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Turkish Adaptation, Validity, and Reliability Study of the Children and Adolescent Behavior Inventory Family Questionnaire

Erol ÇİFTÇİ[1], Ömer BAŞAY[2], Caner ÖZDEMİR[3]

[1]Bayburt State Hospital, Child and Adolescent Psychiatry, Bayburt,Turkey
[2]Pamukkale University School of Medicine, Child and Adolescent Psychiatry, Denizli, Turkey
[3]Ankara University School of Medicine, Public Health, Ankara, Turkey

ABSTRACT

Introduction: This study aimed to conduct the Turkish adaptation, validity, and reliability analyses of the Children and Adolescent Behavior Inventory (CABI) Family Questionnaire.

Method: A total of 1015 parents of children and adolescents aged 6–14 years, with 762 from the community sample and 253 from the clinical sample, participated in the study. After the language adaptation of the scale was completed by experts, its construct validity was determined using exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and discriminant validity. The reliability was assessed with Cronbach's alpha internal consistency coefficients, and the test-retest reliability of the scale was tested on 100 participants.

Results: The results of the EFA showed that the scale had 10 factors. The items associated with the 10th factor, which was different from the original scale, aligned with the subscales of the Sluggish Cognitive Tempo. The results of the CFA indicated that the factor load values were statistically significant, and the fit index values were at moderate, good, and excellent levels. A comparison of the subscale scores of the clinical and population sample groups showed that the scale had a distinctive feature. The Cronbach's alpha value of the total scale score was calculated to be 0.94. No statistically significant difference was found between the mean test-retest scores obtained on the subscales. The test-retest correlation coefficient was found to be within the range of r=0.605–0.853 for the subscales (p<0.01).

Conclusion: This study proved that the CABI Family Questionnaire was a valid and reliable scale and could be administered to the parents of Turkish children and adolescents aged between six and 14 years in population and clinical samples.

Keywords: Behavior inventory, reliability, sluggish cognitive tempo, validity

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INTRODUCTION

Scales are frequently used in clinical follow-up and research to screen children and adolescents for emotional and behavioral problems. Especially, the scales evaluated by parents provide essential information about children in a short time.

The Children and Adolescent Behavior Inventory (CABI) Family Form was developed by Burns et al., and its original language is English. It evaluates disorders that are common in childhood and adolescence, and sluggish cognitive tempo (SCT), which has gained interest recently (1).

The Child Behavior Checklist (CBCL) (2) and Strength and Difficulties Questionnaire (SDQ) (3) are the most frequently preferred screening tools whose validity and reliability studies have been carried out in Turkish. Although all these scales were developed for similar purposes, the CABI scale showed significant advantages compared to the other scales. The CBCL screens a wide range; however, the fact that it contains 138 items makes it difficult to fill out and evaluate. The SDQ is a short control list consisting of 25 items and aims to identify the problems of individuals at risk. The CABI, which consists of 67 items, allows for adequate and practical evaluation and is grouped according to subscales. This allows the parents to more easily understand and evaluate the questions and the researcher to evaluate the scale easily and at one glance without having to use a manual counting chart or a computer transcription, compared to other scales (4,5).

Highlights

- **Common childhood disorders could be evaluated with the Children and Adolescent Behavior Inventory.**
- **Determining the frequency of behavior provided clinically useful information.**
- **Functionality could be evaluated by measuring academic and social competence.**
- **It was important to include a sluggish cognitive tempo symptom set that could be used in the population and clinical samples.**

Correspondence Address: Erol Çiftçi, Bayburt Devlet Hastanesi, Çocuk ve Ergen Ruh Sağlığı ve Hastalıkları, Bayburt, Turkey • **E-mail:** erolciftci48@gmail.com
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The validity and reliability studies of two scales evaluating SCT were conducted in Turkey. However, one of these studies was performed with a clinical sample (6) and the other with a population (7) sample. The SCT subscale of the CABI could be used for both clinical and population samples. Besides, another important feature of CABI in terms of facilitating clinical evaluation and research is that it is possible to evaluate other psychopathologies on a single scale together with SCT.

