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ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ

## Cross-cultural adaptation and psychometric properties of the Greek Sensory Profile (SP-Gr) caregiver questionnaire

**OBJECTIVE** Cross-cultural adaptation and assessment of the psychometric properties of the Sensory Profile (SP) caregiver questionnaire in the Greek language (SP-Gr). **METHOD** The SP caregiver questionnaire was translated, culturally adapted and piloted according to internationally accepted guidelines. The questionnaire was translated into Greek by two bilingual translators, who then discussed and compiled the results of the two separate translations (T1 and T2) into a joint version of the questionnaire (T12). A third bilingual person translated the joint version back into English and all three collaborated to produce a semi-final version. The semi-final version was pilot tested on 30 mothers of children aged 3 to 10 years, 20 of which had children of typical development and 10 atypical development. For the test-retest reliability, 66 parents (mainly mothers of differing educational and socioeconomic background, of children aged 3–10 years, 38 of typical development and 28 of atypical development), completed the SP-Gr at two different times, spaced 7–14 days apart. For construct validity, the known-group method was utilized, exploring the differences between the two groups (typical development and atypical development) in all the SP parameters (sections, factors, and quadrants). The atypical development group consisted of children with autism spectrum disorder (ASD), specific learning disabilities, attention-deficit/hyperactivity disorder (ADHD), and Down syndrome. **RESULTS** Test-retest reliability was very high for quadrant (ICC=0.91–0.95), for factor (ICC=0.78–0.94) and section scores (ICC=0.81–0.95). Internal consistency was also high for quadrants ( $\alpha=0.86–0.92$ ), and for all but two factors ( $\alpha=0.80–0.91$ ) and fairly good for the section scores ( $\alpha=0.75–0.88$ ). Differences between children of typical and atypical development were significant in almost all sections, factors and quadrants ( $p<0.05$ ), demonstrating the construct validity of the questionnaire. **CONCLUSIONS** The SP-Gr caregiver questionnaire was found to be acceptable, understandable, valid and reliable by Greek parents and may thus be used in cross-cultural clinical practice and research. This study supports the use of quadrant scores over factor and section scores to analyze children's sensory processing patterns.

Sensory integration refers to the way our brain receives and processes sensory information in order to participate and complete tasks in our everyday life.<sup>1–4</sup> About 15% of children of typical development have difficulty in processing and integrating sensory input<sup>5</sup> and this percentage is much higher among children with developmental disabilities, such as autism spectrum disorder (ASD)<sup>6,7</sup> and Down syndrome.<sup>8</sup> Sensory processing difficulties restrict children's participation in activities of daily living and add to their difficulties in learning, development or behavior.<sup>9,10</sup>

The Sensory Profile (SP) instrument provides a standard method for professionals to measure the sensory processing abilities of children aged 3 to 10 years and to profile the effects of sensory processing on functional performance in the children's daily lives. Parents or caregivers report the frequency with which behaviors occur in their children on a 5-point Likert scale. The SP consists of 125 items in total, in three sections: (a) Sensory processing, (b) modulation, and (c) behavioral and emotional responses, comprising 14 item categories. For analysis, caregiver responses are totaled on a summary score sheet.<sup>11</sup>

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Διαπολιτισμική προσαρμογή και ψυχομετρικές ιδιότητες του ερωτηματολογίου Sensory Profile (αισθητηριακό προφίλ) στην ελληνική γλώσσα

Περίληψη στο τέλος του άρθρου

### Key words

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Until 2006, the SP had produced two types of scores: section and factor scores. Section scores provide a visual summary of sensory processing, modulation and behavioral and emotional response abilities of children. The scores of the 9 factors give information on the children's responses to sensory experiences, taking into account other aspects of sensory processing. Both types of scores were analyzed in the study of Dunn, using a classification system based on the performance of children without disabilities. Children who scored  $\leq 1$  standard deviation (SD) below the mean value were classified as typical; those who scored 1–2 SD below the mean value were classified as having a potential difference, and those who scored  $>2$  SD below the mean value were classified as having a definite difference. After 2006, four sensory quadrant scores (registration, seeking, sensitivity, and avoiding) were added to the SP supplement user's manual.<sup>11,12</sup>

