

# Research Opportunities in the Area of Children and Adolescents With Challenges in Sensory Processing and Sensory Integration

The American Occupational Therapy Association (AOTA) Evidence-Based Practice Project has developed a table summarizing the research opportunities on children and adolescents with challenges in sensory processing and sensory integration. The table provides an overview of the state of current available evidence on interventions within the scope of occupational therapy practice and is based on the systematic reviews from the AOTA Evidence-Based Practice Guidelines Series. Researchers, students, and clinicians can use this information in developing innovative research to answer important questions within the occupational therapy field.

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Planning a research project requires consideration of many factors. Level of interest and knowledge in a specific area, access to appropriate populations of participants, support of mentors and other researchers, and funding availability all help determine the focus of a future project. An additional component to be considered is whether adequate, up-to-date research has already been completed on a topic; if sufficient evidence is available in a given core area, this area might not be the best choice for another research project.

The best research topic may be one in which either little research has been done or the research to date is insufficient, inconclusive, or mixed. In addition, when research conducted to date provides a low level of evidence and is of limited quality, additional high-quality research in the area is needed.

The “Research Opportunities Table on Children and Adolescents With Challenges in Sensory Processing and Sensory Integration” provides an overview of the state of current available evidence on interventions within the scope of occupational therapy practice. The table is based on the systematic reviews from the AOTA Evidence-Based Practice Guidelines Series. The table lists specific interventions and indicates either that the evidence is sufficient to support the intervention or that moderate, mixed, or few studies support the intervention and therefore it is a priority research area. Please refer to *Occupational Therapy Practice Guidelines for Children and Adolescents With Challenges in Sensory Processing and Sensory Integration* (Watling, Koenig, Davies, & Schaaf, 2011) and the *American Journal of Occupational Therapy* Special Issue on Sensory Integration (Schaaf & Davies, 2010) for more information on the topic area and the systematic review process.

This table also is posted online for researchers to use to inform the occupational therapy community about their work. The table is linked to Google Drive and offers a place for researchers to include information on recently completed and ongoing research. It is hoped that this information will make the research planning process easier, minimize duplication of research efforts, and stimulate discussions among researchers with similar interests, which can then

## Research Opportunities Table on Children and Adolescents With Challenges in Sensory Processing and Sensory Integration

| Theme   | Specific Intervention   | Strength of Evidence   |
|---|---|------------------------|
| Areas of Occupation   |   |                        |
| Functional goals  | Occupational therapy using an SI approach for performance on individual functional goals for children with problems in sensory processing   | Priority research area |
|   | Combination of SI, sensory diet, and therapeutic riding to address performance on functional, parent-centered goals in children with problems in sensory processing   | Priority research area |
|   | SI for participation in active play for children with sensory processing disorder   | Priority research area |
|   | SI to address play skills and engagement in children with autism  | Priority research area |
|   | Exercise to improve play behavior in children with autism   | Priority research area |
|   | Cognitive and task-based approach to address participation in occupations for children with motor deficits characteristic of DCD  | Priority research area |
|   | Movement therapy for on-task passive behaviors in children with autism  | Priority research area |
| SI for academic and psychoeducational performance (e.g., math, reading, written language) | Priority research area  |                        |
| Performance Skills  |   |                        |
| Motor and praxis skills   | SI for gross motor and motor planning skills in children with learning disabilities   | Priority research area |
|   | Cognitive and task-based approach to improve motor skills in children with motor deficits characteristic of DCD   | Priority research area |
|   | Mental imagery to address performance on motor skills in children with attention and learning problems  | Priority research area |
|   | Motor imagery programs for performance on motor skills in children with problems in motor coordination  | Priority research area |
|   | Sensorimotor techniques to address motor performance and reduce falls in children with DCD  | Priority research area |
|   | Perceptual–motor training for motor performance in children with learning problems  | Priority research area |
| Sensory–perceptual skills   | Occupational therapy using an SI approach to address sensory processing skills in children with problems in sensory processing  | Priority research area |
|   | SI approach to improve visual perception in children with DCD   | Priority research area |
|   | Combined sensory diet plus Therapeutic Listening program to address areas of sensory processing for children with sensory processing disorders and visual–motor delays  | Priority research area |
|   | Combined SI plus perceptual–motor curriculum for visual, auditory, and tactile perception in children with suspected neurological problems  | Priority research area |
|   | Sensorimotor activities to improve sensory organization in children with DCD  | Priority research area |
| Emotional regulation skills   | SI to address maladaptive behaviors in children with problems in sensory processing   | Priority research area |
|   | SI to address self-esteem in children with learning disabilities and sensory integrative dysfunction  | Priority research area |
|   | Occupational therapy using an SI approach to decrease externalizing and internalizing behaviors in children with problems in sensory processing   | Priority research area |
|   | Combination sensory diet plus Therapeutic Listening program to improve behavior in children with sensory processing disorders and visual–motor delays   | Priority research area |
| Communication and social skills   | Occupational therapy using an SI approach to address socialization in children with problems in sensory processing  | Priority research area |
|   | SI approach to promote engagement and reduce aggression in children with sensory modulation disorder  | Priority research area |
|   | SI approach to improve social interaction and reduce disruptive behaviors in children with autism   | Priority research area |
|   | Massage to improve social communication in children with autism   | Priority research area |
| Sound therapy to improve language skills in children with autism                          | Priority research area  |                        |
| Client Factors  |   |                        |
| Mental functions  | SI to improve attention in children with autism   | Priority research area |
|   | Weighted vests to address attention in children with pervasive developmental disorder and sensory processing disorder   | Priority research area |
| Sensory function and pain   | Occupational therapy using an SI approach to reduce the amplitude of electrodermal responses in children with problems in sensory modulation indicating a decreased stress response to repetitive and potentially noxious sensory stimuli | Priority research area |
|   | Touch pressure or deep pressure and massage to address touch aversion and improve responsiveness to sound in children with autism   | Priority research area |
|   | SI to address tactile discrimination in children with suspected neurological problems   | Priority research area |
|   | Physical exercise to reduce self-stimulatory behaviors in children with autism  | Priority research area |
|   | Movement therapy to decrease negative responses to touch in children with autism  | Priority research area |
| Consultation  |   |                        |
|   | Occupational therapy provided on a consultation basis for children with SI dysfunction, DCD, and learning problems  | Research sufficient    |