Burns et al. first developed the Child and Adolescent Disruptive Behavior Inventory (CADBI) to detect the symptoms of attention deficit and hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD), which are common disorders in childhood, and to measure academic competence (8). In this process, SCT and internalizing disorders symptom sets were added to the CADBI scale. Further, the CADBI scale was reconstructed to evaluate the disorders in social functionality as well as academic functionality (1).

In the validity study of CADBI in Brazil, ADHD/attention deficit (AD), ADHD/hyperactivity (HA), ODD, and academic competence areas were evaluated (9). In validity studies in Pakistan (10) and Thailand (11), social functionality was also evaluated along with these areas (9). The validity studies of the ADHD/AD and SCT subscales of CADBI were conducted in Spain (12,13). Again, in Spain, the differences between ADHD/AD, SCT, and depressive disorder symptoms were investigated using the CADBI (14). Studies in South Korea and Chile evaluated the validity of ADHD/AD, ADHD/HA, SCT, ODD, depressive disorder, anxiety disorder, and academic and social impairment (15,16). In these studies, the factor load values of the scale items were found to be statistically significant (P <0.001) and at the levels of good, very good, and excellent. The internal consistency and correlation values showed that the subscales were valid and the items were distinguishable.

Considering that the internalizing symptoms and SCT were mostly not associated with disruptive behaviors, the "destructive" part of the scale name was removed in 2018 and renamed as CABI.

The CABI's determination of the child's frequency of behavior provides more useful clinical information compared to the other scales. Emphasizing only the area where the child is observed in the family form, that is, focusing only on the symptoms in the home and community outside of school increases the validity of the evaluated content (17,18). Besides, the negative effects of symptoms on functionality can be observed with the assessment of academic and social competence. For these reasons, this study aimed to adapt the CABI Scale Family Form into Turkish.

METHOD

Sample

The study sample consisted of parents of students who attended primary and secondary schools in Denizli City Center and parents of children who applied to Pamukkale University Faculty of Medicine Child and Adolescent Psychiatry outpatient clinics between March 15 and May 15, 2019. In this study, two primary schools and two secondary schools were selected by a simple random sampling method and students studying at all grade levels (grades 1–8) in these schools were included. All cases who applied to the Pamukkale University Faculty of Medicine Child and Adolescent Psychiatry outpatient clinics during the study period were also included.

Children aged 6–14 years, whose participation in the study was approved by their parents and who filled out the CABI Family Form and questionnaire completely, were included in the study. Children of the clinical and population samples whose parents did not approve of their participation and children with a medical history of mental retardation, autism spectrum disorder, and psychotic disorder were not included in the study. The diagnostic evaluations of children without a medical record were performed, and children without the aforementioned diagnoses were included in the study.

A total of 1015 children's and adolescents' parents, 762 of whom were educated at school and 253 of whom applied to the Pamukkale University Faculty of Medicine Child and Adolescent Psychiatry outpatient clinics, participated in the study.

Data Collection Tools

Demographic Data Form

The researchers created a nine-item demographic data form related to the demographic and socioeconomic characteristics of the family, such as the child's age, sex, and parents' age and education level, for this study. The parents were asked to indicate their income level as very good, good, moderate, or bad, and their socioeconomic status was categorized according to these preferences.

Children and Adolescent Behavior Inventory (CABI) Family Form

The original language of the scale was English, and it comprised 67 items in 9 subscales. The scale included 16 items for SCT, 6 for anxiety disorder, 7 for depressive disorder, 9 for attention deficit, 9 for hyperactivity and impulsivity, 8 for oppositional behavior, 4 for emotionless personality traits, 4 for social impairments, and 4 for academic impairment. The first seven sections were in the form of a six-point Likert scale, the eighth and ninth sections were in the form of a seven-point Likert scale, and the last three sections were reverse scored.