Therapists can use the SP to identify the exact part of the sensory systems involved in a child's performance, and the daily tasks that are most difficult to perform, and can also use it as a guide to plan interventions. Moreover, by using the SP, teachers and parents can better understand the behaviors of children with sensory processing difficulties and meet their sensory needs with environmental adjustments especially suited to their individual condition.<sup>11,13</sup>

SP has been translated into Turkish,<sup>14</sup> Indian,<sup>15</sup> and Hebrew<sup>16</sup> and is widely used by occupational therapists and other health professionals, but there was no valid Greek version. In order to maintain the validity of an original instrument in another culture and use it in that country's population, an accurate translation is not enough.<sup>17,18</sup> Along with a careful translation, it is necessary to examine and determine whether the concepts of the instrument exist and whether they are interpreted similarly in both cultures.<sup>19</sup>

The aim of the current study, therefore, was the cross-cultural adaptation of SP and assessment of the psychometric properties of the Greek version of SP (SP-Gr).

## MATERIAL AND METHOD

The cross-cultural adaptation of the SP into the Greek language was made after having received the relevant licenses, and in accordance with the procedures followed internationally, and specifically that recommended by the International Society for Quality of Life Assessment.<sup>18,20</sup>

The study was approved by the National Institute for Educational Policy (PSE), and information leaflets and consent forms were given to the participants recruited for the study.

## Translation of the Sensory Profile

The methodology of the study used a multi-stage approach. During the first stage the questionnaire was translated into Greek by two bilingual translators. Translator 1 and translator 2 created two Greek versions of the questionnaire (T1 and T2) and each one of them wrote a separate report, commenting on the problems encountered during the translation. In the second stage of the process, the two translators discussed and compiled the results of the two separate translations. Having resolved together any differences mentioned in their written reports, they presented a joint version of the questionnaire (T12). During the third stage, T12 was given to a bilingual person to translate back into English.

Finally, all three translators met to discuss discrepancies between the original and back translation versions and they finally produced a semi-final version. The semi-final version was then tested on a small sample of volunteers which consisted of 30 mothers.

## Reliability and validity of the Greek Sensory Profile

In order to test the reliability of the SP-Gr questionnaire, 106 questionnaires were sent out to parents for completion, 66 of whom responded and took part in the study.

The participants were recruited from two municipal nurseries, a kindergarten, a primary school (in an urban center), a primary school (in a smaller town), a Down syndrome association, an association of parents and friends of people with autism, and from various special treatment and rehabilitation centers for children. The inclusion criteria for the study were: (a) Parents or caregivers of children aged 3–10 years and (b) parents or caregivers with a good understanding of the Greek language. Two measurements took place (test-retest) with an interval of one to two weeks between them, for the reliability study. The construct validity of the questionnaire was tested through known-group comparison method, by exploring the differences between children with typical and atypical development, since a number of published studies have demonstrated significant statistical differences in SP scores between the two groups.<sup>6–8</sup>

After providing informed written consent, the parents or caregivers completed the SP-Gr form, along with a demographic questionnaire.

## Statistical analysis

The completed questionnaires were graded according to the instructions of the SP manual.<sup>11,12</sup> Factor and section scores were calculated from SP forms and quadrant scores were calculated from summary score sheets. The analysis of the data was performed using descriptive and inferential statistics, using the Statistical Package for the Social Sciences (SPSS, version 20.0). The test/retest reliability of all measurements was calculated with the intraclass correlation coefficient (ICC) and the standard error of measurement (SEM), which is the square root of the within-subject mean

squared error from the repeated-measures analysis of variance. According to Portney and Watkins,<sup>21</sup> ICC  $\geq 0.75$  is considered high reliability, values between 0.50 and 0.74 are considered moderate, and ICC  $< 0.50$  is considered low reliability. Internal consistency was assessed by calculating the Cronbach's  $\alpha$  coefficient. For exploring the differences between the scores of caregivers of children of typical and atypical development, the independent sample t-test was utilized. The significance level was set at the  $\alpha < 0.05$  level.

## RESULTS

### Pilot study

The sample of participants for the pilot study consisted of 30 mothers, of 18 boys and 12 girls, 20 of which were of typical development (age range 3–10 years), recruited from a nursery, a kindergarten and a primary school, and 10 of atypical development (age range 3–10 years), recruited from two rehabilitation centers. The children with atypical development included children with autism spectrum disorder (ASD), Down syndrome, attention-deficit/hyperactivity disorders (ADHD), learning disabilities and dyslexia. All the mothers could speak and understand the Greek language at a satisfactory level. The educational level of the mothers completing the SP-Gr questionnaire was mainly higher education (46.6%) followed by secondary (26.6%) and post-secondary (20.0%) education.

