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SENSORY SENSITIVITY PROFILE AND THEIR IMPACT ON EVERYDAY ADAPTIVE BEHAVIOUR AMONG CHILDREN WITH AUTISM SPECTRUM DISORDER

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Abstract

Background- The sensory processing differences have been more and more recognized as a basic feature of autism spectrum disorder (ASD) and they are considered to have a significant impact on children's emotional regulation, their behavior and participation in daily life. Indian studies that look at the correlation between sensory sensitivity and everyday adaptive behavior in remains limited.

Aim- The aim of the current study was to analyse the sensory sensitivity profiles together with the everyday adaptive behavior of children with ASD. To look into the relationship between these factors and to hear from caregivers of how they think the child's sensory sensitivity impacts his/her functioning.

Method- A mixed-methods design was used with the participation of 15 caregivers of 4-12-year-old children with ASD. The Short Sensory Profile (SSP) and the Daily Living Skills (DLS) Scale were the tools used for the quantitative data collection. The qualitative data collection involved semi-structured interviews with caregivers conducted in Tamil. The quantitative analysis included descriptive statistics, Spearman's rho correlation and the Mann–Whitney U test while thematic analysis was used for the qualitative data.

Results- Descriptive findings have shown considerable differences in both sensory sensitivity and adaptive behavior. The Spearman's rho analysis indicated a moderate positive correlation was found between sensory processing abilities and everyday adaptive behavior ($\rho = 0.639$, $p < .05$). The Mann–Whitney U test revealed a significant difference in adaptive behavior between the groups of high and low sensory sensitivity children ($U = 0.00$, $Z = 2.76$, $p = .0057$), hence the null hypotheses were rejected. The qualitative findings pointed to emotional

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dysregulation, behavioral issues and poor daily living skills as being the consequences of sensory overload.

Conclusion-The results suggest that the sensory sensitivity of a child with autism spectrum disorder (ASD) considerably affects his or her daily adaptive functioning. The integration of methods like sensory-informed assessment and adaptive-focused intervention is necessary to bring about a positive change in the functional outcomes in India.

Keywords: Autism Spectrum Disorder, Sensory Sensitivity, Adaptive Behaviour, Daily Living Skills, Caregiver Perception, Mixed-Methods Study.

Introduction

Autism Spectrum Disorder (ASD) is a neurodevelopmental disorder that consists of problems with social communication, restricted interests and repetitive behaviour patterns (DSM-5, 2013). In recent years, researchers have grown to consider sensory processing differences as a major aspect of autism rather than a peripheral feature. Hence affecting the emotional, behavioural and functional development of the child. A child with ASD may experience sensory reactions that are excessive, diminished or may seek sensory stimulation, to a varying degree, through several senses including touch, hearing, vision, proprioception, vestibular and oral. Sensory Sensitivity is an individual's unusual threshold and reaction to sensory input—either increased, decreased or change —leading to behaviours like avoidance, defensiveness, under-responsiveness or excessive seeking of sensory experiences. The sensory patterns determine how the children perceive interpret and interact with the environment that is closest to them.

The Indian studies are the importance of sensory processing difficulties in the case of autistic children, but it is bringing out huge gaps in research. The works of Rajalakshmi et al. (2024), Raj & Umaiorubagam (2025), Verma et al. (2025), Darnal et al. (2023, 2025) are always indicative of the very high occurrence of sensory hyper- and hypo-reactivity, and if these factors are connected with sleep, social interaction, emotional regulation and reduced behaviour control the impact is very strong, even to the extent that one might say, completely depending on the individual that it is the best or worst condition the child is in, so to speak. The literature is again mainly based on parents' perceptions of their children's sensory difficulties, very limited in age and hardly ever looks at the behavioural adaptation as an essential aspect of functioning in daily life which determines the child's overall adaptation. Adaptive behavior is defined as the capabilities appropriate to the child's age that enable him/her to perform independently the most important daily functions such as communicating, caring for oneself, interacting with others, playing and developing essential academic skills through motor activities. The Vineland Adaptive Behavior Scales and similar measures support the contention that adaptive skills are the most important indicators of a child's developmental progress and long-term outcomes in the case of autism.