The CABI Family Form is a continuous scale with no cutoff points. The total score of a section is obtained by summing the subscale item scores. A high total score indicates a high symptom level. Besides, the first seven subscales comprised two questions in the form of a four-point Likert scale, which allowed us to evaluate whether the symptoms cause social and academic difficulties.

In the original scale study, the mean factor load values of the scales were between 0.54 and 0.85. All of the load values were found to be between moderate and strong levels. The reliability coefficient values (Omega and Cronbach's alpha) of the subscale scores were found to be between 0.86 and 0.97, which indicated a reliability of excellent level. Test–retest factor correlations were found to be excellent (0.73–0.92), and none of the subscales showed a statistically significant (p<0.001) increase or decrease (19).

Translation of the Scale and Ethical Considerations

Before the study, permission was obtained from the researchers who developed the scale via e-mail. Translation into Turkish was carried out independently by three experts working in the field of health, with a good level of English proficiency. Two researchers combined these three translations. An opinion on clarity was obtained from an expert working in the faculty of education after the translations were combined. Then, two lecturers from foreign language schools, who are proficient in both cultures, translated it back into English. The scale was compared with its original form, and no change was needed after no difference in meaning was found.

Before the study, the approval of the Pamukkale University Faculty of Medicine Ethics Committee dated March 23, 2018, and numbered 60116787–020/20930 and the permission of Denizli Provincial Directorate of National Education dated November 20, 2018, and numbered 16605029/44-E22233157 were obtained. Written informed consent was obtained from the participants.

Data Analysis

Statistical analyses were performed with SPSS 17.0 and Lisrel 8.0 programs. Construct validity was evaluated with exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Bartlett Test of Sphericity and Kaiser–Meyer–Olkin (KMO) analysis were performed to evaluate whether the data were suitable for factor analysis. The statistical significance level of the Bartlett test was accepted as $p<0.001$. Sixty-nine items in 9 sections were evaluated with free distribution and without any limitation. The Maximum Likelihood Method and CFA were applied to determine the level of agreement between the obtained data and the factor structure of the CABI Family Form. The reliability was tested with item analyses, test–retest method, and Cronbach alpha internal consistency coefficients. The compliance of the measurement variables to normal distribution was evaluated by the Kolmogorov-Smirnov analysis. The median values of independent groups were compared with Kruskal-Wallis and Mann-Whitney U tests. The statistical significance was determined as $p<0.005$.

RESULTS

The sociodemographic characteristics of the parents and their children participating in the study are shown in Table 1.

Validity Analyses

Exploratory Factor Analysis: The Bartlett test value was found to be 49375.19, and the KMO value was 0.969 ($p<0.001$). Thus, the sample was large enough, and the factor analysis could be applied.

The loads of the items in the free distribution ranged from 0.40 to 0.81. Unlike the original scale, the data were collected in 10 factors, and the total amount of variance was found to be 65.7%. The first, fourth, seventh, and ninth items in the SCT dimension constituted the 10th factor, unlike the original scale. Although item 12 in the SCT dimension in the original scale was loaded on both SCT and ADHD/AD, it was found to be more related to ADHD/AD. Again, item 6 in the anxiety disorder dimension in the original scale was located entirely in the depressive disorder dimension. The eigenvalues of the subdimensions, the item load values, and the variances they explained are shown in Table 2.

Explanatory Factor Analysis: Statistically, the chi-square value was found to be significant (c^2=7563.10, $p<0.001$), with the c^2/Standard deviation ratio of 3.59. The fit index values were found to be GFI=0.79, SRMR=0.054, RMSEA=0.056, NNFI=0.98, and CFI=0.98. It was seen that the factor loads were all statistically significant.

The first-level CFA of the Turkish scale was performed, followed by the second-level CFA. Statistically, the chi-square value was found to be significant (c^2=8505.83, $p<0.001$); the c^2/STANDARD DEVIATION ratio was found to be 3.99. The fit index values were found to be GFI=0.77, SRMR=0.069, RMSEA=0.061, NNFI=0.98, and CFI=0.98. The factor loads were all at a statistically significant level.

