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Original Article

Internal Consistency and Item Analysis of the Persian Version of the Child Sensory Profile 2 in Vulnerable Populations

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Abstract

Objective: The purpose of the present study was to establish the item analysis and internal consistency of the Persian version of the Child Sensory Profile 2 in 2 groups of typical and atypical children (autism spectrum disorder and learning disabilities) aged 3 to 14 years.
Method: The sample of this study included 120 typical and atypical children aged 3 to 14 years who referred to schools and rehabilitation centers in Tehran were selected using multistage sampling method. To collect data, the Child Sensory Profile 2 questionnaire was used, which is a set of questionnaires of the Sensory Profile 2. To analyze the data, the discrimination index was used to determine the discriminant validity of the Child Sensory Profile 2, and the Cronbach's alpha coefficient was used to determine the reliability in terms of internal consistency.
Results: Discrimination index was satisfactory for all the items of the Child Sensory Profile 2. The values of Cronbach's alpha ranged from 0.795-0.919 in typical children and 0.617-0.901 in autistic children, and 0.792-0.920 in children with learning disabilities.
Conclusion: The Persian version of the child sensory profile 2 is a valid (discrimination with vulnerable populations) and reliable (internal consistency) tool for assessing sensory processing.

Key words: *Autism Spectrum Disorder; Psychometric; Learning Disabilities*

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The place of sensory function in the pyramid of human development and learning has been consolidated. The nervous system promotes one's performance toward the sensory-motor stage and, ultimately, cognition and learning by proper processing of sensory information. Proper sensory processing leads to targeted performance in the areas of attention, visual-spatial communication, speech and eventually adapted behavior for learning (1).
Sensory processing as a personality variable is the most fundamental psychological element of how people perceive the environment and respond to it. It is a generic concept and refers to the use of the nervous system to receive, organize, and perceive sensory inputs (2).
Defects in the sensory processing process lead to sensory processing disorder. Sensory processing dysfunction is defined as problems in adjusting and organizing the intensity of responses to sensory input to conform to environmental demands. People with this disorder give exaggerated reactions (avoidance and defense) or inappropriate responses to sensory inputs (3). This disorder is a chronic problem affecting child participation in the home, school, and community (4).
Based on clinical experience, the prevalence of sensory processing disorders in children without disabilities is 5 to 10%. However, in children with various disabilities, the frequency of this disorder is 40 to 88%. (5).
Accordingly, the child's ability to process sensory information is necessary because it is through sensory processing that a child identifies and learns about him/herself, others and the environment, and can effectively participate in the context of daily life (6). Consequently, it seems critical for professionals to recognize and document how sensory processing may interfere with a child's participation in the home, school, and community. Therefore, a comprehensive assessment is required to contribute valuable information about the child's sensory strengths and challenges in context. With this procedure, they can create efficient treatment programs and daily remediation strategies.
Sensory Profile 2 is a standardized questionnaire designed to help assess a child's sensory processing patterns in the context of home, school, and community based on activities. This significantly revised questionnaire consisting of the Sensory Profile (7) evaluates a child's unique sensory processing patterns from a position of strengths, providing a deeper insight to help professionally customize the following steps of intervention. This revision for children aged 3 to 14 years 11 months expands the age range to more easily match upper elementary and middle school age ranges and to provide more latitude for those serving vulnerable populations who may need a caregiver report measure. The Child Sensory Profile 2 is fulfilled with caregivers, who are in the soundest position to see the child's reaction to sensory interactions that happen through the day. The therapist or other professionals then score the responses. Specific patterns of the response indicate the child's sensory processing patterns. The team serving the child creates assumptions about the relationship between sensory processing patterns and performance throughout the day. The measure has shown right internal consistency and criterion validity in the primitive language (English) (8, 9), and it appears to be valid and reliable in Spain (10) and Poland (11). Given the importance of the concept of sensory processing to professionals, the present study was conducted to assess the Internal Consistency and Item Analysis of Persian version of the child sensory profile 2 in vulnerable populations.