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The importance of adaptive functioning has been well established yet very few Indian studies have correlated sensory processing profiles with everyday adaptive behaviour. Reviews such as Srivastava et al. (2024) and operational models like Chandran et al. (2025) highlight that the Indian research scenario is still lacking in systematic attempts to connect sensory reactivity with the functional domains of self-care activities, emotional regulation, participation in home and school activities and independence. This lack of connection is very critical since sensory reactivity usually has a direct impact on behaviours that are essential to living daily—picky eating that impacts nutrition, tactile defensiveness that affects dressing and grooming, sound hypersensitivity that hampers classroom participation or under-responsiveness that may lead to safety issues.

In spite of the fact that sensory processing problems are very well described in children with autism spectrum disorder, the research in India focusing on the impact of sensory sensitivity on adaptive behaviour in daily life is still very limited. The majority of the studies have dealt with sensory reactivity or behavioural and emotional outcomes separately, while very few have integrated both areas using a mixed-methods approach. This situation hinders the planning of functional, context-specific interventions for Indian ASD children. Hence, it is necessary to study the connection between sensory sensitivity profiles and everyday adaptive behaviour in order to provide guidance for assessment and intervention practices.

Review of Literature

Rajalakshmi et al. (2024) performed the study on Sensory Reactivity Through the Lived Experiences of Parents of Children with Autism Spectrum Disorder**.** An exploratory phenomenological study that involved parents of urban middle-SES children with autism (aged 2-6 years) diagnosed according to DSM-5 criteria. The 15 parents were interviewed in Hindi for 45-60 minutes based on Dunn's and Miller's sensory models and the Sensory Profile-2. The data were then transcribed, translated and analysed according to Giorgi's phenomenological method until saturation was reached. The researchers identified four main themes: sensory hyper-reactivity (sound intolerance, tactile defensiveness, picky eating), hypo-reactivity (reduced responses to sound, pain, temperature) and socio-emotional responses (sameness, aloofness, low frustration tolerance, language delays). The study, while emphasizing the need for Indian sensory tools that are culturally relevant, did not assess adaptive behavior and thus left a considerable gap in understanding the sensory sensitivity impact on daily living skills (communication, self-care, social participation). Some limitations of the study are single-site sampling, a narrow age range and therapy-related recall bias.

Raj S & Umaiorubagam (2025) carried out the study on Relationship Between Sensory Processing and Sleep in Children with Autism Spectrum Disorder**.** Survey-based quantitative research with 74 autistic kids (aged 3-11 years) employing the Child Sensory Profile-2 and Child Sleep Habits Questionnaire while controlling for ISAA severity. The strongest predictor of sleep disturbances was sensory avoidance ($\beta = 0.414$, $p = 0.003$), which accounted for 32%

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of the variance, while sensory seeking, sensitivity and registration were also linked to issues like delayed sleep onset, night wakings and anxiety. The touch, movement, oral and auditory modalities were the most affected. Though the study highlights the connection between sensory processing and sleep-related functional difficulties and it was based only on parent-reported data and did not measure everyday adaptive behaviour thus making it unclear how sensory sensitivities might affect the broader domains of self-care, routines and emotional regulation.

Verma et al. (2025) surveyed the study on Exploring Prevalence of Sensory Patterns Among Children with Developmental Disabilities a total of 150 children (ages 6–11) with developmental disabilities and classified them using the Glasgow Sensory Questionnaire–Parent version. The group of children with ASD displayed the highest total, hyper-sensitivity and hypo-sensitivity scores and the differences among vestibular, auditory, tactile and proprioceptive senses were particularly highlighted. Sensory patterns were significantly influenced by SES, family type, maternal occupation and nutritional status ($p < 0.05$). The study, did not include adaptive behavior scales which would have helped to understand the relationship between sensory patterns and daily functioning, independence or participation in home and school activities, thus emphasizing the need for routine sensory screening for the early identification of functional difficulties.