Differential Validity: As shown in Table 3, the median and interquartile range values of the subscale total scores were compared between the population and clinical groups. The values were found to be statistically significantly higher in the population sample in the social and academic impairment subscales, and in the clinical sample in the other seven subscales, including emotionless personality traits evaluated by reverse coding. This showed that, as expected, the social and academic problems were more common in the clinical sample.

Reliability Analyses

The Cronbach alpha internal consistency coefficient of the Turkish scale was 0.97. The internal consistency coefficients of the subscales ranged between 0.77 and 0.93. The item-total correlation coefficient values adjusted for the subscales of the items were found to be between 0.43 and 0.83. The subscale internal consistency coefficients of the Turkish scale and the original scale are given in Table 4.

Table 5 shows the correlation values between the scores obtained from the total scale and its subscales. These values were found to be between 0.25 and 0.86, and the correlations of all subscales with the total scale were statistically significant ($p<0.001$). The relationship between emotionless personality traits and anxiety disorder subscales was not statistically significant ($p>0.05$). In addition, the correlations of the subscales with each other were found to be statistically significant, and the correlation coefficients ranged from 0.12 to 0.71 ($p<0.001$).

The test–retest application was carried out with 100 participants 2–4 weeks later. The correlation coefficient values of the subscales were evaluated, and Pearson correlation coefficients were found to be between 0.60 and 0.85 ($p<0.01$). When the measurements were compared with the Wilcoxon sequential signed-rank test, no significant difference was found.

DISCUSSION

This study investigated whether the Turkish version of the CABI Family Form developed by Burns et al. (1) was valid and reliable. The scale was translated into Turkish, and its psychometric properties were evaluated. It was found to be a valid and reliable scale that could be used in population and clinical samples.

The construct validity of the Turkish scale was evaluated using EFA and CFA, and its discriminant validity was evaluated by comparing the subscale total scores between the population and clinical groups. The reliability was tested with item analyses, test-retest method, and Cronbach's alpha internal consistency coefficients.

As CABI is a comprehensive scale, EFA was made without limiting the items, and it was seen that the items were collected in 10 factors. The total variance value of the 10-factor structure was found to be sufficient (65.7%). The tenth factor consisted of four items in the SCT dimension in the original scale. Three of these items included slowed-down motor movement in the SCT dimension. One item was associated with sleepiness. The literature review showed that slowness was a subdimension of the SCT scale developed by Barkley in 2013 (20). A meta-analysis showed that SCT was divided into two parts; inconsistent excitability and daydreaming; and slowness, sleepiness, and heaviness (21). Since the tenth factor items were related to the motor slowness and sleepiness part of the SCT defined in the SCT literature, this factor was considered a subfactor of the SCT dimension, not a separate dimension.

The factor load values above 0.71 were considered as excellent, 0.63–0.70 as very good, 0.55–0.62 as good, 0.45–0.54 as normal, and 0.32–0.44 as weak (22). The SCT area consisted of 11 items with factor loads between 0.54 and 0.65. The 12th item, which was included in the SCT dimension in the original scale, was loaded on both SCT and ADHD/AD dimensions in our study. However, it was more associated with ADHD/DE. Parallel to this, in a study conducted in Spain, item 12 was found to be more related to the ADHD/AD subdimension (23). In studies in South Korea and Spain, the factor loads of items in the SCT area were found to be between 0.66 and 0.95 and between 0.58 and 1.17, respectively (15,23).

