SENSORY PROFILE OF CHILDREN ON THE AUTISM SPECTRUM

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Abstract

This study examines sensory processing patterns among children on the autism spectrum. It focuses on seven areas: tactile sensitivity, taste and smell sensitivity, movement sensitivity, sensory seeking, auditory filtering, energy level, and visual sensitivity. The research aimed to identify sensory differences and explore whether reported patterns varied according to children's gender, age, place of residence, parents' employment status, and nationality. Data were collected through a sensory checklist completed by parents. The sample consisted of 46 parents of children with autism spectrum disorder recruited through the "Pediatrika" children's clinic, the "Ura-Blu" autism organization, and the "Aura" non-governmental organization. The findings indicated sensory deviations across the assessed areas. Overall comparisons did not show significant differences by gender or nationality. The original analysis reported selected differences related to residence and parents' employment status. The study highlights the importance of understanding each child's individual sensory profile and providing appropriate support in everyday and educational settings.

Keywords: autism spectrum disorder; sensory processing; sensory profile; children; sensory sensitivity; parent questionnaire.

1. Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental condition associated with differences in social communication and interaction, as well as restricted or repetitive patterns of behaviour, interests, or activities. The way autism is experienced differs from one person to another. Children on the autism spectrum may perceive and respond to information from their surroundings in ways that are different from those of their peers.

Sensory experiences are part of everyday life. Sounds, lights, touch, movement, tastes, and smells provide information that helps a person understand and respond to the environment. For some children with ASD, processing this information can be challenging. A sound may feel overwhelming, a particular texture may be uncomfortable, or a child may seek movement and touch more frequently.

Sensory differences can influence participation in daily routines, play, learning, eating, self-care, and social activities. For this reason, understanding a child's sensory responses can help parents, teachers, and professionals identify environmental barriers and plan suitable support.

1.1 Autism spectrum disorder

Autism is a lifelong neurodevelopmental condition. It is not an illness that can be cured. Children on the spectrum have varied strengths, abilities, and support needs. Some communicate verbally, while others use gestures, pictures, or alternative communication systems. Differences may also occur in flexibility, attention, play, and responses to sensory information.

The original thesis describes three broad areas associated with autism: social interaction, communication, and behaviour. It also emphasizes that early identification and appropriate support can contribute to a child's development and participation.

1.2 Purpose of the study

The present study concentrates on sensory characteristics rather than attempting to describe every aspect of autism. It seeks to summarize parent-reported sensory responses and examine

whether selected demographic characteristics are associated with differences in the sensory domains assessed.

2. Sensory processing and the sensory profile

Sensory processing refers to the way the nervous system receives, organizes, and responds to information from the senses. A sensory profile provides an overview of an individual's responses to sensory events in everyday life. It can help identify patterns that may support or interfere with participation in daily activities.
Sensory responses may differ in intensity and form. The source thesis discusses three broad patterns:

- Sensory over-responsivity: an unusually strong or negative response to sensory input. For example, a child may avoid loud sounds, certain clothing textures, or unexpected touch.
- Sensory under-responsivity: a reduced or delayed response to input that would usually attract attention. A child may appear not to notice some sounds, touch, or other stimuli.
- Sensory seeking: frequent or intense engagement with sensory experiences, such as movement, sounds, touching objects, or looking closely at visual stimuli.

2.1 Sensory areas examined

The research checklist used in this study covered seven areas. These domains provide a practical framework for organizing the parent responses:

Sensory domain	Examples of responses considered
Tactile sensitivity	Responses to touch, grooming, clothing, textures, and physical proximity.
Taste and smell	Food preferences, reactions to food textures, and responses to smells.
Movement sensitivity	Reactions to changes in head or body position, height, balance, and movement.
Sensory seeking	Frequent movement, making sounds, touching people or objects, and seeking sensory input.
Auditory filtering	Attention and task completion in noisy environments; responses to sounds.
Energy level	Fatigue, muscle strength, endurance, and need for physical support.
Visual sensitivity	Responses to bright light, movement in the environment, and visual stimulation.

These areas should not be interpreted as identical for all children. A child may show sensitivity in one domain and a different response pattern in another. The purpose of the profile is to describe individual needs, not to label a child.

3. Everyday impact and support

Sensory processing differences may affect how a child experiences ordinary environments. A busy classroom, crowded corridor, bright lighting, strong smells, or unexpected physical contact may create discomfort or reduce attention. Sensory preferences can also influence eating routines, dressing, personal care, movement, and play.

The source thesis emphasizes that sensory responses vary between individuals and that there is no single strategy that is suitable for every child. Support should therefore be based on careful observation and, where appropriate, an individualized assessment by relevant professionals.

3.1 Examples of supportive approaches

3.2

- Reduce unnecessary background noise and provide access to a quieter space when needed.
- Use predictable routines, clear instructions, and visual cues to help the child understand what will happen next.
- Introduce unfamiliar textures, materials, and activities gradually, without forcing participation.
- Offer appropriate movement opportunities and safe activities that support balance and body awareness.
- Keep learning spaces organized and reduce visual clutter when it distracts the child.
- Work collaboratively with parents, teachers, occupational therapists, speech and language professionals, and other relevant specialists.