During the pilot testing of semi-final version, problems arose mainly with two questions, question 39: "Rubs or scratches out a speckle that has been touched"/«Τρίβει ή ξύνει ένα σημείο που του έχουν αγγίξει», (4 mothers did not understand that) and question 68: "Locks the joints (for example, elbows, knees) for stability"/«Κλειδώνει» ακινητοποιεί τις αρθρώσεις (για παράδειγμα, αγκώνες, γόνατα) για σταθερότητα» (5 mothers did not understand that). The examiner along with the three translators worked on the understanding of these questions to produce the final version of the Greek questionnaire.

### Reliability and validity study

For the reliability study, 66 parents or caregivers of chil-

dren aged from 3 to 10 years (mean: 5.29; SD: 2.09 years) were recruited (62.26% of the questionnaires that were distributed were returned) (tab. 1). Of the participants, 38 were mothers of children of typical development and 28 were mothers of children of atypical development. The atypical development sample consisted of children with ASD, ADHD, and Down syndrome. The participants varied in age, socioeconomic, educational, and geographic backgrounds. Their educational level was mainly higher education (45.4%) following from the secondary (24.4%) and tertiary post-secondary (18.2%) education.

The test-retest reliability for all four quadrants was very high (ICC=0.91–0.95) with small error (SEM: 1.91–3.80). The internal consistency was also very high ( $\alpha=0.86$ –0.92). The descriptive statistics and reliability values for the quadrants are presented in table 2.

The test-retest reliability for the individual factors was also very high (ICC=0.78–0.94), with small error (SEM: 0.78–2.79). Generally, internal consistency was very high ( $\alpha=0.80$ –0.91) with the exception of the factors "poor registration" and "sensory sensitivity" that were found to be moderate ( $\alpha=0.73$  and  $\alpha=0.72$ , respectively). All the values for factor analysis are presented in table 3.

Regarding the test-retest analysis for individual sections of the questionnaire, the results confirmed a very high reliability (ICC=0.81–0.95) and internal consistency was also high ( $\alpha=0.75$ –0.88), with the exclusion of the "modulation

**Table 1.** Characteristics of the children of the parents participating in the reliability study of the Greek version of the Sensory Profile instrument (SP-Gr).

	Gender	Number	Age range (years)
Total (n=66)	Boys	41	3.0–9.8
	Girls	25	3.0–10.8
Typical development (n=38)	Boys	19	3.0–9.1
	Girls	19	3.0–9.1
Atypical development (n=28)	Boys	22	3.0–9.8
	Girls	6	4.1–10.0

**Table 2.** Test-retest scores on the Greek version of the Sensory Profile instrument (SP-Gr) (quadrants) (n=66).

Quadrant	Test, M (SD)	Retest, M (SD)	ICC	SEM	Cronbach's $\alpha$
Registration	67.00 (8.12)	67.42 (7.74)	0.94	1.91	0.90
Seeking	99.59 (17.95)	102.47 (18.27)	0.95	3.60	0.92
Sensitivity	83.86 (12.17)	83.91 (12.00)	0.95	2.63	0.90
Avoiding	119.15 (12.72)	120.39 (13.49)	0.91	3.80	0.86

M: Mean, SD: Standard deviation, ICC: Intraclass correlation coefficient, SEM: Standard error of measurement

**Table 3.** Test-retest scores on the Greek version of the Sensory Profile instrument (SP-Gr) (factors) (n=66).

Factors	Test, M (SD)	Retest, M (SD)	ICC	SEM	Cronbach's $\alpha$
Sensory seeking	63.12 (13.0)	65.74 (13.1)	0.93	2.79	0.91
Emotionally reactive	63.09 (9.7)	64.02 (10.6)	0.92	2.79	0.88
Low endurance/tone	41.8 (4.6)	42.29 (4.3)	0.93	1.18	0.88
Oral sensory sensitivity	34.18 (8.7)	34.44 (8.4)	0.94	2.14	0.90
Inattention-distractibility	28.26 (5.6)	28.52 (5.8)	0.94	1.40	0.88
Poor registration	35.91 (4.2)	36.17 (4.2)	0.83	1.72	0.73
Sensory sensitivity	17.41 (2.8)	17.20 (3.1)	0.89	0.98	0.72
Sedentary	15.09 (3.5)	15.11 (3.6)	0.78	1.65	0.90
Fine motor-perceptual	10.70 (3.8)	10.86 (3.6)	0.92	1.00	0.80