In the anxiety disorder area, five items were loaded with factor loading values between 0.58 and 0.68. In the South Korean sample, these values were found to be between 0.55 and 0.90 (15). In the original scale, item 6 in the field of anxiety disorder (stating that he/she has a headache or stomach ache or is sick without an obvious reason) was loaded only on the depressive disorder dimension in our study (0.40). Studies conducted

Table 1. Sociodemographic characteristics of the participants

	Number (%)		
	Population	**Clinical**	**Total**
Sex			
Female	456 (59.8)	114 (45.0)	570 (56.1)
Male	306 (40.1)	139 (54.9)	445 (43.8)
Socioeconomic level			
Very good	11 (1.4)	1 (0.3)	12 (1.1)
Good	206 (27.0)	55 (21.7)	261 (25.7)
Moderate	496 (65.0)	177 (69.9)	673 (66.3)
Bad	49 (6.4)	21 (8.3)	70 (6.8)
Parental partnership			
Together	689 (90.4)	209 (82.6)	898 (88.4)
Separated	62 (8.1)	41 (16.2)	103 (10.1)
Mother or father passed away	11 (1.4)	3 (1.1)	14 (1.3)
Educational level of the mother			
No education	15 (1.9)	2 (0.7)	17 (1.6)
Primary school	260 (34.1)	85(33.5)	345 (33.9)
Middle school	120 (15.7)	48 (18.9)	168 (16.5)
High school	212 (27.8)	79 (31.2)	291 (28.6)
Associate degree	36 (4.7)	12 (4.7)	48 (4.7)
Bachelor's degree	115 (15.0)	24 (9.4)	139 (13.6)
Master's degree	4 (0.5)	3 (1.1)	7 (0.6)
Educational level of the father			
No education	6 (0.7)	1 (0.3)	7 (0.6)
Primary school	221 (29.0)	90 (35.5)	311 (30.6)
Middle school	108 (14.1)	45(17.7)	153 (15.0)
High school	220 (28.8)	63 (24.9)	283 (27.8)
Associate degree	48 (6.2)	10 (3.9)	58 (5.7)
Bachelor's degree	145 (19.0)	42 (16.6)	187 (18.4)
Master's degree	14 (1.8)	2 (0.79)	16 (1.5)
Form filled in by			
Mother	528 (69.2)	159 (62.8)	687 (67.6)
Father	147 (19.2)	67 (26.4)	214 (21.0)
Both parents	87 (11.4)	27 (10.6)	114 (11.2)
	Mean ± standard deviation (median (min–max))		
Mother's age	37.3±5.25 (37.0(24–55))	37.6±5.20 (38.0(26–51))	37.4±5.20 (37.0(24–55))
Father's age	41.1±5.57 (41.0(28–64))	42.0±6.10 (42.0(29–64))	41.4±5.60 (41.0(28–64))
Child's age	9.8±2.21 (10.0(6–14))	10.6±2.54 (11.0(6–14))	10.0±2.32 (10.0(6–14))

min: minimum; max: maximum

with adults showed that people with depressive disorder might present with somatic complaints, which was more common in developing countries (24). Parallel to this, it was stated that physical symptoms such as headache and abdominal pain were quite common in depressive disorder in childhood and adolescence (25). In light of this information, we concluded that it would be appropriate to keep this item in the area of depressive disorder.

A total of eight items were clustered in the depressive disorder subdimension, and the factor load values were between 0.54 and 0.72. In studies in Spain and South Korea, the factor loads of the items in the area of depressive disorder were found to be between 0.61 and 0.82 and between 0.72 and 0.95, respectively (14,15).

ADHD/HA, ADHD/AD, ODD, and academic impairment factors included the same number of items as the original scale and took values between 0.53 and 0.81. In studies conducted in Brazil and Thailand, the mean factor loads of the subscales were found to be between 0.69 and 0.86 (26).

The Cronbach's alpha coefficient is a reliability indicator that measures the internal consistency of the scales (27). The anxiety disorder subscale of the Turkish version was found to be moderate (0.77), while the other subscales were found to be highly reliable (0.82–0.93). Thus, it was seen that the CABI Family Form was reliable enough. The internal consistency coefficient was found to be 0.89–0.93 in the Brazilian study, 0.87–0.91 in the Thai study (26), and 0.87–0.97 in the Chilean study (16).

