



## Emotional and behavioral problems in preschool children with autism: Relationship with sensory processing dysfunction

Mei-Hui Tseng<sup>a,b,\*</sup>, Chung-Pei Fu<sup>c</sup>, Sharon A. Cermak<sup>d</sup>, Lu Lu<sup>b</sup>, Jeng-Yi Shieh<sup>b</sup>

<sup>a</sup> School of Occupational Therapy, College of Medicine, National Taiwan University, Taipei, Taiwan

<sup>b</sup> Department of Physical Medicine and Rehabilitation, National Taiwan University Hospital, Taipei, Taiwan

<sup>c</sup> Department of Occupational Therapy, College of Medicine, Fu Jen Catholic University, New Taipei, Taiwan

<sup>d</sup> Division of Occupational Science and Occupational Therapy at the Herman G. Ostrow School of Dentistry, University of Southern California, Los Angeles, CA, USA

### ARTICLE INFO

#### Article history:

Received 7 February 2011

Accepted 8 February 2011

Available online 12 March 2011

#### Keywords:

Sensory processing patterns

Internalizing problems

Externalizing problems

Preschool children with autism

### ABSTRACT

This study aimed to investigate the sensory processing (SP) dysfunction and emotional and behavioral problems in preschool children with autism and then examine the relationship between the SP dysfunction and emotional and behavioral problems. The parents of 112 children aged 48–84 months (67 with autism; 45 age-matched typically developing) completed a demographic questionnaire, the Child Behavior Checklist-Chinese version (CBCL-C), and the Sensory Profile-Chinese version (SP-C). We found that 95.8% of children with autism who showed significant internalizing problems had at least one SP quadrant in the definite difference range, while 81.8% with significant externalizing problems had at least one SP quadrant in the definite difference range. Typically developing children showed lower percentages of 66.7% and 40.0%. Stepwise linear regression analysis revealed that in children with autism, avoiding and male gender were significant predictors of internalizing problems and sensitivity was a significant predictor of externalizing problems. In contrast, in typically developing children, avoiding was a significant predictor of internalizing problems and seeking was a significant predictor of externalizing problems. This study provided further understanding of the factors influencing emotional and behavioral problems in autism.

© 2011 Elsevier Ltd. All rights reserved.

## 1. Introduction

Autism is a neurodevelopmental disorder characterized by widespread abnormalities of reciprocal social interactions and communication, as well as severely restricted interests and highly repetitive behavior (American Psychiatric Association, 2000; World Health Organization, 2007). Emotional (internalizing) and behavioral (externalizing) problems often co-occur at a high rate (Brereton, Tonge, & Einfeld, 2006; Hartley, Sikora, & McCoy, 2008; Lecavalier, 2006) or with greater severity (Gau et al., 2010) in children with autism than normal controls. As high as four out of five young children with autistic disorder had at least one Child Behavior Checklist (CBCL) syndrome scale score in the clinically significant range (Hartley et al., 2008). Furthermore, emotional and behavioral problems often interfere with intervention and exacerbate functional impairment (Lane, Young, Baker, & Angley, 2010), parental distress (Davis & Carter, 2008; Herring et al., 2006; Pandolfi, Magyar, & Dill, 2009), parent–child relationship (Davis & Carter, 2008), and health-related quality of life in caregivers (Allik, Larsson, & Smedje, 2006).

\* Corresponding author at: School of Occupational Therapy, College of Medicine, National Taiwan University, No. 17 Xu-Zhou Road, Taipei 10055, Taiwan, ROC. Tel.: +886 2 33668175; fax: +886 2 23958960.

E-mail address: [mhtseng@ntu.edu.tw](mailto:mhtseng@ntu.edu.tw) (M.-H. Tseng).

In addition to emotional and behavioral problems, dysfunction in processing sensory information has been frequently reported in children with autism and other types of Autism Spectrum Disorder (ASD) (Baranek, David, Poe, Stone, & Watson, 2006; Ermer & Dunn, 1998; Kern, Garver, Carmody, Tricedi, & Mehta, 2007; Kientz & Dunn, 1997; Leekam, Nieto, Libby, Wing, & Gould, 2007; Tomchek & Dunn, 2007; Watling, Deitz, & White, 2001). Sensory processing (SP) refers to reception, modulation, integration, and organization of sensory stimuli, including behavioral responses to sensory input (Miller & Lane, 2000). SP dysfunction is defined as difficulties in regulating and organizing the type and intensity of behavioral responses to sensory input to match environmental demands (Miller, Anzalone, Lane, Cermak, & Osten, 2007). Children with SP dysfunction manifest unusual sensory responses such as over- or under-responsivity to sensory stimuli. The prevalence of SP dysfunction for children with ASD ranges from 42–95%, depending on the study sample (Kientz & Dunn, 1997; Tomchek & Dunn, 2007). Some of the documented associated problems of SP dysfunction include hyperactivity, distractibility, poor organizational skills, social and behavioral difficulties (Ayres, 1979; Dunn, 1997) which often impair a child's ability to explore and interact with physical and social environment, and, thus successful participation in daily life (Ashburner, Ziviani, & Rodger, 2008; Baranek et al., 2002; Cosbey, Johnston, & Dunn, 2010).

