

Biomechanics

Performance Level Differences in Swimming: A Meta-Analysis of Passive Drag Force (pp. 112–118)
Rod Havriluk

The streamline is a basic position for competitive swimming starts and turns and has been used in many studies on resistive forces. However, there is a wide variety of theoretical interpretations in these studies, leading to diverse and questionable conclusions. The purpose of this study was to determine performance level differences in the streamline position using a meta-analysis. Faster swimmers had a significantly lower coefficient of drag (C_d) than slower swimmers, ($M = .57$, $z = 4.30$, $p < .001$, $SE = .13$, $95\% CI = .32-.82$) and, therefore, a more effective streamline position. The results support considering all the related variables in a study of passive drag and using the C_d to discriminate between performance levels in swimming.

Epidemiology

Tracking of Physical Activity in Adolescence (pp. 119–129)
Norman Anderssen, Bente Wold, and Torbjørn Torsheim

The present analysis aimed to describe the degree of tracking of physical activity over an 8-year follow-up period among a cohort of 557 adolescents in western Norway (13 years of age at baseline). Frequency and time spent in leisure-time physical activity were assessed at ages 13, 14, 15, 16, 18, 19 and 21 years through self-report questionnaires. The cross-sectional results indicated that proportions of adolescents who were physically active declined from 13 to 19 years of age and increased slightly from 19 to 21 years of age. Longitudinally, various measures indicated a weak degree of tracking of physical activity (Pearson's r was .22 for boys and .18 for girls across the 8-year period). The least active persons during early adolescence were those least likely to change during their teenage years. In sum, the findings indicated a weak tendency of tracking of physical activity through adolescence.

The Effects of a Family Fitness Program on the Physical Activity and Nutrition Behaviors of Third-Grade Children (pp. 130–139)
Chris A. Hopper, Kathy D. Munoz, Mary B. Gruber, and Kim P. Nguyen

This study examined the efficacy of a school-based exercise and nutrition program with a parent component. Third-grade children ($N = 238$) from six elementary schools participated in the study, with three schools randomly assigned to a program group and the other three schools to a control group. The program group received a health-related fitness school-based program and a home program that required parents and children to complete activities and earn points for nutrition and exercise activities. The control group received their traditional physical education and nutrition education program. Univariate analysis of variance on pre- and posttest scores were completed on the following variables: height, weight, body mass index, skinfold, blood cholesterol, mile run, exercise and nutrition knowledge, calories, protein, carbohydrates, total fat, saturated fat, dietary cholesterol, fiber, sodium, percentage of calories from carbohydrates, and percentage of calories from fat. At pretest, the treatment and control groups did not significantly differ on the measures using schools as the unit of analysis. Girls scored significantly higher than boys on skinfold and pretest knowledge. At posttest, the treatment group scored significantly higher than the control group on exercise and nutrition knowledge and significantly lower than the control group on total fat intake, using schools as the unit of analysis. There was no improvement in physiological measures, including blood cholesterol. The study demonstrated that schools can adjust curriculum to meet some health needs of students and achieve modest changes in exercise and nutrition knowledge and diet. The family component of the program provided a practical approach to improving physical activity and nutrition behaviors for elementary school teachers who teach many participants in a crowded curriculum.

Growth and Motor Development

Development and Construct Validation of an Inventory for Assessing the Home Environment for Motor Development (pp. 140–148)

Luis Paulo Rodrigues, Linda Saraiva, and Carl Gabbard

A contemporary view of early childhood motor development considers environmental influences as critical factors in optimal growth and behavior, with the home being the primary agent. However, there has been minimal research examining the relationship between motor development and the home. The present study addresses this gap with the goal of creating an innovative parental self-report instrument to assess the quality and quantity of factors (affordances and events) in the home that are conducive to enhancing motor development in children ages 18–42 months. Following initial face validity determination, expert opinion feedback and selective pilot testing, construct validity was examined using 321 Portuguese families. Factor analysis techniques were used to: (a) compare competing factorial models according to previous theoretical assumptions, and (b) analyze the fit of the preferred model. Of the five plausible models tested, the five-factor solution provided the best fit to the data. Reliability was established through the scale reliability coefficient with a value of .85. The findings of this study suggest that the Affordances in the Home Environment for Motor Development Self-Report is a valid and reliable instrument to assess how well home environments afford movement and potentially promote motor development.