Table 2. Children and adolescent Behavior Inventory Family Questionnaire exploratory factor analysis results

Items	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
I2 (SCT2)	0.60									
I3 (SCT3)	0.63									
I5 (SCT5)	0.61									
I6 (SCT6)	0.65									
I8 (SCT8)	0.63									
I10 (SCT10)	0.54									
I11 (SCT11)	0.58									
I13 (SCT13)	0.59									
I14 (SCT14)	0.63									
I15 (SCT15)	0.58									
I16 (SCT16)	0.61									
I1 (SCT1)										0.56
I4 (SCT4)										0.48
I7 (SCT7)										0.59
I9 (SCT9)										0.59
I39 (HA1)		0.76								
I40 (HA2)		0.78								
I41 (HA3)		0.76								
I42 (HA4)		0.65								
I43 (HA5)		0.81								
I44 (HA6)		0.67								
I45 (HA7)		0.60								
I46 (HA8)		0.64								
I47 (HA9)		0.60								
I31 (AD1)			0.63							
I32 (AD2)			0.67							
I33 (AD3)			0.53							
I34 (AD4)			0.65							
I35 (AD5)			0.64							
I36 (AD6)			0.59							
I37 (AD7)			0.56							
I38 (AD8)			0.61							
I39 (AD9)			0.63							
I12 (SCT12)			0.55							
I48 (ODD1)				0.72						
I49 (ODD2)				0.70						
I50 (ODD3)				0.65						
I51 (ODD4)				0.65						
I52 (ODD5)				0.59						
I53 (ODD6)				0.70						
I54 (ODD7)				0.67						
I55 (ODD8)				0.60						
I23 (DD1)					0.65					
I24 (DD2)					0.67					
I25 (DD3)					0.65					
I26 (DD4)					0.69					
I27 (DD5)					0.72					
I28 (DD6)					0.66					
I29 (DD7)					0.54					
I22 (ANX6)					0.40					
I64 (ACAI1)						-0.72				
I65 (ACAI2)						-0.78				

Continuation of Table 2										
I66 (ACAI3)						-0.68				
I67 (ACAI4)						-0.76				
I60 (SD1)							-0.71			
I61 (SD2)							-0.79			
I62 (SD3)							-0.71			
I63 (SD4)							-0.71			
I17 (ANX1)								0.67		
I18 (ANX2)								0.62		
I19 (ANX3)								0.68		
I20 (ANX4)								0.63		
I21 (ANX5)								0.58		
I56 (EMO1)									0.81	
I57 (EMO2)									0.85	
I58 (EMO3)									0.63	
I59 (EMO4)									0.77	
Eigenvalue (total=44.01)	24.31	4.37	4.03	2.97	1.78	1.71	1.43	1.26	1.11	1.01
Explained variance (total=65.71%)	36.2	6.52	6.01	4.44	2.67	2.56	2.14	1.88	1.66	1.51

ACAI: Academic impairment; AD: attention deficit; ANX: anxiety disorder; DD: depressive disorder; EMO: emotionless personality traits; F: factor; HA: hyperactivity; I: item; ODD: oppositional defiant disorder; SCT: sluggish cognitive tempo; SD: social disorder.

Table 3. Median and quarterly interval values of subscale total scores

	Sample group	
	Population (n=761)	**Clinical (n=254)**
Subscale	**Median (QIV) (P value)**	**Median (QIV) (P value)**
Sluggish cognitive tempo	8 (3–17) (p<0.001)	21 (11–35) (p<0.001)
Anxiety disorder	5 (2–8) (p<0.001)	7 (3–12) (p<0.001)
Depressive disorder	3 (1–7) (p<0.001)	11 (4–19) (p<0.001)
Attention deficit	5 (2–11) (p<0.001)	18 (9.75–29) (p<0.001)
Hyperactivity	5 (2–14) (p<0.001)	15.5 (6–26.25) (p<0.001)
Oppositional defiant disorder	6 (3–11) (p<0.001)	15 (6–24) (p<0.001)
Emotionless personality traits	7 (3–11) (p<0.001)	10 (6–14) (p<0.001)
Social disorder	19 (15–22) (p<0.001)	14 (9–18.25) (p<0.001)
Academic impairment	19 (14–22) (p<0.001)	12 (8–17) (p<0.001)

Mann-Whitney U test was used.
Statistical significance level was accepted as p<0.05.
QIV, quarterly interval value.

