

March 2005, Vol. 76, No. 1

Epidemiology

A Prospective Study on Changes of Cognitions, Interpersonal Influences, and Physical Activity in Taiwanese Youth (pp. 1–10)

Tsu-Yin Wu and Jun-Ling Jwo

The decline of physical activity during adolescence is not well understood. This prospective study followed 969 Taiwanese students from eighth to ninth grade and examined their physical activity-related cognitions, interpersonal influences, and behavior of physical activity across the grade transition. Gender differences were found in the effects of the grade transition on physical activity and its related cognitions. The correlation coefficients showed moderate tracking for physical activity, cognitions, and interpersonal influences for both genders. The results also indicated that cognitions are more stable than behavior. The present study provides evidence of the decline in physical activity in Taiwanese youth across the grade transition as well as gender differences in the variables cognitions and interpersonal influences.

Evaluating the Sustainability of SPARK Physical Education: A Case Study of Translating Research Into Practice (pp. 11–19)

Marsha Dowda, James F. Sallis, Thomas L. McKenzie, Paul Rosengard, and Harold W. Kohl III

Dissemination and sustainability of evidence-based physical education programs (PE) has been studied rarely. The sustainability of a health-related PE program (SPARK) was independently evaluated in 111 elementary schools in 7 states. Surveys were mailed to schools that had received SPARK curriculum books, training, and follow-up (response rate = 47%). Up to 80% of schools that adopted SPARK PE reported sustained use up to 4 years later. Schools using SPARK had more frequent PE classes. Sustained use was related to support from the principal, not previously having a standard PE program, having adequate equipment, and teachers being physically active. Program sustainability was similar in advantaged and disadvantaged schools. Evidence-based PE programs can be sustained up to 4 years.

Growth and Motor Development

Immediate and Delayed Bilateral Transfer of Throwing Accuracy in Male and Female Children (pp. 20–27)

John Liu and Craig A. Wrisberg

In the present study, an attempt was made to examine the nature and persistence of bilateral transfer of a throwing skill for a large sample of male and female children. One hundred sixty children ages 6, 8, 10, and 12 years were randomly assigned to either an experimental or control group with an equal number of boys and girls in each group. The experiment lasted 2 days and consisted of a pretest, a practice phase, an immediate transfer test, and a delayed transfer test. On the pretest, each participant performed 10 trials of a novel one-hand throwing task. Following the pretest, participants in the experimental group practiced the skill with the hand opposite the one used during the pretest until they had successfully reached a designated criterion for their age. Participants in the control group performed a balancing activity. Following the practice phase, all participants performed immediate (10 min later) and delayed (24 hr later) transfer tests under the same conditions as the pretest. The results revealed no group differences on the pretest but significantly higher throwing accuracy for the experimental group than the control group on both transfer tests. In addition, boys' throwing accuracy was significantly superior to the girls. It was concluded that bilateral transfer of throwing accuracy can be both a temporary and relatively persistent phenomenon for children and the superior throwing accuracy for boys is consistent with similar gender differences in throwing distance and throwing velocity (Thomas & French, 1985).

Motor Control and Learning

Learning to Detect Error in Movement Timing Using Physical and Observational Practice (pp. 28–41)

Charles B. Black, David L. Wright, Curt E. Magnuson, and Sebastian Brueckner

Three experiments assessed the possibility that a physical practice participant's ability to render appropriate movement timing estimates may be hindered compared to those who merely observed. Results from these

experiments revealed that observers and physical practice participants executed and estimated the overall durations of movement sequences similarly and more accurately than those who were not privy to any previous practice. This was true for a case in which (a) the execution demands for the physical practice participant were relatively high when multiple movement sequences were practiced with a consistent relative time structure but different overall durations (Experiment 1) and (b) the execution demands were relatively modest when only a single sequential motor task was learned (Experiment 2). Moreover, this general set of findings remained true for individuals who had previous experience with physical or observational practice, even when timing estimations were made during tests with no execution demands (Experiment 3). Thus, executing a movement sequence does not appear to interfere with the development of a learner's subjective evaluation of overall timing performance. Specifically, these data provided evidence that recognizing error in movement timing can be accomplished via observation, and, more generally, they add to the growing evidence supporting the claim that observational practice is a legitimate method facilitating the acquisition of sequential movement behaviors.