Ranjan et al. (2025) conducted the study-on-Study Protocol for Development and Validation of an Indian Instrument for Severity of Sensory Reactivity in Children with Autism Spectrum Disorder. A sequential mixed-methods approach for the creation of an Indian tool able to assess the severity of sensory reactivity in autistic preschoolers, aged between 2 and 6. Parent interviews and expert FGDs are the first steps in the project where the main goal is to locate the four sensory areas of hyper-, hypo-reactivity, seeking and socio-emotional support in a culturally sensitive way and while further on the 2nd-phase validation is planned through EFA/CFA against Sensory Profile-2 and SPM-Home including Hindi translation and item adaptation. The implementation of the protocol is envisioned to result in an indigenous psychological assessment that might uplift sensory-adaptive intervention planning. However, it is still an early-stage or the sole-site sample providing no empirical data that would be a base for broad application. The lack of adaptive behavior scales raises a question on how the proposed instrument will eventually link sensory reactivity to functional skill profiles.

Darnal et. al., (2023) investigated the study on Sensory Processing and Social Functioning in Younger and Older Children with Autism Spectrum Disorder a survey with 123 mothers of children with autism aged 4-18 through the Short Sensory Profile and the CBCL social problems subscale. Taste/smell, movement, low energy and visual-auditory domains were marked as areas of older children's major sensory difficulties and tactile sensitivity, under-responsiveness and auditory filtering were found to significantly predict social deficits ($p < 0.01$). This study emphasizes that sensory processing plays a crucial role in determining social-adaptive functioning across different age groups. However, the dependence on mothers' reports and lack of standardized adaptive behavior assessments (e.g., Vineland, ISAA adaptive

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domains) restrict the interpretation of how sensory patterns affect the provision of communication, self-management and participation skills in broader daily living scenarios.

Darnal et. al., (2025) examined the study on Sensory Processing, Emotional and Behavioural Challenges in Children with ASD and ADHD. Cross-sectional research involved 362 mothers among which 123 had ASD, 100 had ADHD and 139 had typical children aged 4-18 who were assessed using the Short Sensory Profile and CBCL. In the group of children with autism, tactile sensitivity, under-responsiveness and auditory filtering were significantly correlated with externalizing behaviors ($r = -0.33$ to -0.39, $p < 0.01$) whereby strong group differences were observed in under-responsiveness and auditory filtering ($p < 0.001$). Age-adjusted MANCOVA results provided strong evidence for the sensory-behavior link. The researchers suggested early identification and stage-specific sensory interventions but their study was based solely on mothers' reports and did not incorporate adaptive behavior measures which might have otherwise provided insight into the extent to which sensory issues impair daily functioning, independence or mastery of routine life skills.

Srivastava et. al., (2024) reviewed the study on A Narrative Review of Autism Spectrum Disorder in the Indian Context took a comprehensive look at 48 Indian studies on autism spectrum disorder (ASD) prevalence ranging from 0.2 to 1 percent and identifying important risk factors such as advanced paternal age, consanguinity, low birth weight, perinatal issues and family history of neurodevelopmental disorders. They also highlighted the use of screening tools (INDT-ASD, ISAA) and the psychosocial difficulties faced by the parents such as stress, stigma and gaps in the availability of services between urban and rural areas. The review identifies large gaps: almost no research focusing on sensory processing, very little work on the adaptive behaviour of children and the absence of any integrated approach that connects sensory problems with functional outcomes. The problems with methodology that were cited include heterogeneous designs, urban bias and very little quantitative comparisons which underscores the need for researchers to focus on linking sensory and behavioural functioning in Indian children with autism.

