

### **Epidemiology**

*Are Parental Concerns About Children's Inactivity Warranted, and Are They Associated With a Supportive Home Environment?* (pp. 274–282)

Michelle Jackson, David Crawford, Karen Campbell, and Jo Salmon

This paper explores parental concern about children's activity levels and whether parents who are concerned about their child's activity provide a supportive environment. A sample of 615 parents of 5–6-year-old children and 947 parents of 10–12-year-old children completed a questionnaire. Just over 50% of parents reported they were concerned their child was not getting enough activity. Children of concerned parents were less active than those whose parents were not concerned. These findings suggest that parents who are concerned about their child's physical activity levels provided a less supportive environment for physical activity than parents who are not concerned. The challenge for public health will be to harness parental concerns and translate them into action.

### **Measurement and Evaluation**

*Psychometric Evaluation of the Exercise Identity Scale Among Greek Adults and Cross-Cultural Validity* (pp. 283–299)

Symeon P. Vlachopoulos, Maria Kaperoni, Frederiki C. Moustaka, and Dean F. Anderson

The present study reported on translating the Exercise Identity Scale (EIS: Anderson & Cychosz, 1994) into Greek and examining its psychometric properties and cross-cultural validity based on U.S. individuals' EIS responses. Using four samples comprising 33, 103, and 647 Greek individuals, including exercisers and nonexercisers, and a similar sample comprising 800 U.S. individuals, the concurrent validity, factor structure, internal reliability, test-retest reliability, external validity, gender invariance, and cross-cultural validity of the EIS responses were examined using confirmatory factor analytical procedures. The results supported the concurrent validity, an adequate unidimensional factor structure for the translated EIS and the internal reliability and test-retest reliability over a 6-week interval. Further, cross-gender configural, partial metric, partial strong factorial, and partial strict factorial invariance and cross-cultural configural and partial metric invariance supported the cross-cultural equivalence of the EIS versions. Moreover, the external validity of the translated EIS responses was also supported. Overall, the findings supported the validity of the exercise identity construct outside North American boundaries and the EIS items' equivalence, providing initial evidence for its cross-cultural applicability.

*A Confirmatory Study of Rating Scale Category Effectiveness for the Coaching Efficacy Scale* (pp. 300–311)

Nicholas D. Myers, Deborah L. Feltz, and Edward W. Wolfe

This study extended validity evidence for measures of coaching efficacy derived from the Coaching Efficacy Scale (CES) by testing the rating scale categorizations suggested in previous research. Previous research provided evidence for the effectiveness of a four-category (4-CAT) structure for high school and collegiate sports coaches; it also suggested that a five-category (5-CAT) structure may be effective for youth sports coaches, because they may be more likely to endorse categories on the lower end of the scale. Coaches of youth sports (N = 492) responded to the CES items with a 5-CAT structure. Across rating scale category effectiveness guidelines, 32 of 34 evidences (94%) provided support for this structure. Data were condensed to a 4-CAT structure by collapsing responses in Category 1 (CAT-1) and Category 2 (CAT-2). Across rating scale category effectiveness guidelines, 25 of 26 evidences (96%) provided support for this structure. Findings provided confirmatory, cross-validation evidence for both the 5-CAT and 4-CAT

structures. For empirical, theoretical, and practical reasons, the authors concluded that the 4-CAT structure was preferable to the 5-CAT when CES items are used to measure coaching efficacy. This conclusion is based on the findings of this confirmatory study and the more exploratory findings of Myers, Wolfe, and Feltz (2005).

### **Motor Control and Learning**

*Memory Drum Theory's C Movement: Revelations From Franklin Henry* (pp. 312–318)

Mark G. Fischman, Robert W. Christina, and J. Greg Anson

Franklin Henry's "memory drum" theory of neuromotor reaction (Henry & Rogers, 1960) was one of the most influential studies of the response programming stage of information processing. The paper is the most-cited study ever published in the *Research Quarterly for Exercise and Sport*. However, few people know there is a noteworthy error in the paper, namely in the description of the C movement, the most complicated of the three responses studied. Henry himself was unaware of the error for nearly 20 years after the paper's publication. The purpose of our paper is to accord the factual record its due respect by revealing the history about the error and its correction. The data are in the form of the original 1960 paper which describes the C movement, a paper by Howell (1953), and personal letters from Henry dating from 1979, when the error was first discovered, and continuing through 1986. In one letter, Henry attributed the error to a mild and specific form of aphasia, manifested by word reversals, from which he suffered throughout his scholarly life. Such a revelation makes the career of this remarkable scholar even more remarkable.