History and Philosophy

A Fine Balance: Margaret Bell—Physician and Physical Educator (pp. 149–165)

Alison M. Wrynn

Margaret Bell's life illustrates the limited opportunities for women in higher education in addition to the restrictions they faced when attempting to control their narrow sphere of professional influence. Bell's career is also an outstanding exemplar of connections physical education had with health and medicine in its early years and the shift that occurred by the mid 20th century that made physical education an increasingly separate, specialized field. Her service ethic, interest in research on menstruation and physical activity, and work as a university health service physician provides an interesting illustration of the balancing act that women in physical education at the university level were expected to live in the middle decades of the 20th century.

Measurement and Evaluation

Quantifying Physical Activity in First- Through Fourth-Grade Physical Education via Pedometry (pp. 166–175)

Philip W. Scuggs, Sandy K. Beveridge, Doris L. Watson, and Brian D. Clocksin

The aim of this study was to determine pedometry steps per minute (SPM) cutscores that accurately quantify physical activity (PA) time in first- through fourth-grade physical education. A total of 257 participants were grouped in two data pools, first- and second-grade (n = 126), and third- and fourth-grade (n = 131). Systematic observation was the PA criterion instrument and pedometry was the predictor instrument. Correlations between physical activity measures were strong ($r = .82-.89$, $p < .01$). Ten min of PA and 33.33% of the lesson time engaged in PA within a 30-min class can be quantified by 61–63 SPM for first- and second-grade, and 58–61 SPM for third- and fourth-grade. In conclusion: (a) SPM values were a valid indicator of students achieving or not achieving PA criteria, and (b) pedometry is a valid and practical tool for physical activity surveillance within physical education.

An Introduction to Latent Growth Models: Analysis of Repeated Measures Physical Performance Data (pp. 176–192)

Ilhyeok Park and Robert W. Schutz

The purpose of this paper is to introduce the Latent Growth Model (LGM) to researchers in exercise and sport science. Although the LGM has several merits over traditional analysis techniques in analyzing change and was first introduced almost 20 years ago, it is still underused in exercise and sport science research. This statistical model can be applied to any repeated measures data, but it is most useful when one has an a priori hypothesis about the patterns of change. The strengths of latent growth modeling include: (a) both individual and group levels of change are estimated, (b) either a linear or a curvilinear trajectory can represent individual change, (c) occasions of measurement need not be equally spaced, (d) the statistical model can account for measurement errors, (e) the model can easily include multiple predictors or correlates of change, and (f) as in general structural equation models, statistical models are flexible and allow one to extend the basic idea in several ways, such as comparing changes between groups and examining the change in multivariate latent factors. In this paper, the basics and an extension

of latent growth modeling are explained, and examples with longitudinal physical performance data are presented, along with detailed analysis procedures and considerations.

Pedagogy

A Cross-Cultural Investigation of the Use of Teaching Styles (pp. 193–201)

Donetta J. Cothran, Pamela Hodges Kulinna, Dominique Banville, Euichang Choi, Chantal Amade-Escot, Ann MacPhail, Doune Macdonald, Jean-François Richard, Pedro Sarmiento, and David Kirk

Teacher beliefs are a major influence on teacher actions. Because context influences beliefs, it was the purpose of this study to explore teachers' beliefs about Mosston's Spectrum of Teaching Styles from an international perspective. Over 1,400 teachers from 7 countries completed a survey related to their self-reported use of and beliefs about various teaching styles. Data suggested a shared core of reproduction teaching style use. The use of and beliefs about the production styles of teaching were more varied. Teachers' use of styles was significantly related to their beliefs about the styles.