Self-Controlled Feedback Is Effective if It Is Based on the Learner's Performance (pp. 42–48)
Suzete Chiviacowsky and Gabriele Wulf

The study follows up on the contention that self-controlled feedback schedules benefit learning, because they are more tailored to the performers' needs than externally controlled feedback schedules (Chiviacowsky & Wulf, 2002). Under this assumption, one would expect learning advantages for individuals who decide whether they want to receive feedback after a trial rather than before a trial. Participants practiced a sequential timing task, and all could decide the trials on which they received feedback. One group ("self-after") decided after every trial whether they wanted to receive feedback for that trial, while another group ("self-before") made that decision before each trial. The self-after group showed learning benefits on a delayed transfer test (novel absolute timing requirements) with regard to overall timing and relative-timing accuracy. Thus, self-controlled feedback was more effective when the learner could make a decision about receiving feedback after the trial. This seems to support the view that self-controlled feedback benefits learning, because learners can make a decision about feedback based on their performance on a given trial.

The Effects of a Single Reminder Trial on Retention of a Motor Skill (pp. 49–59)
Jeffrey T. Fairbrother and John B. Shea

Two experiments investigated the effects of a single reminder trial on immediate and delayed retention. Experiment 1 determined if beneficial effects of a reminder trial were a function of task order. Immediate retention performance benefited only when the reminder trial was practiced in the first block of trials. Experiment 2 added a 24-hr delayed retention test to examine the long-term benefits of a reminder trial. Retention performance was enhanced over both delay intervals. The long-term effect extended previous research (Shea & Titzer, 1993) that documented effects after 10 min. The use of a single reminder trial established that intertask comparisons between multiple reminder trials were not a precondition for the reminder trial effect as postulated by Shea and Titzer.

Part and Whole Practice: Chunking and Online Control in the Acquisition of a Serial Motor Task (pp. 60–66)
Steve Hansen, Luc Tremblay, and Digby Elliott

A four-component aiming movement was used to examine the relative effectiveness of part and whole practice. Following a pretest, participants were assigned to one of three practice groups. Participants in a "Whole" group practiced the four components together as a unit. A "No Overlap" group practiced the first two and last two components of the task, alternating every fifth trial. An "Overlap" group practiced the transition between the second and third components on every trial by alternating practice of the first three and last three components every five trials. Participants in all groups improved significantly from pretest to immediate posttest and maintained their performance over a 24-hr delay. Contrary to the "chunking hypothesis," participants in the No Overlap group improved as much as those in the other two groups. Kinematic data indicated that participants in all three groups learned to use response-produced feedback earlier in the individual movement trajectories. Moreover, participants appeared to acquire a general ability to make transitions between movement components rather than specific transitions. The results suggest that segmented or segmented "overlap" practice regimes may benefit learning movement sequences of short duration.

Psychology

Identity Tensions in Lesbian Intercollegiate Coaches (pp. 67–81)
Vikki Krane and Heather Barber

Using social identity perspective, we investigated the experiences of 13 lesbian college coaches. Through semistructured interviews, the coaches revealed the daily identity tensions they experienced. There was constant negotiation between their social identities of “coach” and “lesbian.” The social context of intercollegiate women’s athletics created a complex web that juxtaposed these identities against commanding social norms. The challenges these coaches faced ranged from doing what they believed was best for the well being of their athletes (e.g., fighting homonegativism) versus what was best for their professional well being (e.g., remaining silent). These coaches did not passively accept their fate; while they struggled with identity negotiation, they also found ways to counter the heterosexist atmosphere and create positive social change.

Sociology and Cultural Anthropology

Listening to the Voices: The Experiences of African American Female Student Athletes (pp. 82–100)
Jennifer E. Bruening, Ketra L. Armstrong, and Donna L. Pastore

“Women of color . . . have historically been silenced in society and sport” (Smith, 1992, p. 228). This study examined the sport participation patterns of 12 African American female collegiate student athletes using qualitative methods. Data were collected at a large midwestern university during the 1998–99 academic year. An emergent theme was the effect of silencing by the media, athletic administrators, coaches, and other student athletes on the experiences of African American female student athletes. The findings are presented in the following order: the theoretical framework for the study, an introduction to silencing, an overview of the research analyses, a description of the research setting, and a presentation of the data surrounding the theme of silencing as told through the participants’ voices. Following these sections is a discussion and suggestions for future research.

Research Notes

Validity and Reliability of the 3-Day Physical Activity Recall in Singaporean Adolescents (pp. 101–106)
Kok Sonk Lee and Stewart G. Trost

Self-Controlled Observational Practice Enhances Learning (pp. 107–111)
Gabriele Wulf, Markus Raupach, and Felix Pfeiffer