DOI: 10.14744/DAJPNS.2024.00251
Dusunen Adam J Psychiatr Neurol Sci
2024;37:130-139

RESEARCH ARTICLE

Reliability and validity study of the Obsessive-Compulsive Inventory-Child Version (OCI-CV)

Vahdet Gormez[1], Alperen Bikmazer[1], Suleyman Cakiroglu[2], Yavuz Meral[3], Erdem Ertas[4], Songul Derin[5], Burak Demirci[1], Tuba Surucu[1]

[1]Istanbul Medeniyet University Faculty of Medicine, Department of Child and Adolescent Psychiatry, Istanbul, Turkiye
[2]Altinbas University Faculty of Medicine, Department of Child and Adolescent Psychiatry, Istanbul, Turkiye
[3]Ordu University Faculty of Medicine, Department of Child and Adolescent Psychiatry, Ordu, Turkiye
[4]Medical Park Bahcelievler Hospital, Department of Child and Adolescent Psychiatry, Istanbul, Turkiye
[5]Bezmialem Vakif University, Department of Child and Adolescent Psychiatry, Istanbul, Turkiye

ABSTRACT

Objective: The lack of self-rating multidimensional questionnaires to assess obsessive-compulsive disorder (OCD) in children and adolescents poses a problem for monitoring clinical practices and implementing academic research. This study aimed to empirically examine the psychometric properties of the OCI-CV in a Turkish clinical sample of children and adolescents diagnosed with OCD alongside a control group for comparative analysis.

Method: The OCI-CV was administered alongside other measures to a clinical sample of 232 participants aged 8–18 years (mean±SD=13.35±2.68; female/male: 46.1%/53.9%) and a control group.

Results: According to the results of the item analysis, corrected item-total correlation coefficients were found to be between 0.36 and 0.62. Confirmatory factor analysis confirmed the original six-factor model with acceptable fit indices (Minimum Discrepancy per Degree of Freedom (CMIN/df)=1.734, Root Mean Square Error of Approximation (RMSEA)=0.056, Comparative Fit Index (CFI)=0.919, Standardized Root Mean Square Residual (SRMR)=0.067, Incremental Fit Index (IFI)=0.921, Normed Fit Index (NFI)=0.835, Root Mean Residual (RMR)=0.034). The standardized factor loadings of the scale items varied between 0.39 and 0.90. According to the Pearson correlation results, a significant positive correlation ($p<0.001$) was found within the scope of the concurrent validity of the OCI-CV. The Cronbach α coefficient of the six-dimensional 21-item scale was found to be 0.88, and that of the sub-dimensions of the scale ranged between 0.63 and 0.81.

Conclusion: The present study demonstrated the psychometric properties of the Child Version of the Obsessive-Compulsive Inventory (OCI-CV), and the results showed that the measure is valid and reliable for use in a clinical sample of Turkish children and adolescents.

Keywords: Obsessive-Compulsive Inventory-Child Version (OCI-CV), reliability, Turkish, validity

How to cite this article: Gormez V, Bikmazer A, Cakiroglu S, Meral Y, Ertas E, Derin S, Demirci B, Surucu T. Reliability and validity study of the Obsessive-Compulsive Inventory-Child Version (OCI-CV). Dusunen Adam J Psychiatr Neurol Sci 2024;37:130-139.

Correspondence: Alperen Bikmazer, Istanbul Medeniyet University Faculty of Medicine, Department of Child and Adolescent Psychiatry, Istanbul, Turkiye
E-mail: alperenbikmazer@yahoo.com
Received: January 18, 2024; **Revised:** July 13, 2024; **Accepted:** July 15, 2024

INTRODUCTION

Obsessive-Compulsive Disorder (OCD), a relatively common mental health issue in childhood with a prevalence rate of 1–2% (1, 2), is associated with significant impairments in academic, social, and family life (3). OCD in the pediatric age group is believed to be distinct from adult OCD due to developmental discontinuity, as the age-specific correlates of the disorder change throughout the life cycle (4). Nevertheless, developmentally sensitive questionnaires used for OCD screening and assessment in children and adolescents lag far behind the psychometric tools developed for adult OCD.