*Attentional Focus Effects in Balance Acrobats* (pp. 319–325)

Gabriele Wulf

Performing and learning motor skills has been shown to be enhanced if the performer adopts an external relative to internal focus (or no focus) of attention (Wulf, 2007). The present study examined the generalizability of this effect to top-level performers (balance acrobats). Participants performed a balance task (standing on an inflated rubber disk) under each of three attentional focus conditions: (a) external focus (i.e., minimize movements of the disk), (b) internal focus (i.e., minimize movements of the feet), and (c) control conditions (no focus instructions). While there were no differences between conditions in the amount of postural sway, the frequency of movement adjustments was higher in the control condition, relative to both external and internal focus conditions. This suggests that movement automaticity and postural stability were greatest when the balance experts were free to adopt their "normal" focus of attention. The finding implies that there may be a limit to the performance-enhancing effects of external focus instructions for top-level performers. The findings are discussed in terms of action control levels and possible changes in the optimal attentional focus with the performer's level of expertise.

### **Motor Development**

*Are Preschool Children Active Enough? Objectively Measured Physical Activity Levels* (pp. 326–332)

Greet M. Cardon and Ilse M. M. De Bourdeaudhuij

The present study aimed to describe accelerometer-based physical activity levels in 4- and 5-year-old children ( $N = 76$ ) on 2 weekdays and 2 weekend days. The children were sedentary for 9.6 hr (85%) daily, while they engaged in moderate to vigorous physical activity (MVPA) for 34 min (5%). Only 7% of the children engaged in MVPA for 60 min per day, and only 26% reached the standard of 120 min of total activity. Their engagement in MVPA did not significantly differ between weekend and weekdays. Mean activity counts and minutes in MVPA did not differ between genders. Physical activity levels in this sample of preschool children were far lower than recommended.

## **Pedagogy**

*The Influence of Domain Specificity on Motivation in Physical Education* (pp. 333–343)

Bo Shen, Nate McCaughtry, and Jeffrey Martin

With the assumption that domain specificity would significantly influence students' motivation, our study was designed to investigate between- and within-domain relations of task value, perceived autonomy and competence, and achievement goal orientations across physical education and mathematics. Urban adolescents ( $N = 273$ , ages 12–14 years) completed questionnaires assessing these motivational constructs in both subjects. Based on our confirmatory factor analyses and fit indexes, all motivational constructs demonstrated strong subject specificity. Strengths of associations between physical education and mathematics differed by individual motivational constructs. Within-domain interrelations of these constructs were not consistent across physical education and mathematics. Our findings suggest that domain specificity in physical education plays a significant role in students' motivation.

*Children's Experiences of Fun and Enjoyment During a Season of Sport Education* (pp. 344–355)

Ann MacPhail, Trish Gorely, David Kirk, and Gary Kinchin

This paper reports on a 16-week sport education (SE) unit with just over 70 year 5 students ( $M$  age = 10.04 years) in one United Kingdom school during the spring and summer terms and discusses students' SE experiences. Student interviews were conducted throughout the season and a questionnaire on different motivation aspects was administered prior to and before completing the SE season. We report and examine the data in relation to hypothesized influences on fun and enjoyment, including being part of a team, autonomy, and improving game play. The principal reasons SE may be more enjoyable than previous physical education lessons include the greater opportunities for autonomy, affiliation, and competition, plus perceived learning.

## **Physiology**

*Cardiovascular Fitness in Obese Versus Nonobese 8–11-Year-Old Boys and Girls* (pp. 356–362)

M. Alysia Mastrangelo, Edward C. Chaloupka, and Peter Rattigan

The purpose of this study was to compare cardiovascular fitness between obese and nonobese children. Based on body mass index, 118 were classified as obese (boys [OB] = 62, girls [OG] = 56), while 421 were nonobese (boys [NOB] = 196, girls [NOG] = 225). Cardiovascular fitness was determined by a 1-mile [1.6 km] run/walk (MRW) and estimated peak oxygen uptake ( $VO_{2peak}$ ) and analyzed using two-way analyses of variance (Gender x Obese/Nonobese). MRW times were significantly faster ( $p < .05$ ) for the NOB (10 min 34 s) compared to the OB (13 min 8 s) and the NOG (13 min 15 s.) compared to the OG (14 min 44 s.). Predicted  $VO_{2peak}$  values ( $mL \cdot kg^{-1} \cdot min^{-1}$ ) were significantly higher ( $p < .05$ ) for the NOB (48.29) compared to the OB (41.56) and the NOG (45.99) compared to the OG (42.13). MRW was compared between obese and nonobese participants on the President's Challenge (2005), the National Children and Youth Fitness Study, and FITNESSGRAM<sup>®</sup> HFZ standards. The nonobese boys and girls scored higher on all three, exhibiting better cardiovascular fitness as compared to obese counterparts.

## **Psychology**

*Basic Psychological Skills Usage and Competitive Anxiety Responses: Perceived Underlying Mechanisms* (pp. 363–373)

Ross Wadey and Sheldon Hanton

This study examined the relationship between basic psychological skills usage (i.e., goal-setting, imagery, self-talk, and relaxation) and the intensity and directional dimensions of competitive anxiety. Semistructured interviews were used on a sample of 15 elite athletes ( $M$  age = 24.3 years,  $SD = 4.2$ ) from a variety of team

and individual sports. Findings revealed that the participants maintained the intensity of their anxiety response prior to competition and could deploy goal-setting, imagery, or self-talk to enable facilitative interpretations of anxiety-related symptoms to performance. Higher levels of self-confidence and an optimistic outlook toward forthcoming competition were also expressed. The underlying mechanisms perceived to be responsible for these effects included effort and motivation, attentional focus, and perceived control over the anxiety response.