Chandran et al. (2025) researched the study on A Qualitative, Multitiered Operational Research Model for Teenagers and Young Adults with Autism: Actionable Insights from an Indian Context in St. John's Medical College, Bengaluru succeeded in creating a qualitative, multitiered operational research model for autistic adolescents and young adults (n=43, aged 14 years or older) and it employing thematic analysis together with real-time clinical, home and community interventions. Individual behavioural, pharmacological and vocational plans were based on standardized assessments (Vineland-II, DSM-5 severity, WASI-II) and structured interviews. The main results revealed the presence of high psychiatric comorbidity (82.9%), school dropout (31.7%), low vocational training access (17%) and family financial burden, caregiver burnout and sibling stress as significant factors. The service needs of the family support networks, sexuality education and vocational day centres were among the main themes which resulted in the launch of new services in late 2024. The authors suggest this

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family-centred, multitiered model as a way to scale up and fill the systemic gaps in education, mental health care and employment for the Indian autistic youth.

Integrated Indian research is scarce that relate sensory sensitivity profiles and daily adaptive behavior, particularly with the application of both quantitative tools and qualitative caregiver experience

Objective of the study

1. To assess sensory sensitivity profiles among children with autism spectrum disorder.
2. To evaluate everyday adaptative behaviour of children with autism spectrum disorder.
3. To explore caregiver perceptions regarding the impact sensory sensitivity on daily functioning.
4. To examine the relationship between sensory sensitivity and everyday adaptive behaviour.

Hypotheses of the study

1. There is no significant difference in sensory sensitivity levels among children with ASD.
2. There is no significant difference in adaptive behaviour levels among children with ASD.
3. There is no significant relationship between sensory sensitivity and adaptive behaviour.
4. There is no significant difference in everyday adaptive behavior between high and low sensory sensitivity groups.

Methodology

Research Design: The research employs a mixed-method approach, which integrates the qualitative aspect of interviews with the quantitative assessment using standardized tools for evaluation. This approach allows for a better understanding of the sensory sensitivity and adaptive behavior that can be measured as well as the caregiver's perspective regarding the interrelation of these two factors.

Variables of the Study

- **Independent Variable:** Sensory Sensitivity Profile (Measured using the Short Sensory Profile – Winnie Dunn)
- **Dependent Variable:** Everyday Adaptive Behaviour (Measured using Daily Living Skills Scale – Autism Analytica)

Study Setting: The study was conducted at Alagappa University School for Disabled Person, which provides therapeutic and educational support with ASD.

Participants: Purposive sampling was employed to recruit caregivers of children diagnosed with autism spectrum disorder from a university-affiliated special education setting. 15 caregivers were involved in the research. The number of subjects was viewed as sufficient for an exploratory mixed-methods design that merged non-parametric statistical analysis with qualitative thematic examination.

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Inclusion Criteria

- Caregiver who actively participates in the daily care of the child.
- The child has been diagnosed with autism spectrum disorder by experts.
- The child is aged between 4-12 years.
- The child is attending the institution

Quantitative Measures

a) Short Sensory Profile (SSP) – Winnie Dunn: The standard tool for caregivers' reports that evaluates the sensitivity of the child's sensory system through the five different domains, which are the tactile, auditory, movement, taste, smell and visual-auditory. Higher scores on the Short Sensory Profile indicate more typical sensory processing whereas lower scores reflect greater sensory processing difficulties.

b) Daily Living Skills Scale (DLS) – Autism Analytica: To measure of the child's adaptive functioning in areas such as self-care, feeding, hygiene, dressing, sleep and routine participation and giving an index of everyday adaptive behaviour in kids with ASD.

Scoring and interpretation of both instruments yielded quantitative data on sensory patterns and adaptive functioning.

Qualitative Component: Semi-Structured Interviews

An extensive qualitative interview was carried out along with the questionnaires for each caregiver. The interview guide comprised of three parts: Sensory Sensitivity Experiences (SSP domains), Everyday Adaptive Behaviour (DLS domains). Coping Strategies & Environmental Modifications. The interviews were done in Tamil and each took about 30-45 minutes. They were recorded in audio and then transcribed.

