Testing Sensory Functioning in Infants

The Test of Sensory Functions (TSFI) in infants measures five areas of sensory functioning: reaction to deep tactile pressure, visual-tactile integration, adaptive motor responses, ocular-motor control, and reaction to vestibular stimuli. To obtain TSFI reliability, Jirikowic and colleagues tested a convenience sample of 26 infants, ages 10–18 months, with developmental delays. Each infant was receiving occupational or physical therapy services and exhibited motor development delays. No infant had severe motor delays or orthopedic impairments. The TSFI was administered twice, with 5–10 days between administration. Interrater reliability between two test administrators was .94. Test-retest reliability for total test score was moderate. Subtest reliability coefficients ranged from low to low-moderate. Results showed that TSFI total test scores are more stable than subtest scores, which is consistent with test authors’ original findings. However, the small sample size in this study undoubtedly affected reliability coefficient values.


Roles of Mothers of Young Children With Disabilities

Crowe and colleagues investigated perceived past, present, and future roles of mothers who have young children. Participants were mothers of infants, toddlers, and preschoolers who had multiple disabilities (n = 45), Down syndrome (n = 45), or no disability (n = 45). Each participant completed the Role Checklist. Results showed that none of the mothers differed in number of past roles. However, a significant difference in number of present roles existed between mothers of nondisabled children and of children with multiple disabilities or Down syndrome, with mothers of nondisabled children having more diverse roles. Nevertheless, mothers from all groups anticipated more diverse roles in the future. Results also showed that mothers of children with disabilities had fewer occupational roles than the other group. This illustrates the energy-intensive care-giving role of mothers who have young children with disabilities. Adapted physical educators who teach toddlers and preschoolers must consider the demands placed on caregivers, especially mothers. Prescribing home motor activities that mothers can do with their children will place additional strain and demand on an already time-consuming responsibility. Consequently, adapted physical educators must encourage other family members to participate in home motor programs to decrease strain on mothers.

Gait of Youth With Learning Disabilities

Bradley and Drowatzky investigated gait of youth with and without learning disabilities. Participants \(N = 18\) were eighth-grade students, 8 with learning disabilities and 10 without. Instrumentation was a computer with an internal timing mechanism interfaced with electronic switches, designed to measure intervals between steps. Switches were attached to heels of participants' sneakers with two-sided tape; wires connecting to the computer were taped on participants' lower backs. For data collection, each participant walked eight steps on a straight line; only the second through sixth step were included in data analysis. Youth with learning disabilities had shorter time intervals and faster cadences between steps than nondisabled youth. In addition, youth with learning disabilities had a more variable gait compared to same-age peers. Researchers attributed these findings to hyperactivity and physical and psychological immaturity of youth with learning disabilities.


Motor Learning of Children With Learning Disabilities

Heitman and colleagues investigated constant versus variable practice conditions in children with learning disabilities. On the first day, the task involved learning three versions of the same serial skill: duplicating three sequences on a grid. Tasks were measured by response time. With the constant condition, participants practiced 10 same-pattern sequence trials before switching to second and third trials (total trials = 30). With variable condition, participants practiced sequences in random order (total trials = 30). On the second day, the tasks were presented in random order to both groups to measure transfer from the first day. Results showed significant differences between two practice conditions on the first day, with the constant group having lower response times (i.e., better scores). No differences between groups on the second day appeared. For day one, interaction between practice condition and trial blocks was significant; investigators concluded that the interaction supported the hypothesis that constant practice affects initial performance trials. Three explanations for no differences in task transfer included insufficient number of trials on the first day, using response time as dependent variable, and low statistical power.


Identifying Perceptual and Motor Deficits in Children With Neurofibromatosis

Neurofibromatosis Type 1 is an innate genetic condition that may result in central nervous system anomalies, clinical neurological dysfunction or cognitive impairments, and brain tumors known as optic gliomas. In addition, children with neurofibromatosis Type 1 have been associated with a high incidence of learning disability characteristics, such as attention-deficit and hyperactivity disorders and declining intelligence scores. More importantly, for visuospatial and motor defi-
cits, learning disability subtypes in 105 patients, ages 6–18, were identified using a nonbias statistical method. Results showed learning disability characteristics of marked deficits in fine motor coordination and visuospatial constructional domains that support the literature on neurofibromatosis Type 1.


