EDITORIAL

Australian perspectives on development of motor control

In this issue, the topics are concerned with motor control, which has many aspects and perspectives. It deals with movement and manipulation in space and with postural and balance control that stabilises the body in space; it involves action, perception, and cognition; it bears on normal function, dysfunction, and clinical management (Shumway-Cook & Woollacott, 1995). It infiltrates all of our work, because motor developmental processes and problems are integral to developmental and educational issues of academic and behavioural function.

The contributions in this mainly experimental issue illustrate the diversity and broad scope of movement research across Australia. The age range of participants extends from infancy to adolescence; the research focus varies from motor tasks, visual imagery, and self-perception to psychosocial, applied, and clinical issues; and the contributors work in a range of settings. Issues of diagnosis, assessment, and treatment are raised.

In recent decades, research progress in cognitive and social fields has dominated the field. This work in Australia and overseas has provided excellent models for professional practice with children and adolescents. The increasing articulation of the developmental course and psychopathologies of behaviour, cognition, and affect with information processing has enabled more effective theory-based applications to individual therapy, psychological treatment, ecological interventions, and educational instruction.

The post1970s theoretical blossoming of developmental and educational psychology, however, did not grow out of motor research, but motor research, theory, and practice—whether in sports psychology or remedial education—is attracting lively interest. This changing situation improves practitioner prospects for more effective methods as well as for more coherent developmental and educational theory.

Psychopathological and neurological evidence targets motor processes as early risk factors for adult psychosis (Jones, 1977), secondary impairments of childhood behaviour disorders (Barkley, 1966, 1977; Hellgren, Gillberg, & Gillberg, 1994), and correlates of various learning and emotional difficulties. For example, developmental difficulties in motor function (infant milestones, speech problems, neurological soft signs, and clumsiness) have been identified as a preschizophrenic risk factor (Jones, 1977), and deficits in response inhibition can affect motor coordination and complex self-controlled goal-directed fine motor skills in schoolchildren (Barkley, 1977).

The heterogenous nature of motor control is evident in DSM-IV's Developmental Coordination Disorder (American Psychiatric Association, 1994). Impaired motor coordination affects daily activities, academic performance, and sporting competence expected for age and development. Manifestations range from delayed early milestones to school writing difficulties. Nonmotor speech and language milestones may also be delayed. The 5-11-year-old prevalence may be 6%. Coordination problems may be identified in early tasks such as running or catching and holding cutlery or dressing; problems may persist past childhood. DCD difficulties exclude those associated with specific neurological or pervasive developmental disorders and must exceed those normally expected in mental retardation, but they can co-occur with those distractible impulsive behaviours of attention deficit hyperactivity disorder.

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