Objectives

Sensory processing is one of the most crucial factors affecting functional skills. Also, many children's problems can be treated by recognizing the state of the sensory processing and prescribing the proper sensory diet to better adapt to the environment and learning (12). Consequently, the need to evaluate sensory processing using functional activities is felt. The Child Sensory Profile 2 is a tool that demonstrates the child's strengths and weaknesses for the therapist to follow the intervention process and evaluate the outcome of treatment, especially for all professionals in psychology and rehabilitation and cognitive neuroscience, which design their therapeutic goals based on enhancing their clients' participation in diverse contexts and improving functional activities (13). Therefore, this study aimed to investigate the internal consistency and item analysis of the Persian version of the Child Sensory Profile 2 in 3 groups of typical children, children with autism and those with learning disabilities.

Materials and Methods

Study Design

This was a psychometric research. This investigation was approved by the ethics committee affiliated with the Shahid Beheshti University of Medical Sciences, Iran (IR.SBMU.RETECH.REC.1399.695).

Sampling and Participants

The convenience and multistage sampling methods were used to determine the item analysis and the item analysis of the Child Sensory Profile 2.
There were 2 statistical populations in the study:

1. The participants in the present psychometric testing study were caregivers of children aged 3 to 14 years old. Participants were enrolled from the child elementary and middle schools of Tehran, Iran, from July 2018 until May 2019. The inclusion criteria in our study were as follow: (1) participants were caregivers of typically developing children aged 3 to 14 years who spent more than 11 hours a day with a child for at least a year; (2) neither the child nor the caregiver had every medical diagnosis (eg, attention deficit and hyperactivity disorder, cerebral palsy, learning disability, autism spectrum disorder, and

other neurological and psychiatric disorders) or a health status with developmental delays like low birth weight or prematurity; and (3) capability to interpret and comprehend the Persian language. All participants entered the study after receiving sufficient information and completing the written consent form and completed the Persian version of the Child Sensory Profile 2.

2. The second statistical population included caregivers of atypical children ages 3 to 14 years old (Children with Autism Spectrum Disorder and Learning Disabilities). Participants were enrolled from the rehabilitation centers (Arman-Shayan and Zehne Ziba) of Tehran, Iran, from July 2018 until December 2018. The inclusion criteria in our study were as follow: (1) participants were caregivers of atypically developing children aged 3 to 14 years who spent more than 11 hours a day with a child for at least a year; (2) the child had medical diagnosis based on their Psychologist's Diagnosis or Medical Record. (Autism Spectrum Disorder and Learning Disabilities); and (3) ability to interpret and comprehend the Persian language. All participants entered the study after receiving sufficient information and completing the written consent form and completed the Persian version of the Child Sensory Profile 2.

   The number of 120 caregivers were selected for measuring the item analysis and internal consistency (autism: 40, learning disabilities: 40, and typical children: 40).

Procedure

Four phases were used to collect data, including Phase 1: Organizational agreement with education officials in Tehran to investigate the psychometric Phase; 2: Informing educational staff and correspondence with selected schools in the third, eighth, and 16th districts of Tehran for sampling the population of typical children and rehabilitation centers for convenience sampling of the population of atypical children; Phase 3: Diagnosis of children with autism spectrum disorder and learning disabilities was done based on the diagnosis of rehabilitation centers, experts, and review of records; Phase 4: Execution of the Persian version of the Child Sensory Profile 2.

Instrument

Child Sensory Profile 2

The Child Sensory Profile 2 represents an 86-item caregiver report measure of a child's sensory processing properties. The questionnaire associated with Dunn's sensory processing framework (seeking, avoiding, sensitivity, and registration). Moreover, this questionnaire evaluates six sensory systems (ie, auditory, visual, touch, movement, body position, and oral) and three behavioral sections (ie, conduct, attentional, social/ emotional). Parents who have regular contact with the child complete the questionnaire by reporting the frequency with which the behaviors occur (almost always, frequently, half the time, occasionally, or almost never, with an option of does not apply for use where necessary). The Child Sensory Profile 2 was standardized on a large national sample (697 children aged 3 to 14 years) which showed powerful psychometric properties by internal consistency alpha values ranging from 0.60-0.90 and test-retest reliability values ranging from 0.87-0.97 (8). The psychometric properties of the Persian version of this test in Iran have been studied by Shahbazi et al (14).

Statistical Analysis

Item Analysis

In this section, the discrimination index of the items and 4 subscales of the Dunn's sensory processing model (seeking, avoiding, registration, and sensitivity) were separately done in 3 groups of typical children, children with autism, and those with learning disabilities. The discrimination index is a fundamental measure of the validity of an item. This is a measure of the ability of an item to differentiate among those who score high on the total test and those who scored low (15).

