



# The Effects of the Alert Program® on Sensory Integration in Children with Autism Spectrum Disorder: A Scoping Review

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## Introduction

- Autism spectrum disorder affects approximately 1 in 36 children in the United States<sup>1</sup>.
  - 90% of children with autism experience some form of sensory processing dysfunction, such as sensory hypo-reactivity or sensory-seeking behaviors<sup>2</sup>.
- As autism diagnoses continue to increase and sensory processing challenges remain common in this population<sup>3</sup>, there is an urgent need for effective therapeutic approaches to address these issues.
- The Alert Program® has been used to help children with sensory processing challenges identify and moderate their internal regulatory states through specific sensory strategies<sup>4</sup>.
  - Evidence supporting its use specifically for children with autism is inconclusive.
- Purpose:** To explore the effects of the Alert Program® on sensory integration in children with autism spectrum disorder, as reported in the literature.

## Methods

- Primary Search**
  - Study selection:** 1) were peer-reviewed sources that used the Alert Program® 2) included participants that were diagnosed with autism, without limitations on level of severity or support needed 3) included participants that were 14 years and younger 4) published in English 5) published between January 2014 and December 2024
  - Databases:** PsycINFO, Scopus, PubMed, Google Scholar, and Embase
- Secondary Search**
  - Same selection criteria, except:
    - Inclusion of grey literature
    - Published between 2004-2024
    - Manual search of the *American Journal of Occupational Therapy (AJOT)*

## Results

- Only four of the 3,097 sources identified through the database searches were deemed eligible for this review according to the predefined inclusion and exclusion criteria (Figure 1).
- As shown in Table 1, the studies included in the review reflect a range of methodological characteristics that inform their findings.
  - The studies primarily used questionnaires and surveys completed by teachers/staff and children, along with subjective data from outpatient clinics and classrooms.
- Overall, the studies reported positive outcomes in participants' knowledge and use of sensory strategies and significant behavioral changes (Figure 2).

## Results Continued

Fig.1. Primary and Secondary Selection Processes Combined

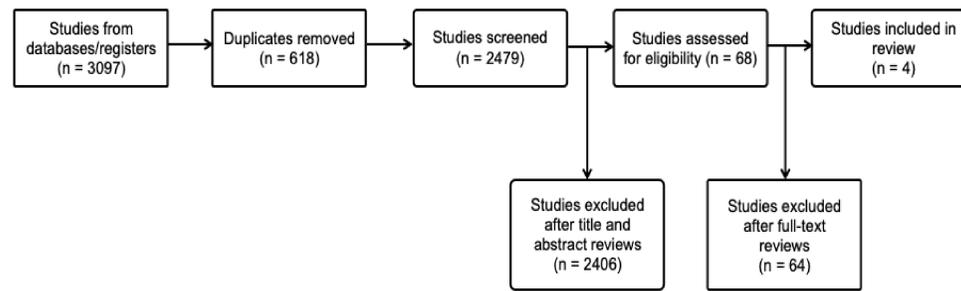


Table 1. Study Characteristics

	Authors	Design	Participants	Sample	Methods	Outcomes
Peer-Reviewed Studies	Tolentino, 2023 <sup>5</sup>	Quasi-experimental, quality improvement	2-5 year old children, with two children diagnosed with ASD, five with developmental delays, and one neurotypical child	8	10-15 minute sessions 4x/week for 8 weeks, and weekly education sessions were provided to the teachers	Pre- and post-surveys completed by teachers, staff observations, and anecdotal feedback following the Alert Program® groups
	Warner, 2019 <sup>6</sup>	Quasi-experimental, not randomized	10-14 year old middle school students with dual diagnosis, including ASD	7	45 minute sessions 1x/week for 6 weeks	Pre-test, post-test knowledge survey completed by students
Grey Literature	Maas, Mason, & Candler, 2008 <sup>7</sup>	Quasi-experimental	Higher functioning students on the autism spectrum with their typically developing peers	15	30 minutes sessions 1x/week for 10 weeks	Student questionnaire, teacher questionnaire, and a goal attainment scale completed by the teachers
	Zeidler, 2012 <sup>8</sup>	Quasi-experimental	7-10 year old students with sensory processing difficulties, with six of the students having conditions on the autism spectrum and one student with ADHD	7	30 minute sessions 2x/week for 6 weeks	Teacher Observation Scale, Student Self Report Scale

Fig. 2. Key Takeaways



## Discussion

- Limited research in this field
  - Populations studied include children with attention-deficit hyperactivity disorder, fetal alcohol spectrum disorders, and emotional/behavioral disturbances
  - Varying contexts, individual versus whole classroom or group approaches
  - Collaboration between educators and therapists leads to more effective learning environments
  - Use of evidence-based practices
- Limitations**
- Narrow search parameters
  - Modifications to the search strategy
  - Small number of studies identified
  - Variability in methods and outcome measures

### Future Research

- Address methodological limitations
- Consistency in assessments and outcome measures
- High quality trials
- Longitudinal studies

## Conclusion

- While the studies suggest positive outcomes, the limited quantity and quality of the evidence warrants cautious interpretation.
- Preliminary data indicate that the Alert Program® may be effective in addressing sensory processing challenges within the targeted population, however, further research is needed to validate these findings and explore the topic more comprehensively.

## References

Scan Here:



## Acknowledgement & Contact Information

**Special Thanks to:** Dr. K. Megan Carpenter, OTD, OTR/L, SCFES; Denise Dixon, OTR/L; Teresa Wiggins, OTR/L; Merry Grace Harper, OTD, OTR/L

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