Data Analysis

Quantitative Analysis: The scores obtained from SSP and DLS tests were inputted in Excel and analysed through by: Descriptive statistics (mean, SD, skewness, kurtosis). Correlation analysis aimed to scrutinize the link between sensory sensitivity and adaptive behavior. Given the small sample size and the non-normal distribution of the data, non-parametric statistical tests were applied. Descriptive statistics served to give an overview of the profiles of sensory sensitivity and adaptive behaviour. The Spearman's rho correlation was performed to investigate the connection between sensory sensitivity and adaptive behaviour, while the Mann–Whitney U test revealed differences in adaptive behaviour between the high and low sensory sensitivity groups. The moderate sensory processing group was excluded from the Mann–Whitney U analysis due to small subgroup size.

Qualitative Analysis: The interview transcripts were subjected to thematic analysis (Braun & Clarke): Familiarization, generating codes, identifying themes, reviewing themes, defining and naming themes. Producing the report During the interpretation phase, the combination of both datasets was considered.

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Mixed interpretation: Brings together quantitative and qualitative findings in Discussion.

Result

Quantitative Findings

TABLE 1: Mean, Median, Mode, SD, Skewness and Kurtosis of Sensory Sensitivity Profile and Their impact on Everyday adaptive Behaviour among Children with ASD

Variables	No. of Samples	Mean	Median	Mode	SD	Skewness	Kurtosis
Sensory sensitivity profile	15	117.13	103	136	19.2	0.33	-1.66
Everyday adaptive behavior	15	121.83	118	141	22.5	0.08	-1.73

TABLE 2: Number, Percentage and Levels of Sensory Sensitivity Profile and Their impact on Everyday adaptive Behaviour among Children with ASD

Variables	No. of Samples	High Level		Moderate Level		Low Level	
		No	%	No	%	No	%
Sensory sensitivity profile	15	7	46.6%	5	33.3%	3	20%
Everyday adaptive behavior	15	7	46.6%	3	20%	5	33.3%

Table 3: Correlation between Sensory Sensitivity Profile and Their impact on Everyday adaptive Behaviour among Children with ASD

Variables	Spearman's rho (ρ)	df	p-value
Sensory sensitivity profile	0.639	12	.014
Everyday adaptive behavior			

Note: Sensory sensitivity was treated as the independent variable and the everyday adaptive behaviour as the dependent variable.

Table 4: Mann-Whitney U Test comparing Adaptive Behaviour by Sensory Sensitivity Levels

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Group	No. of Samples	Mean	Median	U statistic	Z-score	P-value
High Sensory Sensitivity	7	148	145	0.00	2.76	.0057
Low Sensory Sensitivity	5	85.4	85			

A total of 15 caregivers participated in the quantitative phase of the study. Descriptive statistics were computed to understand the overall Sensory Sensitivity Profile and Their impact on Everyday adaptive Behaviour among Children with ASD as reported by caregivers.

Descriptive Statistics

The Short Sensory Profile (SSP) test scores showed a wide range of sensory sensitivity across the children. The average SSP score was 117.13 with a standard deviation of 19.20, which means that children's sensory processing differences were moderately varied. The median score was 136 while the mode was 92 which means that most children scored in the lower part of the sensory functioning range. The distribution of scores was slightly positively skewed (0.33), which means there was a small proportion of higher scores while the kurtosis value (–1.66) showed a flatter and more spread-out distribution. According to the classification criteria, 7 children were in the High Sensory Sensitivity group and 5 in the Moderate group and 3 in the Low group which means that almost half of the children showed increased sensitivity in tactile, auditory, movement and proprioceptive domains.

The Daily Living Skills (DLS) scores were found to have a mean of 121.83 and a standard deviation of 22.50, signifying a considerable disparity in the level of adaptive behavior among the subjects of the study. The median score (118) and the mode (141) were indicative of the existence of a subgroup that had higher adaptive functioning. The distribution of the scores showed a very slight positive skew (0.087) which meant proximity to symmetry while the kurtosis value (–1.73) indicated a distribution that was flatter and had scores that were more widely spread. The application of standardized cut-offs yielded the result that 7 children were categorized under High Adaptive Behavior level (above 140), 3 under Moderate level (96–139) and 5 under Low level (below 95). This data shows that there are children who are able to perform daily living skills at a relatively high level but still, there are many who are not able to take care of themselves, carry out daily routines and function independently without assistance.