M: Mean, SD: Standard deviation, ICC: Intraclass correlation coefficient, SEM: Standard error of measurement

of movement affecting activity level" and "items indicating thresholds for response" sections, in which internal consistency was moderate to high ( $\alpha=0.74$  and  $\alpha=0.59$ , respectively), and the "modulation of sensory input affecting emotional responses" and "modulation of visual input affecting emotional responses and activity level" sections, in which Cronbach's alpha was low ( $\alpha=0.44$  and  $\alpha=0.47$ , respectively). The averages and standard deviations of the two measurements and the values of reliability indices (ICC

and SEM), and internal consistency (Cronbach's alpha) for these sections are presented in table 4.

In the validity study the results showed significant differences between the groups in all sections except visual processing and modulation of sensory input affecting emotional responses (tab. 5), quadrants and factors except for factors "sensory sensitivity" and "sedentary", with atypical development children always yielding lower scores than children of typical development ( $p<0.05$ ) (tab. 6).

**Table 4.** Test-retest scores on the Greek version of the Sensory Profile instrument (SP-Gr) (sections) (n=66).

Sections (item categories)	Test, M (SD)	Retest, M (SD)	ICC	SEM	Cronbach's $\alpha$
<i>Sensory processing</i>					
A. Auditory processing	33.48 (5.4)	33.74 (5.4)	0.92	1.58	0.82
B. Visual processing	39.08 (4.7)	38.55 (4.9)	0.83	1.97	0.75
C. Vestibular processing	47.67 (5.4)	48.23 (5.3)	0.89	1.79	0.75
D. Touch processing	76.36 (10.7)	76.97 (10.9)	0.92	3.09	0.88
E. Multisensory processing	29.32 (5.2)	29.56 (5.2)	0.91	1.57	0.87
F. Oral sensory processing	46.88 (9.8)	47.24 (9.6)	0.93	2.59	0.88
<i>Modulation</i>					
G. Sensory processing related to endurance/tone	41.80 (4.6)	42.29 (4.3)	0.93	1.18	0.88
H. Modulation related to body position and movement	39.55 (6.3)	40.20 (6.6)	0.89	2.08	0.76
I. Modulation of movement affecting activity level	25.39 (4.7)	25.80 (5.0)	0.81	2.10	0.74
J. Modulation of sensory input affecting emotional responses	15.58 (2.8)	15.82 (2.8)	0.89	0.91	0.47
K. Modulation of visual input affecting emotional responses and activity level	15.76 (2.6)	15.85 (2.7)	0.83	1.12	0.44
<i>Behavioral and emotional responses</i>					
L. Emotional-social responses	68.64 (9.5)	69.62 (10.2)	0.92	2.78	0.88
M. Behavioral outcomes of sensory processing	21.97 (5.8)	22.21 (5.9)	0.95	1.34	0.87
N. Items indicating thresholds for response	12.80 (2.1)	12.74 (2.2)	0.86	0.81	0.59

M: Mean, SD: Standard deviation, ICC: Intraclass correlation coefficient, SEM: Standard error of measurement

**Table 5.** Differences in parental scores on the Greek version of the Sensory Profile instrument (SP-Gr) between children with typical and atypical development (sections).

Sections (item categories)	Typical development (n=38) M (SD)	Atypical development (n=28) M (SD)	p-value
<i>Sensory processing</i>			
A. Auditory processing	35.87 (3.71)	30.25 (5.69)	<0.001
B. Visual processing	39.50 (4.72)	37.25 (5.01)	0.070
C. Vestibular processing	49.32 (4.62)	45.43 (5.78)	0.005
D. Touch processing	79.82 (9.18)	71.68 (10.99)	0.002
E. Multisensory processing	31.63 (3.82)	26.18 (5.14)	<0.001
F. Oral sensory processing	49.55 (8.33)	43.25 (10.68)	0.012
<i>Modulation</i>			
G. Sensory processing related to endurance/tone	43.18 (3.56)	39.93 (5.26)	0.007
H. Modulation related to body position and movement	42.05 (5.25)	36.14 (6.20)	<0.001
I. Modulation of movement affecting activity level	26.53 (4.73)	23.86 (4.17)	0.018
J. Modulation of sensory input affecting emotional responses	15.71 (2.53)	15.39 (3.17)	0.664
K. Modulation of visual input affecting emotional responses and activity level	16.58 (2.34)	14.64 (2.64)	0.003
<i>Behavioral and emotional responses</i>			
L. Emotional-social responses	71.58 (6.75)	64.64 (11.22)	0.006
M. Behavioral outcomes of sensory processing	24.11 (4.93)	19.07 (5.62)	<0.001
N. Items indicating thresholds for response	13.87 (1.50)	11.36 (1.90)	<0.001