Sensory strategies should be selected according to the child's observed responses and functional needs. They should be reviewed over time to determine whether they improve comfort, participation, and independence.

3.2 Importance for education

In educational settings, understanding sensory needs can help staff make reasonable adjustments. Examples include seating arrangements, planned movement breaks, visual schedules, adapted materials, and additional time for transitions. These supports are intended to increase access to learning and participation in classroom routines.

A sensory profile is one source of information and should be considered alongside communication, learning, health, family, and environmental information. It does not replace a comprehensive professional assessment.

4. Research aim, objectives and hypotheses

4.1 Aim

The main aim of the research was to identify sensory profile patterns among children with autism spectrum disorder in seven assessed domains: tactile sensitivity, taste and smell sensitivity, movement sensitivity, sensory seeking, auditory filtering, energy level, and visual sensitivity.

4.2 Research objectives

4.3

- To examine parent-reported tactile responses among children on the autism spectrum.
- To assess reported responses related to taste and smell.
- To examine movement sensitivity and sensory-seeking behaviours.
- To explore auditory filtering and energy-level characteristics.
- To examine visual sensitivity.

- To explore whether sensory responses differ according to gender, age, place of residence, parents' employment status, and nationality.

4.3 Research questions

The research was guided by questions about the presence of differences in each of the seven sensory domains and about possible variation according to the demographic characteristics recorded in the questionnaire.

4.4 hypotheses

The original study proposed seven hypotheses, suggesting that children with ASD would show deviations in tactile sensitivity, taste and smell sensitivity, sensory seeking, movement sensitivity, auditory filtering, energy level, and visual sensitivity.
The hypotheses were examined using the responses to the sensory checklist. The results are interpreted as patterns within the sample and should not be generalized to all children on the autism spectrum.

5. Methodology

5.1 Research design

The study used a questionnaire-based approach and descriptive and comparative analyses. The original thesis reports the use of analytical, comparative, and statistical methods. Associations and group differences were examined using statistical procedures, including Mann–Whitney tests and chi-square analyses.

5.2 Participants and setting

The sample included 46 parents of children with autism spectrum disorder. Data collection took place through the "Pediatrika" children's clinic, the "Ura-Blu" autism organization, and the "Aura" non-governmental organization. The reported sample characteristics included 20 girls and 26 boys; 23 children in each of the two age groups (1–2 and 2–3 years); 9 children from rural areas and 37 from urban areas; 18 parents who were employed and 28 who were unemployed; and 35 Albanian and 11 Macedonian participants.

5.3 Instrument and procedure

Data were collected through a sensory checklist for autism completed by parents. The checklist included demographic questions and items grouped into seven sensory domains. Response options were presented as frequency categories ranging from "always" to "never."

5.4 Data analysis

According to the original thesis, the collected data were processed using SPSS and Microsoft Office Word. Mann–Whitney tests were used for comparisons between groups, while chi-square analyses were used to examine associations between demographic variables and individual checklist items.

5.5 Ethical and interpretive considerations

The available thesis text identifies the participant groups and data-collection settings but does not provide detailed information about informed consent, ethics approval, or the exact recruitment procedure. The findings in this shortened paper are therefore presented as reported in the source document, without adding unreported participant details or recalculating statistics.

6. Results

A total of 46 parents participated in the study. The sample was made up of 20 girls (43.5%) and 26 boys (56.5%). The two reported age groups each included 23 children (50%). Most participants lived in urban areas (37; 80.4%). Parents' employment status was reported as 18 employed (39.1%) and 28 unemployed (60.9%). The nationality groups included 35 Albanian (76.1%) and 11 Macedonian (23.9%) participants.

6.1 Participant characteristics

6.2

Characteristic	Category	n	%
Gender	Girls	20	43.5
	Boys	26	56.5
Age	1–2 years	23	50.0
	2–3 years	23	50.0
Residence	Rural	9	19.6
	Urban	37	80.4
Parent employment	Employed	18	39.1
	Unemployed	28	60.9
Nationality	Albanian	35	76.1
	Macedonian	11	23.9