The Relationship Between Qualified Personnel and Self-Reported Implementation of Recommended Physical Education Practices and Programs in U.S. Schools (pp. 202–211)

Kristen S. Davis, Charlene R. Burgeson, Nancy D. Brener, Tim McManus, and Howell Wechsler

The authors analyzed data from the School Health Policies and Programs Study 2000 to assess the associations between the presence of a district physical education coordinator and district-level physical education policies and practices recommended by federal government agencies and national organizations. The authors also examined the relationship between teacher qualifications and staff development related to physical education and self-reported implementation of recommended teaching practices. District-level data were collected by self-administered mail questionnaires from a nationally representative sample of school districts. Classroom-level data were collected by computer-assisted personal interviews with teachers of randomly selected classes in elementary schools and randomly selected required physical education courses in middle/junior high and senior high schools. Nearly two thirds (62.2%) of districts had a physical education coordinator, and those were generally more likely than other districts to report having policies and practices that corresponded with national recommendations for high-quality physical education programs. More than two thirds of teachers (66.9%) met the criteria for teacher qualifications based on their education and certification. These teachers were more likely than others to report use of certain recommended physical education teaching practices. Teachers who participated in staff development also were more likely to use recommended teaching practices in their classrooms. Using a district physical education coordinator and teachers with appropriate qualifications as well as offering staff development opportunities on physical education may enhance school physical education programs.

Sociology and Cultural Anthropology

Newspaper Coverage of Women's Sports During the 2000 Sydney Olympic Games: Belgium, Denmark, France, and Italy (pp. 212–223)

Laura Capranica, Carlo Minganti, Veronique Billat, Signe Hanghoj, Maria Francesca Piacentini, Elke Cumps, and Romain Meeusen

In general, women are well represented among sport participants and sport audiences but not in the media. Data show that women's sport is greatly underreported and trivialized in newspapers. Therefore, the purpose of this study was to measure press coverage during the 2000 Summer Olympic Games in the largest circulating Belgian, Danish, French, and Italian daily newspapers by: (a) number of articles, (b) size, (c) page placement, (d) accompanying photographs, and (e) photograph size. For each sport covered, the athletes' nationality and the gender were recorded. Compared to the 1996 Atlanta Games, there was an increase of 326 female athletes (+4%), and women competed in 25 sports and 132 events (44%) of the total 300 events. Although only 29.3% of the articles and 38% of photos were on women's sports, the newspaper coverage was similar to the distribution of participating athletes and events. No significant gender differences were found with respect to article size, page placement, accompanying photographs, or photograph size. The most covered sport was track and field, independent of national achievement. Other sports received different coverage in relation to national expectations, achievement, and participation. In conclusion, there was a trend to overcome gender inequities in media coverage during the Olympic Games, which may be due to the International Olympic Committee's actions to promote increased participation of women in sport

activities and to publicize their achievements. Moreover, during the Olympic Games, a nationalistic fervor might affect the equality of gender coverage.

Perceptions of African American Faculty in Kinesiology-Based Programs at Predominantly White American Institutions of Higher Education (pp. 224–237)

Joe W. Burden, Jr., Louis Harrison, Jr., and Samuel R. Hodge

The purpose of this study was to examine the perceptions of African American faculty on their organizational socialization in kinesiology-based (i.e., sport pedagogy, exercise physiology, motor behavior, sport management/history) programs at predominantly White American institutions of higher education (PW-IHE). Participants were 9 African American tenure-track faculty members from various kinesiology-based programs at PW-IHE. Data were gathered via interviewing and analyzed within the framework of critical race theory (Ladson-Billings, 2000). Findings are presented using storytelling and thematic narratives. Interviews with the participants revealed four major recurring themes with regard to: (a) resources, opportunities, and power structures; (b) programmatic neglects and faculty mentoring needs; (c) social isolation, disengagement, and intellectual inferiority issues; and (d) double standards, marginalization, and scholarship biases. This study suggests that faculty and administrators at PW-IHE should develop sensitivity toward organizational socialization issues relevant to faculty of color.

Research Note

Post-Exercise Blood Lactate Decline After Training in Competitive Cyclists and Triathletes (pp. 238–242)

M. T. Whitehead, J. C. Boyd, M. Magal, L. C. Eschbach, T. J. Angelopoulos, and R. F. Zoeller