**Exercise and Cardiac Rehabilitation**

This is an extensive review of the literature on how exercise affects cardiac rehabilitation for individuals recovering from uncomplicated myocardial infarction. *Uncomplicated* is defined as showing no subsequent evidence of congestive heart failure, unstable angina, significant arrhythmia, and < 35% of the left ventricle affected by ischaemia. Published results are discussed on the following themes: the benefits of exercise (e.g., mortality and morbidity rates), physiological effects of cardiac rehabilitation programs (e.g., lower heart rate and blood pressure, reduced angina, increased high density lipoproteins, the effects of early short-term programs), psychological effects of exercise, exercise programs (e.g., frequency, intensity, timing), exercise mode, and exercise program location. A reference list of 59 relevant articles is included.


**Disability and Quality of Life**

In this paper, data from 22 social-psychological studies of the quality of life (QOL) of individuals with spinal cord injury (SCI) were analyzed to resolve discrepancies between results. The analysis focused on the subjective rather than objective approaches to QOL. Measures included happiness, psychological well-being, morale, and life satisfaction. Information from the 22 studies was used to examine the relationships between QOL and the World Health Organization concepts of impairment, disability, and handicap. The meta-analysis revealed that while individuals with SCI reported lower subjective well-being than nondisabled people, there is only a weak, statistically nonsignificant relationship between impairment and QOL. The relationship between disability and QOL was stronger but not consistent. Finally, the relationship between disability and QOL was the strongest and most consistent. The implication of these findings is that the social dimension is much more problematic for QOL among individuals with SCI. The author calls for more research in this area, particularly on the social factors that may contribute to subjective QOL. The perspective of patients/clients, he argued, is a useful guide to effectively using resources to maximize QOL.


**Teaching Appropriate Behavior**

Researchers in this study assessed how a modified good behavior game influenced the occurrence of inappropriate and appropriate social behaviors during volleyball in elementary school physical education. Researchers also assessed how the modi-
fied good behavior game affected the occurrence of successful forearm and overhead passes during volleyball play. Three intact classes—fourth, fifth, and sixth grades—participated in the study. A multiple baseline design across classes assessed the efficacy of the modified good behavior game. Based on analysis of means and ranges of appropriate and inappropriate social behavior and visual inspection of data points plotted on a graph, the modified good behavior game effected a decreased and increased occurrence of inappropriate and appropriate social behavior, respectively. However, the intervention did not affect volleyball skills. Although increased occurrence of appropriate social skills was not associated with improved volleyball skills, the greater occurrence of appropriate social behavior is noteworthy. These findings show the need for physical educators to specifically plan for social skill training and interaction among students with and without disabilities.


**Fitness Improvements and Visual Impairment**

This paper focuses on a case study of a 25-year old man who was legally blind and participated in a 1-year fitness program that included exercise training, nutritional counseling, and diabetes education. Besides blindness (caused by retinitis pigmentosa), the subject had health problems associated with Type I diabetes, hypertension, and lipid disorders. The subject expressed a desire to improve his lifestyle management skills. The exercise program consisted of aerobic activities for 1 hour/day, 3 days/week, for approximately 1 year. Results from the program included improved blood pressure and work capacity, and greater mobility was noted in daily living activities. Results also showed that the subject regressed after exiting from the program, which reinforces the need for follow-up support by physical educators and other allied health professionals.


**Low Back Pain and Fitness Test Validity**

Many youth and adult fitness tests include a variation of the sit-up and sit-and-reach test. Abdominal strength and hamstring flexibility have been associated with lower back protection. Researchers in this study investigated the relationship between two common field tests of muscular strength (sit-up) and flexibility (sit-and-reach) and self-reported low back pain in men \((n = 2,270)\) and women \((n = 417)\), mean age = 44.6. Participants performed a 1-min sit-up test and a sit-and-reach test during a fitness assessment. Approximately 6 years after this assessment, all subjects received a follow-up survey regarding musculoskeletal problems. Low back pain was assessed with a rank order scale in the survey. Results showed that 54% of the subjects reported some degree of low back pain. Correlational analyses showed little relationship between low back pain and these two tests \((r = .002, \text{sit-and-reach } r = .043)\). When gender, age, body fat percentage, and time between testing and survey response were controlled by a partial correla-
tional technique, no increase in the observed relationships was found. Consequently, including these two test items for health-related fitness batteries seems inappropriate because these measurements are not related to low back pain.


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