brackets (note that letters before the dash refer to the research methods, those after the dash denote the statistical methods), the author’s last name and initials, and the identification number for the title. The following example illustrates the elements of each entry.

**BIOMECHANICS**

ANKLE JOINT, RANGE OF MOTION, BRACE, STEP TRAINING, INJURY, SPRAIN, SEGMENTAL ANALYSIS TECHNIQUE, VARIANCE; [D,MA-DE,MR]. Money, S.M., PE 3439

*Biomechanics* is the primary topic of this study; keywords ankle joint through variance further delimit it. The research methods include descriptive and mechanical analysis techniques; statistics are descriptive and multiple regression. The author is S.M. Money and the study’s identification number is PE 3439. To find the title of the study as listed in part I of the *Bulletin*, use the author index at the end of the publication to find the page number on which the study by S.M. Money 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

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## STATISTICS

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KEYWORDS

ACADEMIC ACHIEVEMENT

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AEROBIC TRAINING

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ALCOHOL

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ANXIETY

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PROFESSIONAL PREPARATION, COMPETENCY-BASED INSTRUCTION, REVIEW; [D-]. August, J.A., PE 3745

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ATTRIBUTION

SELF-ESTEEM, ACHIEVEMENT MOTIVATION, ATHLETE, QUESTIONNAIRE, SEX FACTOR, PERFORMANCE PREDICTION, MULTIVARIATE ANALYSIS; [D,Q-DE,AV,MAV,TU]. Zizzi, S.J., PSY 1972

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BASKETBALL

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BODY WEIGHT

WEIGHT CONTROL, BODY COMPOSITION, ADIPOSE TISSUES, AEROBIC TRAINING, REDUCING DIET, OBESITY, WOMAN, NON-COMPETITOR, NON-ATHLETE, VARIANCE; [D,A-DE,AV,RM]. Choffletti, C.E., PH 1547

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COGNITION

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COMPETITIVE BEHAVIOUR

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CROSS-TRAINING

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CYCLING

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RESORT
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RESPIRATION
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