Internal Consistency

The term ‘internal consistency’ has been utilized widely in classical psychometrics to relate to the reliability of a scale based on the degree of within-scale item intercorrelation, as measured by the split-half method, or more appropriately by Cronbach's alpha, also the KR20 and KR21 coefficients (16). In our study, the Cronbach's alpha coefficient of the subscales of the Child Sensory Profile 2 were calculated in 3 groups of typical children, children with autism and those with learning disabilities.

To analyze the data, the discrimination index and Cronbach's alpha coefficients for each of the subtests were calculated separately using statistical software SPSS-21.

Results

Item Analysis

Sensory Seeking Quadrant

The results of the analysis of the items (n = 19) of the sensory seeking quadrant are presented in Table 1. For typical children, the highest discrimination index was related to items27 "(My child pursues movement to the point it interferes with daily routines.)" and 31 "(My child takes movement or climbing risks that are unsafe.)", and the lowest discrimination index was related to item 14 "(My child watches people as they move around the room.)". In the autistic children group, the highest discrimination index was related to items 22 "(My child displays need to touch toys, surface, or textures.)", 14 "(My child watches people as they move around the room.)", and 27 "(My child pursues movement to the point it interferes with daily routines.)", and the lowest discrimination index was related to item 41"(My child drapes self over furniture or on other people.)". In the group with learning disabilities, the

highest discrimination index was related to items 51 "(My child puts objects in mouth.)", 25 "(My child touches people and objects more than same-aged children.), and 22 "(My child shows the need to touch toys, surface, or textures.)", and the lowest discrimination index was related to item 28 "(My child rocks in chair, on floor, or while standing.)". Two items 32 and 55 did not have an appropriate discrimination index to distinguish 3 groups of children studied.

Sensory Avoiding Quadrant

Only item 81 "(My child stares intensively at people.)" did not have the appropriate discrimination index to distinguish the 3 groups of children studied. That is, the mean response pattern was the same for all 3 groups. More details are presented in Table 2.

Sensory Sensitivity Quadrant

The results of the analysis of items (n = 19) of the sensory sensitivity quadrant are presented in Table 3. Items 45 "(My child eats only certain foods.)", and 52 "(My child bites tongue or lips more than same-aged children.)"did not have the appropriate discrimination index to distinguish the 3 groups of children studied. That is, the mean response pattern was the same for all 3 groups.

Sensory Registration Quadrant

The results of the analysis of the items (n = 22) of the sensory seeking quadrant are presented in Table 4. For typical children, the highest power of detection was related to items 39 "(My child clings to objects, walls, or banisters more than same aged children.)" and 76 "(My child misses eye contact with me during everyday interactions.)", and the lowest power of detection was related to item 12 "(My child needs help to find objects that are obvious to others.)". In the autistic children group, the highest power of detection was related to items 35 "(My child moves stiffly.)" and 40 "(My child walks loudly as if feet are heavy)", and the lowest power of detection was related to item 54 "(My child rushes through coloring, writing, or drawing.)". In the group with learning disabilities, the highest power of detection was related to items 34 "(My child bumps into things, failing to notice objects or people in the way.)", and 39 "(My child clings to objects, walls, or banisters more than same aged children.), and the lowest power of detection was related to item 12 "(My child needs help to find objects that are obvious to others.)". Three items 23, 24, and 38 did not have an appropriate discrimination index to distinguish 3 groups of children studied.

Internal Consistency

The internal consistency estimates of reliability provide information about the consistency of responses to all items on a scale or subscale (10). Internal consistency coefficients assistance to assess how homogenous the item responses are within a scale and provide one estimate of reliability. Cronbach's alpha was estimated to measure the internal consistency for each sensory pattern (avoiding, seeking, sensitivity, and registration) sensory (auditory, visual, touch, movement, body position, and oral), and behavioral section (conduct, social-emotional, and attentional) on the Child Sensory Profile 2 assessments (Table 5).