Note. DCD = developmental coordination disorder; SI = sensory integration.

facilitate the creation of research networks and multisite studies. Researchers, students, and clinicians can use this information in developing innovative research to answer important questions within the occupational therapy field. To add current or ongoing research to the table, visit [www.aota.org/researchopportunitiesables](http://www.aota.org/researchopportunitiesables).

Researchers are also encouraged to enter their projects into AOTA's Researcher Database at <http://myaota.aota.org/research/>. This database provides AOTA with information such as relevant clinical settings and populations, *International Classification of Functioning, Disability and Health* level (World Health Organization, 2001), funder (if any), and key words to help guide research advocacy and policy initiatives. ▲


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## References

- Schaaf, R. C., & Davies, P. L. (Eds.). (2010). Sensory integration [Special issue]. *American Journal of Occupational Therapy*, 64(3).
- Watling, R., Koenig, K. P., Davies, P. L., & Schaaf, R. C. (2011). *Occupational therapy practice guidelines for children and adolescents with challenges in sensory processing and sensory integration*. Bethesda, MD: AOTA Press.
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| The AOTA   | <p>Occupational Therapy Practice Guidelines for</p> <p><b>Children and Adolescents With Challenges in Sensory Processing and Sensory Integration</b></p>  | <p>By Renee Watling, PhD, OTR/L, FAOTA; Kristie Patten Koenig, PhD, OTR/L, FAOTA; Patricia L. Davies, PhD, OTR, FAOTA; and Roseann C. Schaaf, PhD, OTR/L, FAOTA</p> <p>Up to 15% of school-age children are believed to have sensory challenges, and at least 40% of individuals with developmental disabilities and 80% of those with autism are affected. Using an evidence-based perspective and key concepts from the <i>Occupational Therapy Practice Framework: Domain and Process</i>, this important AOTA Practice Guideline provides an overview and insight into occupational therapy evaluation and intervention for youth that experience sensory information difficulties.</p> <p><b>Highlights include</b></p> <ul style="list-style-type: none"> <li>• Relationship between sensory processing and participation</li> <li>• Development of sensory integration theory</li> <li>• Concepts of function and dysfunction</li> <li>• Approaches to evaluation</li> <li>• Strategies for intervention</li> <li>• Elements of training and specialization</li> <li>• Extensive evidence tables that summarize current and relevant research.</li> </ul> <p>ISBN: 978-1-56900-320-6</p> <p>Order #2218. AOTA Members: \$69, Nonmembers: \$98</p> |
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