In the past, child self-reports were often overlooked in study designs, mainly due to concerns about their reliability or validity. However, it has been reported that for children above the age of 10, child reports on certain measures are as reliable as those of adults (5). Although there is a tendency to rely on parental reports to investigate childhood mental health issues, it has been documented that parental reports are likely to provide an underestimated picture of childhood internalizing problems, such as anxiety and depression (6). The same phenomenon is especially true for OCD, given the secretive nature of the condition and consistent with clinical experience. It has been reported that most responses to advertisements for the National Institute of Mental Health (NIMH) study of childhood OCD came from adolescents whose parents were not aware of their child's problems (7). In another NIMH-funded study, it was noted that only 0.3% of the cases identified through child reports were the parents aware of their child's symptoms (6).

The number of screening scales used for the assessment of childhood OCD is substantial, and they have been clinically validated in many languages. Although there has been a recent increase in validation studies of such tools in the Turkish language, the availability of such measures specifically for OCD is limited, and the scarcity of screening measures hampers clinical and academic inquiries. The Child Yale-Brown Obsessive Compulsive Scale (CY-BOCS) (8) is the gold standard tool to assess childhood psychopathology. It has been validated for use in Turkish; however, as a measure that requires trained interviewers, it can be expensive and time-consuming. This issue has become more serious in countries like Turkiye, where staffing resources are already limited. Although studies on translating and adapting psychopathology screening scales to Turkish have increased recently, the availability of such questionnaires for OCD is limited, which poses an obstacle to monitoring clinical practices and implementing academic research.

What makes the Obsessive-Compulsive Inventory-Child Version (OCI-CV) different from other measures is its ability to quickly evaluate OCD symptoms across multiple symptom domains, hence providing a multidimensional evaluation (9). For psychometric properties of a self-report measure, "dimension" refers to "factor," and "multidimensionality" refers to symptom clusters of the same diagnosis in subcategories. A dimensional approach to OCD can better account for the heterogeneity of this condition and provide clinicians and researchers with a more complete picture. From a dimensional perspective, each patient can score one or more symptom dimensions. On the other hand, in the categorical approach, patients with OCD are identified in homogeneous and mutually exclusive subgroups such as 'washers vs. checkers,' as opposed to dimensions in which each patient can score on one or more symptom dimensions at any one time, hence not being mutually exclusive (10). Therefore, the OCI-CV will be the only Turkish language self-report screening scale to provide a dimensional assessment of OCD symptomatology, rather than a categorical assessment provided by other scales, in children and adolescents. Although the OCI-CV was previously validated in Turkish (11), it was conducted in a school sample, which is a major limitation for its use in clinical settings. The Leyton Obsessive Compulsive Inventory-Child Version (LOI-CV) (12) is currently a scale that can be used for screening purposes and has been validated in Turkish; however, it lacks symptom dimensions, and its validity and reliability study was conducted in a community sample, not a clinical sample (13). The OCI-R scale, comprising 18 items, has been validated for use in clinical and community samples exclusively among the Turkish population aged over 18 years, excluding the child community (14).

Since the diagnosis and treatment of OCD are performed in a clinical setting, validation of the OCI-CV scale in a clinical sample that will also include younger age groups is required. Therefore, the present study aimed to empirically examine the psychometric properties of the OCI-CV, which will provide an opportunity to conduct a dimensional evaluation of childhood OCD in a Turkish clinical sample.

METHODS

Procedure and Participants

The OCI-CV was separately translated into Turkish by two child and adolescent psychiatrists competent in Turkish and English. Discrepancies were consulted with an expert in the English language, and the final version was agreed upon. A native bilingual medical student then translated the Turkish translation back into English. The backward-translated OCI-CV was then shared with Dr. Foa and her colleagues, who approved the final translation after several exchanges of emails.

The study sample comprised 232 participants aged 8–18 years. Of these, 154 individuals had either presented to or were being followed up by a state university's child and adolescent psychiatric outpatient clinic. Within this group, 22 participants were diagnosed with OCD according to the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) criteria by a senior child psychiatrist. Additionally, a control group consisting of 78 participants who had applied to the Department of Pediatrics at the same university hospital was included in the study. The control group comprised individuals with no active psychiatric complaints and no reported history of psychiatric illness. The exclusion criteria included unwillingness to participate, chronic medical diseases, neurological and genetic problems, and inability to cooperate with the study and forms. Consequently, 21 children were excluded based on their psychiatric histories. Participants who had received a formal diagnosis of a learning disability, mental retardation, or neurodevelopmental disorder such as autism spectrum disorder (ASD) were also excluded from both the clinical sample and control groups. For those included in the study, a formal mental capacity assessment was not conducted; instead, the decision was based on clinicians' clinical assessment and diagnostic evaluation.