Table 1. Values of Sensory Seeking Quadrant for Child Sensory Profile 2 in Study Groups

Item	Typical		ASD		LD	
	Mean	Discrimination index	Mean	Discrimination index	Mean	Discrimination index
14*	1.13	0.189	2.02	0.555	1.96	0.599
21**	1.29	0.577	1.74	0.516	1.11	0.511
22**	1.25	0.326	2.19	0.574	0.93	0.687
25***	1.26	0.326	2.00	0.545	0.86	0.700
27***	1.22	0.778	3.02	0.551	2.11	0.628
28***	1.35	0.572	3.09	0.415	2.32	0.410
30*	1.27	0.606	2.81	0.180	3.04	0.582
31****	1.29	0.661	1.58	0.334	1.54	0.541
32	1.31	0.675	1.19	0.330	1.21	0.633
41**	1.24	0.513	1.79	0.102	1.00	0.550
48*	1.37	0.716	1.93	0.607	2.14	0.498
49*	1.45	0.661	2.63	0.548	2.71	0.564
50*	1.59	0.572	2.58	0.367	2.54	0.451
51****	1.51	0.533	2.37	0.266	1.82	0.755
55	1.38	0.737	1.63	0.487	1.54	0.635
56***	1.39	0.731	2.72	0.282	2.00	0.539
60****	1.39	0.700	1.72	0.404	1.71	0.573
82****	1.33	0.609	1.67	0.296	1.46	0.637
83*	1.46	0.499	2.37	0.163	2.11	0.615

Note: Note: ASD= autism spectrum disorder, LD = Learning disabilities.

Note: * Significant mean difference between atypical and typical groups, **significant mean difference between ASD group with typical and LD group, *** Autism group was significantly higher than learning disabilities group and learning disabilities group was significantly higher than typical group, ****Autism group was significantly higher than typical group.

Table 2. Values of Sensory Avoiding Quadrant for Child Sensory Profile 2 in the Study Groups

Item	Typical		ASD		LD	
	Mean	Discrimination index	Mean	Discrimination index	Mean	Discrimination index
1*	1.06	0.356	2.63	0.311	2.75	0.465
2*	1.16	0.239	1.93	0.099	2.71	0.527
5*	1.06	0.170	1.67	0.513	1.64	0.401
15*	1.13	0.879	2.00	0.147	1.89	0.389
18***	1.18	0.639	1.42	0.250	1.68	0.288
58***	1.26	0.554	2.91	0.348	2.04	0.794
59***	1.27	0.544	2.56	0.169	1.93	0.405
61**	1.15	0.538	2.28	0.049	1.43	0.643
63***	1.24	0.661	3.19	0.528	2.68	0.480
64*	1.25	0.640	2.12	0.356	3.04	0.644
65*	1.09	0.334	2.28	0.741	2.36	0.479
66***	1.15	0.878	0.86	0.549	1.96	0.579
67*****	1.15	0.851	0.93	0.544	1.93	0.446
68*	1.37	0.500	2.26	0.675	3.25	0.594
70*	1.16	0.800	2.07	0.632	2.61	0.507
71*	1.32	0.565	1.65	0.643	1.68	0.492
72*	1.16	0.849	2.07	0.589	2.39	0.639
74**	1.34	0.531	3.60	0.396	1.71	0.437
75***	1.17	0.778	3.58	0.418	1.82	0.373
81	1.14	0.472	1.21	0.299	0.89	0.524

Note: Note: ASD= autism spectrum disorder, LD = Learning disabilities.
Note: * Significant mean difference between atypical and typical groups, **significant mean difference between ASD group with typical and LD group, *** Autism group was significantly higher than learning disabilities group and learning disabilities group was significantly higher than typical group, ****Autism group was significantly higher than typical group.

Table 3. Values of Sensory Sensitivity Quadrant for Child Sensory Profile 2 in Study Groups

Item	Typical		ASD		LD	
	Mean	Discrimination index	Mean	Discrimination index	Mean	Discrimination index
3*	1.20	0.568	2.91	0.137	3.14	0.550
4*	1.23	0.400	3.44	0.241	3.36	0.509
6*	1.16	0.446	2.49	0.312	2.18	0.572
7*	1.20	0.654	2.19	0.322	2.11	0.456
9**	1.10	0.287	1.21	0.514	1.11	0.480
13**	1.12	0.343	1.56	0.392	1.11	0.320
16**	1.17	0.389	2.56	0.270	1.07	0.373
19**	1.15	0.457	1.91	0.508	1.29	0.468
20**	1.17	0.215	1.19	0.518	1.25	0.481
44*	1.35	0.730	2.00	0.522	1.54	0.745
45	1.31	0.598	1.60	0.548	1.61	0.636
46**	1.38	0.762	2.44	0.458	1.68	0.562
47*	1.36	0.571	2.56	0.598	2.21	0.501
52	1.20	0.639	1.12	0.545	0.96	0.617
69***	1.11	0.249	2.37	0.551	1.50	0.623
73***	1.32	0.458	3.35	0.292	1.89	0.696

