



The Relationship Between Sensory Processing and Coping Skills and its Impact on Occupational Performance in Children: A Literature Review

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Introduction

Sensory processing impacts the occupational performance of children, including participation in play, leisure, education, activities of daily living (ADLs), instrumental activities of daily living (IADLs), rest and sleep, and social participation. Clinicians have also long observed a connection between sensory processing deficits and deficits in coping skills.

- Dr. Ayres defined **sensory integration** as “the neurological process that organizes sensation from one’s own body and from the environment and makes it possible to use the body effectively within the environment” (Ayres, 1972a, as cited in Bundy, Lane, & Murray, 2002).
- **Coping** is “a general term used for the learned behaviors one uses to meet personal needs and to adapt to the demands of one’s environment” (Zeitlin, 1985). Dr. Ayres hypothesized that poor integration of the senses impacts self-esteem, self-control, and self-confidence. She also stated, “when the brain is not processing sensory input well, it is usually not directing behavior effectively either” (Ayres & Robbins, 2013).

The purpose of this review is to identify evidence relating sensory processing and coping skills. Specifically, this review was conducted to answer the following question: *Is there evidence of an association between sensory processing and coping skills in children?*

Methods

This study reviewed current literature to further understand the nature of the relationship between sensory processing and coping skills on occupational performance.

Search Terms

sensory processing
 coping
 emotional regulation
 social participation
 praxis
 confidence
 self-esteem
 self-efficacy
 flexibility
 motivation
 executive functioning

Inclusionary and Exclusionary Criteria

Twenty seven articles were reviewed for the following criteria: validity of research study, connection to sensory processing and coping skills, background information, additional references, and pertinent information. Five articles were excluded due to lack of detail and/or irrelevance to the proposed research question.

Results

Three overarching themes were identified during this literature review. Key points within each theme are highlighted below.

Sensory Modulation, Anxiety, and Adaptive Behavior

- Children with high under- and over-responsivity evidence more negative emotions, anxiety, and depressive symptoms than children with lower under- and over-responsivity (Ben-Sasson, Cermak, Orsmond, et al., 2008).
- A positive relationship between anxiety and sensory defensiveness exists in children and adolescents with Asperger’s Syndrome (Pfeiffer, Kinnealey, Reed, & Hertzberg, 2005).
- Sensory over-responsivity is a predictor of the later development of anxiety in children with autism spectrum disorders (Green, Ben-Sasson, Soto, & Carter, 2012).
- The magnitude of responsiveness to a sensory challenge determines the ability of the nervous system to recover from the challenge and relates to the development of generalized anxiety in children (Lane, Reynolds, & Dumenci, 2012).

All of the articles substantiate a relationship between sensory modulation and anxiety.

Sensory Processing and Behavioral/Emotional Skills on Functional Daily Tasks

- Impaired sensory processing is associated with higher levels of behavioral and emotional problems, such as inattention and repetitive behaviors (Baker, Lane, Angley, & Young, 2007).
- Sensory processing difficulties limit participation in ADLs, work, and leisure (Baker, Lane, Angley, & Young, 2007).
- General sensory modulation difficulties are indicative of maladaptive behavior (Lane, Young, Baker, Angley, 2009).
- There is a significant relationship between the degree of sensory processing impairment and the level of problem behavior (O’Donnell, Deitz, Kartin, Nalty, Dawson, 2010).

All of these articles support a relationship between sensory processing, behavioral, and emotional skills.

Social Participation and Sensory Processing

- Children with Sensory Processing Disorder (SPD) report greater enjoyment in recreational activities, decreased participation in team sports, less diversity in social networks, and a broader range of skill-based activities (Cosbey, Johnston, Dunn, 2010).
- Individuals who avoid sensory stimulation or have low registration tend to avoid romantic relationships. Sensory seeking is related to secure relationship attachment (Jerome & Liss, 2004).
- Children with sensory processing deficits exhibit less complexity in social play and engage with toys for a decreased duration. These children also prefer toys that satisfy sensory needs (Watts, Stagnitti, & Brown, 2014).
- Children with Fragile X Syndrome presenting with avoidance features have lower levels of participation and decreased independence in self-care skills (Baranek, Chin, Hess, Yankee, Hatton, & Hooper, 2002).
- Individuals with sensory processing difficulties display performance deficits in social participation, play, IADLs, and ADLs. Children with high sensory over-responsivity have the poorest social performance (Koenig & Rudney, 2010).

All of these articles validate a link between social participation and sensory processing.

Discussion

The objective of this literature review was to determine if a relationship exists between sensory processing and coping skills. The results of this literature review indicate that there is a relationship between sensory processing and themes related to coping skills. Such themes identified include anxiety, adaptive behavior, behavioral/emotional skills, and quality of social participation. However, none of the articles discussed the associations between the aforementioned skill sets nor did they directly discuss the relationship between sensory processing and coping skills.

Implications for Occupational Therapy Practice and Research

- Additional research is required to determine if a relationship exists between sensory processing and coping skills.
- Occupational therapists should be aware of the connection between the themes identified in this review in order to help guide evaluation and treatment.
- Determine the role of Ayres Sensory Integration® therapy in the remediation of sensory processing deficits and the development of coping skills, in order to enhance occupational performance in children.

Limitations

- Research articles with small sample sizes
- Limited current research discussing specific research question
- Search terms with varied meanings and definitions
- Different definitions of coping skills across professions and areas of practice
- Literature is often diagnosis specific (ASD, ADHD, SPD, anxiety, Fragile X)

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