*Explaining Long-Term Exercise Adherence in Women Who Complete a Structured Exercise Program* (pp. 374–384)

Jennifer L. Huberty, Lynda B. Ransdell, Cara Sidman, Judith A. Flohr, Barry Shultz, Onie Grosshans, and Lynne Durrant

The purpose of this study was to qualitatively examine factors related to physical activity adherence to understand why women continue to participate in long-term exercise after completing a structured exercise program. Data were collected from focus groups, interviews, and e-mails, and analysis used grounded theory. The central category related to physical activity adherence was self-worth. Motivation, activity enjoyment, priorities, body image, ability to access support, and self-regulation skills had an impact on the self-worth of nonadherers and adherers. Women must value themselves enough to continue to participate in physical activity once they start. Exercise and fitness professionals are encouraged to use strategies to increase self-worth and long-term adherence to physical activity. Some recommended strategies include (a) increasing motivation and enjoyment relative to activity, (b) making activity a high priority in a woman's life, (c) improving or deemphasizing body image, (d) increasing a woman's ability to access support, and (e) facilitating the use of self-regulation strategies. This study is the first to examine qualitative perspectives of exercise adherence among women who completed a structured exercise program. Several concepts related to adherence presented in the quantitative literature are confirmed and enhanced in this study.

*Beating the Bunker: The Effect of PETTLEP Imagery on Golf Bunker Shot Performance* (pp. 385–391)  
Dave Smith, Caroline J. Wright, and Cara Cantwell

The aim of this study was to compare the effects of physical practice with PETTLEP-based (Physical, Environment, Task, Timing, Learning, Emotion and Perspective; Holmes & Collins, 2001) imagery and PETTLEP + physical practice interventions on golf bunker shot performance. Thirty-two male county- or international-level golfers were assigned to one of four groups; PETTLEP imagery, physical practice, PETTLEP + physical practice, or control. The PETTLEP imagery group imaged 15 bunker shots, their interventions incorporating PETTLEP components, such as physical, environment, and emotion, twice a week. The physical practice group physically performed their 15 bunker shots twice per week; the PETTLEP + physical practice group performed PETTLEP imagery once per week and physical practice once per week. Each group performed their respective tasks for 6 weeks. Pre- and posttests consisted of 15 bunker shots, with points awarded according to the ball proximity to the pin. All groups improved significantly ( $p < .01$ ) from pre- to posttest, and the PETTLEP + physical practice group improved more ( $p < .05$ ) than the PETTLEP and physical practice groups. However, there was no significant difference between the physical practice and PETTLEP groups ( $p > .05$ ). Findings, therefore, support the effectiveness of PETTLEP in enhancing golf performance, especially when combined with physical practice.

*How Do Expert Soccer Players Encode Visual Information to Make Decisions in Simulated Game Situations?* (pp. 392–398)

Gérald Poplu, Hubert Ripoll, Sébastien Mavromatis, and Jean Baratgin

The aim of this study was to determine what visual information expert soccer players encode when they are asked to make a decision. We used a repetition-priming paradigm to test the hypothesis that experts encode a soccer pattern's structure independently of the players' physical characteristics (i.e., posture and

morphology). The participants were given either realistic (digital photos) or abstract (three-dimensional schematic representations) soccer game patterns. The results showed that the experts benefited from priming effects regardless of how abstract the stimuli were. This suggests that an abstract representation of a realistic pattern (i.e., one that does not include visual information related to the players' physical characteristics) is sufficient to activate experts' specific knowledge during decision making. These results seem to show that expert soccer players encode and store abstract representations of visual patterns in memory.

### **Research Notes**

*Gaze Behavior in Basketball Shooting: Further Evidence for Online Visual Control* (pp. 399–404)  
Rita F. de Oliveira, Raoul R. D. Oudejans, and Peter J. Beek

*Learning Benefits of Self-Controlled Knowledge of Results in 10-Year-Old Children* (pp. 405–410)  
Suzete Chiviawosky, Gabriele Wulf, Franklin Laroque de Medeiros, Angélica Kaefer, and Go Tani

*Puberty and Physical Self-Perceptions of Competitive Female Figure Skaters II: Maturational Timing, Skating Context, and Ability Status* (411–416)  
Eva V. Monsma

*Relationship of Social Physique Anxiety to Indicators of Physique* (pp. 417–422)  
Eva V. Monsma, Karin A. Pfeiffer, and Robert M. Malina

*Physical Activity Enjoyment Scale Short Form—Does It Fit for Children?* (pp. 423–427)  
Raheem J. Paxton, Claudio Nigg, Robert W. Motl, Marisa Yamashita, Richard Chung, Jackie Battista, and JoAnn Chang

*Domain Specificity, Task Specificity, and Expert Performance* (pp. 429–433)  
A. Mark Williams, Paul Ward, Julian D. Ward, and Nicolas J. Smeeton