77***	1.45	0.492	3.33	0.326	2.00	0.711
78*	1.39	0.499	2.79	0.188	2.50	0.443
84***	1.34	0.546	2.77	0.518	2.11	0.553

Note: ASD= autism spectrum disorder, LD = Learning disabilities.
Note: * Significant mean difference between atypical and typical groups, **significant mean difference between ASD group with typical and LD group, *** the mean of the ASD group is significantly higher than the LD group and mean of the LD group is significantly higher than the typical group.

Table 4. Values of Sensory Registration Quadrant for Child Sensory Profile 2 in the Study Groups

Item	Typical		ASD		LD	
	Mean	Discrimination index	Mean	Discrimination index	Mean	Discrimination index
8***	1.04	0.430	2.65	0.363	1.96	0.529
12***	1.06	0.241	2.26	0.598	1.86	0.410
23	1.15	0.370	1.56	0.171	0.79	0.620
24	1.18	0.410	1.56	0.380	0.75	0.525
26***	1.22	0.412	2.35	0.510	1.82	0.446
33**	1.10	0.349	1.91	0.575	1.18	0.482
34****	1.22	0.431	1.67	0.553	1.32	0.771
35**	1.06	0.475	1.60	0.691	0.89	0.643
36**	1.22	0.567	2.16	0.622	1.39	0.661
37**	1.25	0.511	2.14	0.488	1.11	0.495
38	1.12	0.544	1.63	0.496	0.93	0.677
39**	1.09	0.708	1.93	0.517	0.86	0.765
40**	1.14	0.580	1.47	0.700	0.89	0.514
53***	1.13	0.341	2.40	0.515	1.54	0.621
54*	1.22	0.540	2.44	0.036	2.39	0.439
57***	1.22	0.563	2.72	0.347	2.25	0.524
62*****	1.17	0.388	1.19	0.058	1.61	0.520
76***	1.09	0.645	2.12	0.394	1.50	0.653
79***	1.19	0.392	2.47	0.545	1.64	0.506
80**	1.09	0.535	1.35	0.325	0.89	0.650
85***	1.15	0.458	2.60	0.139	2.18	0.594
86**	1.12	0.587	1.86	0.511	1.29	0.598

Note: ASD= autism spectrum disorder, LD = Learning disabilities.
Note: * Significant mean difference between atypical and typical groups, **significant mean difference between ASD group with typical and LD group, *** the mean of the ASD group is significantly higher than the LD group and mean of the LD group is significantly higher than the typical group, **** the mean of ASD group is significantly higher than the typical group, ***** the mean of the LD group is significantly higher than the typical and ASD groups.

Table 5. Values of Internal Consistency Coefficient Alphas for Child Sensory Profile 2 in Typical an Atypical Children

Section	Typical	ASD	LD
Avoiding	0.919	0.835	0.887
Seeking	0.880	0.825	0.900
Sensitivity	0.877	0.856	0.920
Registration	0.916	0.818	0.915
Auditory	0.834	0.776	0.865

Visual	0.795	0.755	0.792
Touch	0.852	0.766	0.851
Movement	0.879	0.637	0.800
Body position	0.861	0.850	0.913
Oral	0.802	0.846	0.889
Conduct	0.887	0.617	0.796
Social Emotional	0.890	0.901	0.884
Attentional	0.815	0.724	0.895

Note: ASD = autism spectrum disorder, LD = Learning disabilities, α = Internal Consistency Coefficient Alphas

Discussion

This study assessed the item analysis and internal consistency of the Child Sensory Profile 2 among typical and atypical children aged 3 to 14 years. The Child Sensory Profile 2 was used with healthy and unhealthy participants to provide a profile of the Iranian population, which will serve as a baseline for comparing typical individuals with vulnerable populations.

The Child Sensory Profile 2 includes 86 items, of them all 78 items were able to differentiate between autism groups from learning disabilities. The set of able questions to differentiate between atypical children (autism and learning disabilities) and the typical children are 78 questions. Given the considerable number of questions that have high detection power to differentiate atypical groups from each other and the typical group, it can be concluded that the Child Sensory Profile 2 demonstrates good validity.

