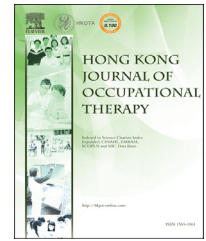




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ORIGINAL ARTICLE

Reliability and Validity of School Function Assessment for Children with Cerebral Palsy in Guangzhou, China



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KEYWORDS

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Summary *Background/Objective:* The aim of this study was to examine the reliability and validity of the Chinese version of the School Function Assessment (SFA) for primary school students with cerebral palsy (CP) in Guangzhou, China.

Methods: Ninety-three students with CP were recruited by convenience sampling from a special school. The Chinese version of the SFA was administered and an exploratory factor analysis with direct oblique rotation was used to extract the factor structure underlying the Activity Performance scales of the SFA. An intraclass correlation one-way random single measure was performed to study external reliability. Cronbach's alpha was used to study internal consistency.

Results: The findings showed that the Chinese version of the SFA had high internal consistency with test–retest reliability [ICC (1, k) = 0.49–0.97].

Conclusion: This study has established the applicability of the SFA for both clinical and research purposes in the Chinese population, and presented evidence of satisfactory psychometric properties in use with primary school students with CP in special schools.

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Introduction

In China, the education and rehabilitation of children with disability has become an increasingly serious social problem and the Chinese government has enacted legislation to ensure that such children enjoy the right to an education and to participate in the community. In 2006, there were 3.87 million children aged between 0 and 14 with disability in China. Of these, 2.46 million were aged 6–14, among whom were about 480,000 diagnosed with cerebral palsy (CP) (Office of the Second National Sample Survey on Disability, 2007). Among them, 63.2% of children with disability are enrolled either in mainstream or special schools. The rate of school enrollment has increased by 7.94% compared to the rate in 1987 (Office of the Second National Sample Survey on Disability, 2007). In 2007, nearly 905,000 school-aged children with disability in China were denied access to education due to factors such as inadequate school resources and poverty. Although some projects (i.e. “Project Hope” and “Spring Drizzle”) are attempting to assist such children to go to school, a lack of accessibility and appropriate accommodation in mainstream school campuses present environmental barriers to students with physical disability (Disabled World, 2010). Appropriate special education services can provide children with disability with maximum access to the classroom and enable them to take part in regular schooling more effectively. Research on the functional performance of children with disability in a real-life school environment in China is relatively rare. Therefore, it is important to evaluate the strengths and needs of children and families so that appropriate interventions and services can be developed (Dunn & Oetter, 1991; Stewart, 2001).

CP has been defined as a group of non-progressive, developmental disorders of movement and posture limiting activity (Rosenbaum et al., 2007). Motor impairment is secondary to lesions or anomalies of the brain in the early stages of development, followed by impairment of sensation, cognition, communication, and behaviour (Mutch, Alberman, Hagberg, Kodama, & Perat, 1992). Children with CP have a range of physical and mental impairments which result in a wide range of disability, although their performance depends very much on their living environment or context. The International Classification of Functioning, Disability and Health of the World Health Organization identifies environmental factors as those that are external to the individual which make up the physical, social, and attitudinal environment within which the person lives and conducts his/her life (World Health Organization, 2007). In particular, Rosenbaum and Stewart (2004) emphasized that studies of children and youths with CP should also include the dimensions of participation in school and the interactional nature of their life experiences in the school environment. The latter is important in terms of evaluating the extent to which a child can engage in activities that meet his/her individual needs and goals and meet social expectations (Simeonsson, Carlson, Huntington, McMillen, & Brent, 2001). School participation can be influenced by either external (environmental) or internal factors, such as the child's physical, cognitive, speech and language, and behavioural abilities, as both

factors are important to students' performance of activities (Schenker, Coster, & Parush, 2005).

Many of the assessments commonly used by occupational therapists in schools provide information about students' specific, isolated skills, rather than look at their functional ability to interact with the physical and social environment encountered in the real-life school setting. The School Function Assessment (SFA), which measures a student's performance of a series of functional tasks that represent the expectations of the role of an elementary school pupil in both academic and social activities show promise (Coster, Deeney, Haltiwanger, & Haley, 1998). It consists of three parts—participation, task supports, and activity performance—which systematically and comprehensively identify the student's strengths as well as the limitations that may influence his/her participation in a variety of tasks in the school environment (Coster et al., 1998). The SFA is a criterion-referenced assessment that measures a student's current level of performance relative to the overall continuum of educationally relevant functional skills and participation within and outside the classroom in the school setting. Its comprehensive design provides a view of the student's functioning as well as the specific needs and supports arising from his/her educational programme. Students without disability will score very high on the SFA with very little variance. Thus, the results of the SFA can help a collaborative team of educational specialists to develop specific goals and objectives for the Individualized Education Programme (Coster et al., 1998).

At present, there is no valid form of assessment in use in China that can directly measure the school performance and participation of students with disability. The previous Taiwanese version of the SFA was standardized for occupational therapists and other school professionals in Taiwan, but may not be culturally suited for use in Mainland China (Hwang, Nochajski, Linn, & Wu, 2004). Therefore, the purpose of this study was to examine the content and construct validities, internal consistency and external reliability of the Chinese version of the SFA and to explore its usefulness in working with primary school students with CP in Guangzhou, China.

Methods

Participants

A convenience sample of 93 participants was recruited from a special school in Guangzhou, China, one of the first special schools specifically for students with CP. Included were all students with CP from Grade 1 to Grade 5, aged 6–18 years. The inclusion criteria for participation in this study were (a) a diagnosis of any type of CP, including hemiplegia, diplegia, triplegia, and quadriplegia, (b) having physical and/or cognitive problems, (c) age 6–18 years, and (d) consent from students aged over 16, from parents, and from the school director. Demographic characteristics, diagnosis, classification of CP, and level of motor impairment were obtained from each student's educational records, which were reviewed by experienced occupational therapists and special education teachers working in the school. This study also involved 12 teachers who had

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