The Spearman's Rho assessment showed a strong positive relation between sensory sensitivity and daily adaptive behavior ($\rho = 0.639$, $p < .05$). This implies that children who have more difficulties in sensory processing are mostly those who need help with everyday adaptive

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behaviours. The null hypothesis stating that there is no significant difference in relationship between sensory sensitivity and adaptive behaviour is rejected.

The Mann–Whitney U test revealed a statistically significant difference in the adaptive behaviour scores of children with high sensory sensitivity and children with low sensory sensitivity ($U = 0.00$, $p = .0057$, $p < .05$). The children with the greater sensory sensitivity showed to have the lower adaptive functioning significantly compared to the ones with the lesser sensory sensitivity. Therefore, the null hypothesis stating that there is no significant difference in everyday adaptive behavior is rejected.

Qualitative Findings

Theme 1: Sensory Sensitivity Patterns

Caregivers were able to provide a consistent account whereby they identified different moods and emotions in the children through sensory situations. Crying was the main outlet of emotional negativity, especially when the child was angry, sad or frustrated. In several cases, caregivers narrated about withdrawal or silence where the child kept to him or herself instead of sharing feelings.

More extreme reactions were also observed. Some of the children poured their emotions out by shouting, hitting or throwing things arguing that it was hard for them to tolerate high levels of both sensory and emotional arousal. Others would just leave or run away from the place when it became too much for them, showing avoidance as their way of regulation. A child's temper often escalated to the point of needing immediate adult help to calm down while another would occasionally turn to laughter in stressful situations which indicated that the kid was struggling with the right way to understand or express the emotions. The narratives as a whole indicate that the difficulties in emotional regulation, dictated by sensory experiences are pivotal to the daily lives of these kids.

Theme 2: Impact on Adaptive Behaviour and Daily Living Skills

Caregivers reported a plethora of behavioral difficulties that influenced daily activities and functional independence. Tantrums (crying, rolling on the floor, and loud shouting) were the most common behaviors and were often triggered by demands or sensory input that was too much to handle. Aggression such as hitting, biting or pushing were also reported frequently and mainly in situations where the child felt his/her request was denied or there was a change in the set routine.

Self-injurious acts among which hand-biting or head-banging were the most common and also reported by some caregivers as behaviors of the child when he/she felt overwhelmed or could not handle the situation. Problems in adhering to daily schedule, particularly during transitions between activities were viewed as a perpetual concern. Hyperactivity, restlessness and the inability to be quiet were characteristics of some children, while others exhibited fearfulness or clinginess that was like anxiety-related responses. These behavioral patterns created

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obstacles for personal care, family routine participation and overall adaptive functioning at home and in institutions.

Theme 3: Coping Strategies and Environment Modification

In relation to these emotional and behavioral difficulties, the caregiver stated that they had various coping strategies and environmental changes that were specifically made for each child's requirements. Distraction turned out to be the most popular one. The caregiver usually shifted the child's attention from unpleasant stimuli by using toys, mobile phones or snacks. Physical comfort like holding, hugging or gently rubbing the child's back was another common method encouraging calming.

Calm communication strategies were also mentioned, such as speaking softly and providing reassurance during highly charged emotional situations. Some caregivers applied short time-outs where the child was allowed a few minutes alone to calm down. A small number of parents used sensory-based methods like deep pressure or heavy objects to help with sensory input regulation. Firm but controlled verbal cues or soft warnings were occasionally used to regain control over the child's behavior. All these strategies combined give evidence that the caregivers are using behavior, emotion and sensory methods actively and at the same time adapting the environment to support the regulation and daily functioning according to the child's specific sensory sensitivity profile.