Despite an abundance of research in SP dysfunction, and emotional and behavioral problems in children with ASD, respectively, no studies, to date, have investigated the rate of co-occurring SP dysfunction in children with ASD with emotional and behavioral problems. Further, little is known about the relationship between SP dysfunction and emotional and behavioral problems in children with ASD, particularly in preschool children. Associations have been found between SP dysfunction and behavioral and emotional problems as rated by parents in children with autism (Baker, Lane, Angley, & Young, 2008; Lane et al., 2010) or rated by teachers in school-aged children with ASD (Ashburner et al., 2008). However, findings were considered preliminary with limitations in sample size (Baker et al., 2008), in the depth of problem behaviors examined (Lane et al., 2010), or without a comparison group (Baker et al., 2008; Lane et al., 2010). A further investigation of the relationship between SP dysfunction and the emotional and behavioral problems in preschool children with autism may lead to a better understanding of the factors associated with the emotional and behavioral problems in this population and thereby more effective intervention. Thus, the aim of this study was twofold: (1) to investigate the rate of co-occurring SP dysfunction in preschool children with autism who manifested emotional and behavioral problems and (2) to examine the relationship between SP dysfunction and emotional and behavioral problems in preschool children with autism and typically developing children. Results of the study can provide a holistic perspective of the role of sensory processing in preschool children's emotional and behavioral problems such that appropriate intervention strategies may be developed accordingly.

## 2. Methods

### 2.1. Participants

A total of 112 children, 67 children with autism (85.1% male, mean age: 64.21 months, SD: 9.01) and 45 age-matched typically developing children (51.1% male, mean age: 64.04 months, SD = 10.48) participated in this study. These children ranged in age between 48 and 84 months. Children with autism were diagnosed by child psychiatrists according to DSM IV-Text revision autistic disorder and had the Catastrophic Illness Card with the diagnosis of autism issued by the Bureau of National Health Insurance, Department of Health, Taiwan. Participants were recruited from six developmental centers, a pediatric rehabilitation clinic of a medical center, and the Autism Society Taiwan. The typically developing children were recruited from three nursery schools and a kindergarten in the greater Taipei area. Children with physical disorders, blindness, or deafness were excluded.

### 2.2. Instruments

#### 2.2.1. Sensory Profile-Chinese version (SP-C, Tseng & Cheng, 2008)

The Sensory Profile (Dunn, 1999) is a 125-item caregiver questionnaire which measures children's response to sensory events in everyday life. The Sensory Profile was translated into the Chinese version (SP-C) and validated by Tseng and Cheng (2008). The questionnaire is used for children from 3 to 10 years of age. Caregivers give their answers through a 5-point Likert scale (almost never = 5, seldom = 4, occasionally = 3, frequently = 2, almost always = 1). A higher score indicates better sensory processing abilities (Tseng & Cheng, 2008). The SP-C contains 4 quadrants: registration, sensation seeking, sensory sensitivity and sensation avoiding. The test-retest reliability is 0.79 with a 3-week interval, and the Cronbach alpha coefficients for internal consistency are from 0.62 to 0.90 (Tseng & Cheng, 2008). All the section and factor scores of the SP-C demonstrated significant differences between children with and without ASD (Tseng & Cheng, 2008). The Sensory Profile is the most frequently used measure to assess sensory processing in ASD (Ben-Sasson et al., 2009).

#### 2.2.2. Child Behavior Checklist for ages 4–18 Chinese version (CBCL-C, Huang, Chung, & Wang, 1994)

The Child Behavior Checklist (CBCL) is one of the most commonly used instruments to assess psychopathology in children. The scale employs a dimensional approach that assesses emotional and behavioral problems in children of 4–18 years old (Achenbech, 1991). The CBCL was translated to the Chinese version (CBCL-C) by Huang et al. (1994). The CBCL-C includes 113 items to assess eight narrow-band syndromes (withdrawn, somatic complaints, anxious/depressed, social

Download English Version:

<https://daneshyari.com/en/article/370657>

Download Persian Version:

<https://daneshyari.com/article/370657>

[Daneshyari.com](https://daneshyari.com)