

## SENSORY PROCESSING DIFFICULTIES IN PERSONS WITH AUTISM – AN OCCUPATIONAL THERAPIST’S RECOMMENDATIONS FOR GENERAL PRACTITIONERS

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### ABSTRACT

The organisation of sensory information from the body and the environment, which allows a person to interact effectively with their physical and social environment, is the process of sensory processing. People who have difficulty processing and organising sensory information are said to have sensory processing difficulties. It is found that such difficulties are common among children and adults with Autism Spectrum Disorder (ASD), affecting their social functioning and participation in meaningful activities in community spaces. In this article, the author recommends strategies that may be helpful for General Practitioners (GPs) to support persons with ASD, while attending to their medical needs. These include communication, self-regulation of GPs, and modification of the physical and social environment.

**Keywords:** Autism, Sensory Processing, Sensory Processing Difficulties, Environment, Occupational Therapy

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### INTRODUCTION

#### Brief History of ASD

Autism Spectrum Disorder (ASD) has come a long way. It was first used as a term by Psychiatrist Eugen Bleuler<sup>1</sup> in 1908 to describe a schizophrenic patient who had withdrawn into his own world. If you are Mandarin-speaking, Autism is also known as 自闭症, which loosely translates to what Dr Bleuler had described back in the 1900s.

It was the research of Hans Asperger and Leo Kanner, who were working separately in the 1940s, that shaped the development in diagnostic criteria of Autism. In the current DSM-5 (American Psychiatric Association, 2013),<sup>2</sup> in order to meet the diagnostic criteria for Autism Spectrum Disorder (ASD), an individual must have persistent deficits in each of three areas of social communication and interaction plus at least two of four types of restricted, repetitive behaviours.

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### SENSORY PROCESSING AND OCCUPATIONAL THERAPY

The organisation of sensory information from the body and the environment, which allows a person to interact effectively with their physical and social environment, is the process of sensory processing (Ayres, 2005).<sup>3</sup> When we mention the concept of sensory processing, it is key to look at the groundbreaking work of Anna Jean Ayres, a renowned American Occupational Therapist and research scientist, back in the 1970s. Building on the neuroscience and behavioural science research in the 1970s, Ayres (1972)<sup>4</sup> described sensory processing/integration as a developmental process that enables individuals to interact effectively with the environment.

Ayres' research led to the development of sensory integration as a clinical specialty in the field of Occupational Therapy. Ayres (1989)<sup>5</sup> also developed the Sensory Integration and Praxis Tests (SIPT), a standardised assessment tool designed to assess praxis, various aspects of sensory processing, and the integration of sensory inputs of an individual. The role of Occupational Therapy supports an individual to participate in meaningful activities of their everyday life. Occupational Therapy, using a sensory integration approach, aims to support individuals whose participation in meaningful everyday activities are limited by sensory processing difficulties (SPD).

What does an individual whose participation in meaningful everyday activities is limited by SPD look like? For example, an adult with ASD who frequently hits his hands against the table and hums loudly in the Day Activity Centre classroom he attends. The actions of hitting his hands against the table and humming cause loud sounds and often distress to the rest of his classmates. He may then be referred to see an Occupational Therapist for assessment and intervention.

For a comprehensive Occupational Therapy assessment, a multiple mode approach should be adopted (Schaaf & Lane 2015).<sup>6</sup> This includes questionnaires (e.g., Sensory Processing Measure or Sensory Profile), validated assessments (e.g., Evaluation in Ayres Sensory Integration, Sensory Integration and Praxis Tests, Bruininks-Oseretsky Test of Motor Proficiency) and clinical observation. The Occupational Therapist will then analyse and interpret the assessment data to identify factors that could contribute to an individual's participation challenges or struggles in daily life. Referring to the above example, this means to identify the factors that could have led to the autistic adult hitting his hands against the table and humming when he arrives at the classroom of the Day Activity Centre.

After the assessment is completed, the Occupational Therapist will then be able to develop an intervention plan that can include but not limited to Ayres Sensory

Integration® sensory-based strategies, modifying physical environment and coaching of personnel involved in the care of the individual being assessed to support their participation in everyday activities.