Discussion

The present study examined sensory sensitivity pattern and their corresponding behavioural adaptations in children with autism spectrum disorder (ASD) through a mixed-methods approach and revealed a notable difference in everyday adaptive behavior between children classified as highly and lowly sensitive to sensations ($U = 0.00$, $p < .01$) that is, camouflaged sensory sensitivity severely impacted daily living skills and functional independence. The outcome gives a solid base of empirical evidence indicating that sensory processing difficulties have a primary role in determining the daily life of Indian children with ASD

Sensory Sensitivity and Adaptive Behaviour Differences

Using the Mann–Whitney U test, a difference that is statistically significant was found in everyday adaptive behaviour between kids with high and low sensitivity to sensory inputs ($U = 0.00$, $Z = 2.76$, $p = .0057$). Children with high sensitivity to sensory inputs showed much lower levels of adaptive functioning, especially in activities of daily living like personal care, participation in routines and independence. The U value obtained which is zero reveals a complete dissimilarity between the groups. Thus, emphasizing the validity of the link between sensory sensitivity and functional impairment.

The outcome of this research agreement is consistent with earlier research done in India that showed the children with ASD having sensory reactivity and that it affecting their behavioral

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regulation (Rajalakshmi et al., 2024; Darnal et al., 2023, 2025). The earlier line of investigation which primarily focused on the caregivers emotional or behavioral outcomes. The present research has contributed to the existing literature by establishing that sensory sensitivity is a strong delineator among the children classified according to their adaptive functioning. Thus, in the Indian context and filling a critical research gap.

Association Between Sensory Sensitivity and Functional Outcomes

The correlation analysis further supported this connection indicating a positive correlation between sensory sensitivity and adaptive behaviour ($r = 0.639$). This means that differences in sensory responsiveness are significantly related to differences in daily living skills. Children who are more sensitive to their environments are more likely to have difficulty with daily routines, maintaining schedules and caring for themselves. The detection of the moderate positive correlation between sensory sensitivity and adaptive behaviour ($\rho = 0.639$, $p < .05$) has strongly supported the idea that children with autism spectrum disorder, who experience more sensory processing difficulties, also show less adaptive functioning.

These findings agree with Raj and Umaiorubagam (2025), who stated that sensory avoidance leads to significant disruption in sleep, a daily routine and Darnal et al. (2023), who stated that sensory areas predict social deficits. The current research is unique in that it connects all these studies to the point of adaptive behaviour being the crucial functional outcome. Thus, reinforcing the idea that sensory processing differences are not just peripheral but core determinants of everyday functioning in ASD.

Qualitative Insights into Sensory–Adaptive Links

The qualitative observations give a great deal of valuable contextual understanding of the quantitative results. The caregivers always reported emotional dysregulation, tantrums, aggression, withdrawal and avoidance as the main reactions to sensory overload. These behaviours were said to be the direct cause of interference with daily routines, transitions and self-care activities. Thus, the child's adaptive functioning was limited.

Moreover, caregivers used a lot of coping strategies like distraction, physical comfort and changing the environment to take control over sensory-related behavioural problems. Although these strategies provided immediate relief. They also pointed out that there were no established sensory-adaptive intervention frameworks pointed out the necessity of systematic caregiver training and professional support.

Implications for Assessment and Intervention

The results emphasize the need to combine assessments of sensory sensitivity with those of adaptive behavior in clinical and educational settings. Ongoing sensory sensitivity profile identification can direct interventions to be implemented to the child's specific needs, that is to improve adaptive functions, eliminate behavioral problems and provide the child with more

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independence. The findings also agree with the need for culturally relevant sensory-adaptive tools and intervention models that are specifically designed for the Indian context, as pointed out by Chandran et al. (2025).

Limitations and Future Directions

The study was constrained by a small sample size, the use of a single institution and basing the outcomes solely on caregiver reports. One way to avoid this limitation is by conducting larger studies over several sites, using longitudinal designs and applying standardized scales of adaptive behavior like the Vineland Adaptive Behavior Scales in the future. Also, the conduct of research into the area of sensory-adaptive interventions and their impact on functional outcomes is justified.

Conclusion

The study presents very strong proof that children with ASD who are sensitive to sensory inputs are less adaptive in their daily lives. The integration of quantitative analyses and caregivers' feedback clarifies the functional impacts of sensory processing problems and stresses the need for a sensory-informed, adaptive-focused intervention strategy that would help children with ASD in India gain more independence and a better quality of life.

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