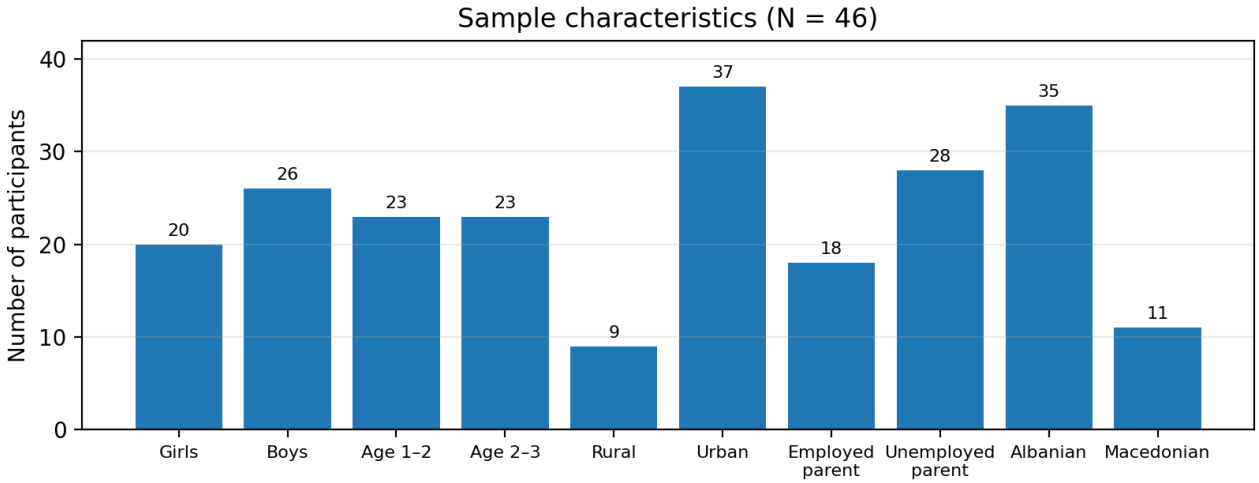


Figure 1. Distribution of participants across the demographic categories reported in the thesis.

Note: The chart displays the number of participants in each category. Categories represent separate demographic characteristics; they should not be added together.

6.2 Main findings across sensory domains

The original thesis reports sensory deviations across approximately all assessed domains. Its summary of the overall comparisons indicates no statistically significant differences by gender and no overall differences by nationality. The thesis reports differences associated with place of residence in sensory seeking, and more differences according to parents' employment status, particularly in tactile sensitivity, taste and smell sensitivity, and visual sensitivity.

Grouping variable	Summary reported in the original thesis
Gender	No statistically significant overall differences across the sensory domains.
Age group	No statistically significant overall differences were reported in the summary.
Place of residence	A difference was reported in the area of sensory seeking.
Parents' employment	The thesis reports the greatest number of differences, especially in tactile, taste/smell, and visual domains.
Nationality	No statistically significant overall differences across the sensory domains.

6.3 Selected item-level findings

The detailed tables in the source thesis identify some statistically significant item-level associations even where the overall domain comparison was not significant. Examples include selected tactile and visual items in comparisons by age or parents' employment, an auditory-filtering item by parents' employment, and selected tactile, taste/smell, auditory-filtering, and energy-level items by nationality.
These item-level results should be interpreted cautiously. A significant result for an individual checklist item does not necessarily indicate a significant difference for the entire sensory domain. The original thesis also contains a few inconsistencies in the wording and reporting of some statistical values; this shortened version therefore retains the broad conclusions and avoids reproducing questionable individual statistics.

6.4 interpretation

The findings suggest that sensory differences are present across several areas of everyday functioning in the studied group. However, the pattern is not uniform. Demographic comparisons provide only partial information and do not replace assessment of each child's own sensory responses, preferences, and support needs.

7. Discussion and conclusion

This study set out to describe sensory processing patterns among children on the autism spectrum using parent-reported information. The seven domains included tactile sensitivity, taste and smell, movement, sensory seeking, auditory filtering, energy level, and visual sensitivity. The findings reported in the original thesis indicate deviations across approximately all of these areas.
The overall comparisons did not identify significant differences by gender or nationality. The thesis reports a difference related to place of residence in sensory seeking and describes more group differences according to parents' employment status, particularly in tactile, taste and

smell, and visual sensitivity. These results should be viewed in the context of the small sample of 46 participants and the use of parent-completed checklist responses.
The study supports the value of observing sensory responses as part of understanding children's everyday experiences. Sensory responses may influence participation in eating, dressing, movement, play, classroom activities, and social situations. Identifying patterns can help families and professionals consider practical adjustments that make environments more accessible.

7.1 Conclusion

The research concludes that sensory processing differences were reported in all seven assessed areas among the children included in the sample. The findings also show that group differences were not consistent across demographic characteristics. Gender and nationality were not associated with overall differences in the sensory domains, while selected differences were reported for residence and parents' employment status.
The central conclusion is that children on the autism spectrum have individual sensory profiles. Assessment and support should therefore be individualized, based on careful observation, parent input, and collaboration among relevant professionals. The results of this study provide information about the selected sample and should not be treated as representative of all children with ASD.

8. Recommendations

- Parents should observe and document the situations in which a child shows sensory discomfort, reduced response, or sensory-seeking behaviour.
- Families and educational professionals should share relevant observations to support consistent strategies across home and school.
- Sensory supports should be individualized and, when needed, planned with appropriately qualified professionals.
- Schools should consider practical adjustments such as visual schedules, predictable routines, reduced background noise, organized workspaces, and planned movement opportunities.
- Children should be introduced gradually to unfamiliar sensory experiences, with respect for their comfort and individual responses.
- Further research should use larger and more diverse samples, clearly describe recruitment and consent procedures, and report statistical results consistently.

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