### **PREVALENCE OF SPD IN ASD**

SPD can be broadly classified into two categories: 1) Sensory modulation difficulties characterised by hyper- or hypo-responsiveness to sensory inputs; and 2) Sensory integration difficulties, which includes difficulties in postural control, bilateral integration, body-centred praxis, and visuopraxis (Lane et al 2019,<sup>7</sup> Schaaf et al 2022<sup>8</sup>). Across all ages and autism severity, the prevalence of SPD is estimated to be around 60-97 percent in children with ASD (Ben-Sasson et al 2019,<sup>9</sup> Dellapiazza et al 2018<sup>10</sup>).

### **LINKING SPD IN ASD TO QUALITY OF LIFE IN ADULTHOOD**

As children with ASD grow up and enter adulthood, while they may have received prior support or learnt strategies to cope with the impact of SPD on their daily lives, one aspect that is out of their locus of control is the ever-changing environment. This means they are required to be adaptable. Most of the time, this is a tall order for many individuals with ASD and makes living in the community a struggle. In a study by Bagatelli et al (2022)<sup>11</sup> that explored the impact of sensory processing difficulties on community participation in autistic adults, the participants who reported high in “Sensory Sensitivity” highlighted the “familiarity, comfort and predictability of the home environment”. It is worth noting that the environment in the community that is noisy and/or less predictable (than the home environment) was found to be “overwhelming” and “fatiguing”. Therefore, these individuals tend to reduce the times spent in community spaces.

### **COMMUNITY SPACES**

Community spaces are important. In the context of Singapore, a country with a high population density, this is crucial for adults with ASD whose access to such spaces are often limited. Community spaces can include the void deck, community centres, shopping malls, places of worship, and healthcare facilities such as general practitioners (GP) clinics in our neighbourhood.

### **WHAT CAN GPs DO TO SUPPORT ADULTS WITH ASD WHEN ATTENDING TO THEIR MEDICAL NEEDS?**

First, communication is key. There are two approaches to communication:

1. Communication with parents or caregivers (if autistic adults are accompanied)
  - a. Parents or caregivers are resources for checking in with what the sensory preferences are for these

autistic adults, especially if they have limited verbal speech

2. Communication with autistic individuals
  - a. Going to a GP clinic may be anxiety-provoking for many autistic adults as while it may be familiar for some, the social environment made up of the patients attending the clinic is never the same as the last visit
  - b. Monitor non-verbal cues of these adults that can include but not limited to
    - i. Restlessness that can manifest in constant pacing around the environment
    - ii. Increased breathing rate
    - iii. Increased vocalisation

Second, self-regulation of clinicians (GPs) is vital. If a clinician (GP) does not have regular interaction with persons with ASD, it can be nerve-wrecking for him/her. We need to check in with ourselves and be aware of our regulation state. Our state of regulation can impact the state of regulation of autistic adults we treat. If we are anxious, there is a high probability of the autistic individual we are examining or treating will be (come) anxious as well. Recall helpful strategies you have used in the past for self-regulation/calming down and practise these strategies for yourself.

Third, make adjustments to the physical and social environment to make it inclusive for persons with ASD.

### **Physical Environment**

If you have the budget to make some adjustments to the clinic space, consider the following:

- Use warm lights
- Use soothing music at your waiting area
- Set up a sensory-friendly space (see below). Do consult an Occupational Therapist in creating such spaces.



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## Social Environment

You (the clinician) are part of the social environment. Here are some strategies you can consider at your comfort level:

- Lower the volume of your voice when you speak
- Reduce the speed of your speech
- Use firm touch appropriately as communication of reassurance or comfort and monitor patient response

## CONCLUSION

The organisation of sensory information from the body and the environment, which allows a person to interact effectively with their physical and social environment, is the process of sensory processing. People who have difficulty processing and organising sensory information are said to have sensory processing difficulties. It is found that such difficulties are common among children and adults with (ASD), affecting their social functioning and participation in meaningful activities in community spaces. Some of the strategies that may be helpful for General Practitioners (GPs) to support persons with ASD, while attending to their medical needs, include communication, self-regulation of GPs, and modification of the physical and social environment. If in doubt, kindly make a referral to an Occupational Therapist.

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I am as a clinician today. They continue to guide how I practise as an Occupational Therapist and clinician while I continue to learn and understand their world. They may not see this but a heartfelt thanks for giving me this chance to be part of their journey. From the bottom of my heart, thank you.

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## LEARNING POINTS

- **Sensory processing is the process of organising sensory information from the body and the environment to allow a person to interact effectively with their physical and social environment.**
  - **Sensory processing difficulties are common among children and adults with Autism Spectrum Disorders (ASD).**
  - **Strategies to support persons with ASD during a medical consultation.**
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