Another reliability indicator is item-total correlations that show the level of differentiation of individuals by items. It was thought that differentiation was at a very good level with values at 0.40 and above (28). In the Turkish scale, these values were found to be between 0.43 and 0.81. This showed that the level of differentiation of people in the Turkish scale was good or very good. The item-total correlation values were found in the range of 0.50–0.87 in the Pakistan study (10).

The correlation coefficient determined by the test–retest method took values between –1.00 and +1.00. A high and positive value indicated that the scale was invariant over time (27). In the test–retest evaluation of the CABI Family Form subscales, the correlation coefficient values were found to be between 0.60 and 0.85 in the positive direction. A strong consistency was found between the application results.

Limitations of the Study

This study had several limitations. The sample was taken only from the city center, and rural areas were not included. In addition, the criterion validity was not evaluated with another scale adapted into Turkish. Furthermore, adolescents aged 15–18 years were excluded from the study due to possible difficulties during data collection.

In conclusion, family evaluations are very important in child and adolescent psychiatry. Questionnaires are frequently used for assessment and provide a range of data without losing too much time. The absence of an SCT symptom set whose Turkish validity and reliability were performed in both population and clinical samples limited the work to be done in the field of SCT. This study aimed to introduce a Turkish scale including an SCT symptom set that could be used in community and clinical samples and evaluated common psychopathologies in children and adolescents together with social and academic functionality. This study showed that the Turkish version of the CABI was a valid and reliable scale with some characteristics different from the original scale.

Table 4. Subscale internal consistency coefficients

Subscale	Turkish scale	Internal consistency coefficient original scale	
		Girls	Boys
Sluggish cognitive tempo	0.93	0.94	0.94
Anxiety disorder	0.77	0.87	0.86
Depressive disorder	0.92	0.92	0.91
Attention deficit	0.93	0.96	0.96
Hyperactivity	0.92	0.93	0.94
Oppositional defiant disorder	0.92	0.95	0.95
Emotionless personality traits	0.82	0.87	0.86
Social disorder	0.84	0.90	0.91
Academic impairment	0.88	0.93	0.93

Table 5. Children and adolescent behavior inventory family questionnaire correlation coefficients between subscale scores

	SCT	ANX	DD	AD	HA	ODD	EMO	SD	ACAI
SCT	–								
ANX	0.52	–							
DD	0.71	0.59	–						
AD	0.77	0.47	0.65	–					
HA	0.47	0.41	0.42	0.64	–				
ODD	0.59	0.51	0.65	0.64	0.69	–			
EMO	0.21	0.04	0.15	0.25	0.12	0.20	–		
SD	-0.40	-0.28	-0.45	– 0.40	-0.30	-0.47	-0.37	–	
ACAI	-0.45	-0.18	-0.35	-0.58	-0.39	-0.38	-0.40	-0.51	–
General	0.86	0.67	0.79	0.85	0.75	0.82	0.25	0.36	0.39

ACAI: Academic impairment; AD: attention deficit; ANX: anxiety disorder; DD: depressive disorder; EMO: emotionless personality traits; HA: hyperactivity; ODD: oppositional defiant disorder; SCT: sluggish cognitive tempo; SD: social disorder.

Ethics Committee Approval: Before the study, the approval of the Pamukkale University Faculty of Medicine Ethics Committee dated March 23, 2018, and numbered 60116787–020/20930 and the permission of Denizli Provincial Directorate of National Education dated November 20, 2018, and numbered 16605029/44-E22233157 were obtained.

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