Internal consistency estimates of reliability provide information about the consistency of responses to all items on a scale or subscale. Alpha coefficient is an internal consistency index that varies from zero (no consistency) to 1 (full consistency) (17). Cronbach's alpha was estimated to measure the internal consistency for each sensory pattern, sensory and behavioral system on the Child Sensory Profile 2.

As shown in Table 5, the values of alpha for different values of alpha for the various groupings are mostly adequate (> 0.70) to excellent (> 0.90), with only one sensory section (movement) and one behavioral section (conduct) below 0.70 in the group of children with autism spectrum disorder. Perhaps these sections reflect the variability of performance. For example, in the study of Green et al, it was found that among autistic children, those with an intelligence quotient (IQ) less than 70 were more impaired than those with IQ more than 70. This is consistent with the view that movement impairments are variable in children by autism (18). Fluctuations in their level of neurological thresholds and self-regulation strategies can also be used to establish a wide range of behavioral expressions in children with autism spectrum disorder.

Neurological thresholds relate to the number of stimuli needed for a neuron system to react. When the nervous system reacts rapidly to a sensory stimulus, there is a low threshold, and when the nervous system reacts more gently than expected, there is a high threshold for reacting. The ability to modulate responses of the nervous system allows children to create proper answers to stimuli in the environment. The point along the neurological continuum that is most presumably to create a response is known as the child's threshold for that stimulus. There is a range of thresholds that supports adaptive behavior and thresholds that are outside of adequate ranges for functional performance. Children whose thresholds are too high tend to be hyporesponsive (Many stimuli are needed to reach the threshold, such as when children do not respond to cause around them). Children whose thresholds are too low tend to be hyperresponsive (Very few stimuli reach the threshold, such as when children are distracted by each stimulus).

Self-regulation refers to the way people behave to manage their own needs. At one end of this continuum, children respond passively to their thresholds. This means they have a tendency to let things happen and then respond. At the other end of the behavioral continuum, children respond actively to their thresholds. This means they work to control the amount and type of sensory input they receive. Children communicate their behavioral interests and tendencies by their persistence at a task. As with the neurological continuum, there is a range of performance in the center that supports adaptive behavior. There are behavioral patterns at the ends of the continuum that are maladaptive and result in unsuccessful performance. At one end of the behavioral continuum, children are so driven to perform certain rituals, which interfere with the routines of daily life. At the other end of the continuum, children are much disengaged from the ongoing circumstances around them that they miss the experience of daily life routines (19).

Limitation

- A significant limitation of this study was the considerable number of items of Child Sensory Profile 2, which made it difficult for caregivers to complete it due to insufficient time.
- Other limitations of the study include the low number of participants in each study group, which can be attributed to the lack of cooperation of parents in

completing the test and the cooperation of center officials with the researcher.

- The utilization of participants of a significant urban center may restrict the generalizability of the results to the rest of the Iranian people, particularly those from rural regions. Therefore, additional investigations are suggested for a large cohort of Iranian children with vulnerable populations (developmental delay, autism, attention deficit and hyperactivity disorder, learning disabilities, intellectual disability, gifted and talented, down syndrome, Persian as a second language).
- Other limitations of the study include the lack of similar articles in this field to compare the finding.

Conclusion

The results of studies have shown that children with autism and learning disabilities have sensory processing disorders, which are presented below. Most children with autism have problems in sensory processing. (taste and smell sensitivity and movement-related sensory behavior). Additional, sensory processing subtypes predicted communication merit and abnormal behavior (20). Sensory processing may consider for some of the differences correlated by educational skill deficiencies for pupils with specific learning disabilities (SLD). Pupils by SLD displayed significantly more sensory seeking, sensory avoiding, and under registration behaviors. Any of these kinds of sensory processing can make difficulties to learning. Therefore, it seems one of the appropriate strategies for counseling and therapeutic interventions is to examine the state of sensory processing (21). For this purpose, the use of proper tools is very necessary and practical. According to the findings of the present study the subtests of Child Sensory Profile 2 have good discrimination index and internal consistency for assessing sensory processing of typical and atypical children aged 3 to 14 years.

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Conflict of Interest

None.

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