M: Mean, SD: Standard deviation

**Table 6.** Differences in parental scores on the Greek version of the Sensory Profile instrument (SP-Gr) between children with typical and atypical development (factors and quadrants).

Factors	Typical development (n=38) M (SD)	Atypical development (n=28) M (SD)	p-value
Sensory seeking	67.21 (10.68)	57.57 (13.99)	0.004
Emotionally reactive	66.47 (6.59)	58.50 (11.40)	0.002
Low endurance/tone	43.18 (3.56)	39.93 (5.26)	0.007
Oral sensory sensitivity	36.32 (7.39)	31.29 (9.60)	0.025
Inattention-distractibility	31.53 (2.96)	23.82 (5.33)	<0.001
Poor registration	37.32 (2.97)	34.00 (4.79)	0.002
Sensory sensitivity	17.66 (2.71)	17.07 (2.90)	0.408
Sedentary	15.61 (3.17)	14.39 (3.75)	0.172
Fine motor-perceptual	11.95 (3.48)	9.00 (3.50)	0.001
<i>Quadrants</i>			
Registration	70.66 (5.71)	62.04 (8.35)	<0.001
Seeking	105.66 (14.47)	91.36 (19.13)	0.002
Sensitivity	88.58 (9.49)	77.46 (12.63)	<0.001
Avoiding	122.21 (10.97)	115.00 (13.92)	0.028

M: Mean, SD: Standard deviation

## DISCUSSION

In the present study, the cross-cultural adaptation of the SP questionnaire into the Greek language (SP-Gr) and cultural setting was performed using an internationally accepted process of back translation and pilot testing. Test-retest reliability and internal consistency were examined by comparing the scores between the first and second administration of the final SP-Gr for the quadrant, factor, and section scores of the questionnaire. Construct validity was tested by using the method of known-group comparison and exploring the differences between the scores of parents of children of typical and atypical development.<sup>22</sup> Because only a few official translations of SP have been found in the literature, resolution of any discrepancies had to be resolved based on collaboration between translators and clinicians. The main problems during the translation procedure concerned two questions (only 6–7% of participants did not understand these questions, as reported in the methods section), but after discussion and relevant modifications these problems were overcome.

The 66 participating caregivers covered a wide spectrum of children with several types of developmental disabilities

and a broad range of demographic characteristics, similar to other studies on the cultural adaptation of questionnaires.<sup>11,14,23</sup>

Statistical analyses revealed higher psychometric indexes across the four quadrants of SP-Gr (ICCs=0.91–0.95,  $\alpha$ =0.86–0.92) than across the factors (ICCs=0.78–0.94,  $\alpha$ =0.80–0.91) and sections (ICCs=0.81–0.95,  $\alpha$ =0.44–0.88). Similarly to the conclusions of a previous study,<sup>23</sup> it is therefore proposed that quadrant-level analysis captures the children's sensory processing patterns more consistently than factor- or section-level analysis.

Comparing the results of the current study with those of a previous study<sup>23</sup> internal consistency analyses (quadrants ICCs=0.80–0.90,  $\alpha$ =0.89–0.95, factors ICCs=0.69–0.88,  $\alpha$ =0.82–0.93) and sections results are higher regarding the ICCs for all three types of scores (ICCs=0.50–0.87,  $\alpha$ =0.67–0.93), but Cronbach's alpha is lower for all three types of scores. On the other hand, when comparing the results of this study with the ones of the original studies<sup>11,12</sup> (quadrants,  $\alpha$ =0.87–0.93, factors,  $\alpha$ =0.72–0.92, sections,  $\alpha$ =0.47–0.90), the findings are similar for the quadrants, a little higher for factors and slightly lower for sections. These differences may be related to the sample size. In the present study the sample was larger ( $n=66$ ) than that of a previous study<sup>23</sup> ( $n=55$ ), and smaller than the sample of the original study<sup>11</sup> ( $n=1,037$ ). In addition, the ages of the children who participated in our sample (3.0–10.0 years) were similar to those in the original study<sup>11</sup> (3.0–10.0 years, 11 months), but different from those in a previous study<sup>23</sup> (3.0–6.0 years).

A low internal consistency was found in section I (modulation of movement affecting activity level)  $\alpha=0.74$ , section N (items indicating thresholds for response)  $\alpha=0.59$ , section J (modulation of movement affecting activity level)  $\alpha=0.44$  and section K (modulation of visual input affecting emotional responses and activity level)  $\alpha=0.47$ . In another study<sup>14</sup> low Cronbach's alpha was also found, in sections I, J and N, as in the present study, except that in our study, the internal consistency of item K was also low ( $\alpha=0.47$ ). Similarly, low internal consistency was also shown for the same items in both the original<sup>11</sup> and another study.<sup>16</sup> It appears that regardless of the language, the elements that make up each item are not homogeneous and this is more relevant for item N. It is possible that the three items which measure different aspects of sensory responses are few, causing this inconsistency.

For the validity study, the results showed clear differences between children with typical and atypical development in almost all SP sections, factors and quadrants. The scores of

the parents of children of atypical development were always lower than those of children of typical development. These differences are in accordance with the current literature, demonstrating the construct validity of the Greek version of SP.<sup>7,8,14,24,25</sup> The non-significant differences between the groups presented in two sections and factors could be due to the small sample size of the current study, and because sensory discrepancies are observed also in children with normal development.<sup>5,26</sup> Moreover, the factor "sedentary" concerns sedentary activities that nowadays (with the current way of living) are similar among all children.

The test-retest and internal consistency analysis of the SP-Gr showed excellent reliability results. Therefore, it is apparent that the SP-Gr is understandable, reliable and appropriate for use by Greek speaking parents and caregivers worldwide. Occupational therapists and other clinicians can safely use the SP-Gr to evaluate the sensory processing of children after a period of time. Similarly to the conclusions of other studies<sup>23</sup> the use of quadrant scores is proposed, as being clinically more useful than factors and sections scores analysis when the SP is used for the evaluation of sensory processing.

Based on these results, it becomes evident that the Greek SP showed excellent test-retest reliability and internal consistency and construct validity in a sample of Greek parents and caregivers of children with typical and atypical development. The clinical significance of this finding is that this instrument can safely be used for cross-cultural comparisons in research and clinical rehabilitation between Greece and other countries, where a similar process has been undertaken. It would therefore, be both feasible and enlightening to design cross-cultural studies amongst children with sensory processing and developmental disabilities utilizing the SP-Gr as one of the primary outcome measures.

In terms of the limitations, it must be acknowledged that this study was restricted to a convenience sample of caregivers. It would be desirable to conduct a larger scale study in Greece, utilizing a representative stratified sample, in order to provide normative data and to investigate correlations and associations with a wider range of personal, cultural and disorder-related factors. Moreover, all data were based on caregiver-reported information; although this is an appropriate and commonly used collective method for this kind of population it could potentially compromise part of this study's findings. Finally, it would be helpful for future studies to validate the SP-Gr against other similar instruments in order to test also in addition the criterion-related validity.

In conclusion, the Greek version of the SP-Gr was found to be an understandable, valid, reliable instrument, appropriate for use by Greek speaking parents and caregivers worldwide. This version, SP-Gr, thus constitutes the official

cross-cultural adaptation of the SP instrument, and can be used for cross-cultural comparisons in research and clinical rehabilitation.

## ΠΕΡΙΛΗΨΗ

### Διαπολιτισμική προσαρμογή και ψυχομετρικές ιδιότητες του ερωτηματολογίου Sensory Profile (αισθητηριακό προφίλ) στην ελληνική γλώσσα

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**ΣΚΟΠΟΣ** Η διαπολιτισμική προσαρμογή και η αξιολόγηση των ψυχομετρικών ιδιοτήτων του ερωτηματολογίου Sensory Profile (SP) caregiver (αισθητηριακό προφίλ) στην ελληνική γλώσσα. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** Το ερωτηματολόγιο SP caregiver μεταφράστηκε, προσαρμόστηκε πολιτιστικά και ελέγχθηκε πιλοτικά σε ομάδα συμμετεχόντων, σύμφωνα με τις διεθνώς αποδεκτές κατευθυντήριες οδηγίες. Το SP μεταφράστηκε στα Ελληνικά από δύο δίγλωσσους μεταφραστές, σε δύο ξεχωριστές ατομικές μεταφράσεις (M1 και M2), οι οποίοι συζήτησαν και συνέταξαν τα αποτελέσματα των δύο διαφορετικών μεταφράσεων και κατέληξαν σε μια κοινή έκδοση του ερωτηματολογίου (M12). Ένα τρίτο δίγλωσσο άτομο μετέφρασε την κοινή ελληνική έκδοση στην αγγλική γλώσσα και κατέληξαν σε μια ημιτελική έκδοση. Η ημιτελική έκδοση του ερωτηματολογίου εξετάστηκε πιλοτικά σε 30 μητέρες παιδιών ηλικίας 3–10 ετών (20 παιδιών με τυπική ανάπτυξη και 10 παιδιών μη τυπικής ανάπτυξης). Για τη μελέτη αξιοπιστίας ελέγχου-επανελέγχου, 66 γονείς (κυρίως μητέρες με διαφορετικό εκπαιδευτικό και κοινωνικοοικονομικό επίπεδο) παιδιών ηλικίας 3–10 ετών (38 τυπικής και 28 μη τυπικής ανάπτυξης) συμπλήρωσαν το ερωτηματολόγιο σε δύο διαφορετικές χρονικές στιγμές, με διαφορά 7–14 ημερών μεταξύ τους. Για τη δομική εγκυρότητα χρησιμοποιήθηκε η μέθοδος της γνωστής ομάδας (known-group comparison), εξετάζοντας τις διαφορές μεταξύ των δύο ομάδων (τυπικής και μη τυπικής ανάπτυξης) σε όλες τις παραμέτρους (τομείς [sections], παράγοντες [factors] και τεταρτημόρια [quadrants]) του SP. Το δείγμα μη τυπικής ανάπτυξης αποτελούσαν παιδιά με διαταραχή αυτιστικού φάσματος, ειδικές μαθησιακές δυσκολίες, διαταραχή ελλειμματικής προσοχής/υπερκινητικότητα (ΔΕΠΥ) και σύνδρομο Down. **ΑΠΟΤΕΛΕΣΜΑΤΑ** Η αξιοπιστία ήταν πολύ υψηλή για τις βαθμολογίες των τεταρτημορίων (ICC=0,91–0,95), των παραγόντων (ICC=0,78–0,94) και των τομέων (α=0,75–0,88) του ερωτηματολογίου. Η εσωτερική συνοχή ήταν επίσης πολύ υψηλή για τα τεταρτημόρια (α=0,86–0,92) και για όλους τους παράγοντες (α=0,80–0,91) εκτός από δύο, ενώ επίσης ήταν αρκετά καλή για τις βαθμολογίες των τομέων (α=0,75–0,88). Οι διαφορές μεταξύ παιδιών τυπικής και μη τυπικής ανάπτυξης ήταν στατιστικά σημαντικές σε όλες σχεδόν τις ενότητες, τους παράγοντες και τα τεταρτημόρια (p<0,05), γεγονός που κατέδειξε τη δομική εγκυρότητα του ερωτηματολογίου. **ΣΥΜΠΕΡΑΣΜΑΤΑ** Το SP caregiver στην ελληνική γλώσσα βρέθηκε να είναι αποδεκτό, κατανοητό, έγκυρο και αξιόπιστο για χρήση από Έλληνες γονείς και επομένως μπορεί να χρησιμοποιηθεί στη διαπολιτισμική κλινική πρακτική και έρευνα. Η παρούσα μελέτη υποστήριξε τη χρήση των βαθμολογιών των τεταρτημορίων, περισσότερο από τους παράγοντες και τους τομείς, για την ανάλυση της αισθητηριακής επεξεργασίας των παιδιών.

**Λέξεις ευρητήριο:** Αισθητηριακό προφίλ, Διαπολιτισμική προσαρμογή, Διαταραχές αισθητηριακής επεξεργασίας, Ερωτηματολόγια, Φροντιστές

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