The research protocol of the present study was approved by the Bezmialem Vakif University Ethical Review Board (date: 13.06.2017, number: 11/170).

Measures

Sociodemographic Questionnaire: This questionnaire collected data on the participant's age and sex and sociodemographic data related to their parents and families.

Obsessive Compulsive Inventory-Child Version (OCI-CV) (9)

The OCI-CV consists of 21 items scored on a 3-point Likert scale (0=never, 1=sometimes, and 2=always) to assess obsessive-compulsive symptoms over the last month and can be used for children and adolescents aged 7–17 years. Six scores in the following domains were provided: Doubting/Checking, Obsessing, Hoarding, Washing, Ordering, and Neutralizing. These scores were summed to yield a total score. The OCI-CV is based on the adult version of the Obsessive-Compulsive Inventory-Revised (OCI-R) (15), previously validated for use in adolescents between 12 and 18 years of age (16, 17). In the initial validation study by Foa et al. (9), the OCI-CV was reported to show that test-retest reliability was strongly established after approximately 1.5 weeks in a subsample of 64 participants. OCI-CV also showed significant correlations between clinician-, child-, and parent-rated OCD symptom severity and dysfunction reports (9). Findings showing that strong correlations were associated with anxiety symptoms rather than depressive symptoms provided initial support for the divergent validity of the scale, and the OCI-CV was sensitive to change (9).

The Leyton Obsessive Compulsive Inventory-Child Version (LOI-CV)

The Leyton Obsessional Inventory-Child Version is a self-report scale developed to assess the severity of OCD symptoms. Items are graded on a 4-point symptom frequency scale (0=never, 1=sometimes, 2=often, 3=always), and the scale gives a total score ranging from 0 to 60. The authors of the study reported high internal reliability (α=0.81), good specificity (77–84%), and sensitivity (75–88%). The LOI-CV consists of 20 items in two subscales, which are then added to compute the total score. In the first subscale, symptoms were assessed for their presence or absence, and the second subscale assessed the degree of symptom impairment, if applicable. It has been reported to have good internal consistency. However, uncertainty about its factor stability has been reported due to the four-factor solution, which includes all 20 items reported in the original clinical study, not replicated in a second-factor analytic study in a community sample. In the latter study, a three-factor solution consisting of 11 items was developed (18). Other studies reporting the psychometric properties of the LOI-CV survey form have documented further limitations. In addition to modest test-retest reliability for 8-to-10-year-olds (r=0.51) (19), its correlation with

clinician ratings of OCD severity, compared to a semi-structured diagnostic interview tool, was moderate (r=0.37), its correlation with the Global Assessment of Functioning rating was weak (r=0.18) (20), and its positive predictive power was reported to be limited (21). The psychometric properties of the LOI-CV were studied in a Turkish community sample of 805 children and adolescents aged 11–17 years (13). Explanatory and confirmatory factor analyses supported the three-factor model (Compulsions, Obsessions, and Mental Neutralizing). High internal reliability for the overall scale (α=0.86) and subscales (Cronbach α=0.76, 0.75, and 0.70, respectively), strong test-retest reliability (r=0.83), and good convergent validity with other measures were reported.

Obsessive Beliefs Questionnaire-Child Version (OBQ-CV)

It is a psychometric tool designed to measure general thought content specific to OCD, which can also be observed in other psychopathology groups in OCD. The Obsessive Beliefs Questionnaire consists of a 7-point Likert-type answer key consisting of 44 items. The scale has three dimensions: responsibility/hazard expectations (16 items), perfectionism/certainty (16 items), and emphasis/control (12 items) (13).

Revised Child Anxiety and Depression Scale-Child Version (RCADS-CV)

Developed by Chorpita et al. (22), the RCADS-CV consists of 47 items evaluating anxiety disorders and depression as defined in the DSM-IV for the child and adolescent population. The subscales included major depressive disorder (MDD; 10 items), obsessive-compulsive disorder (OCD, 6 items), generalized anxiety disorder (GAD, 6 items), separation anxiety disorder (SAD, 7 items), social phobia (SoP, 9 items), and panic disorder (PD, 9 items). It is a 4-point Likert-type scale (0=never, 1=sometimes, 2=often, and 3=always). The child and parent versions of the RCADS-CV were demonstrated to be reliable and valid questionnaires for use in a clinical sample of Turkish children and adolescents (23). The Turkish version of the Child Form of the RCADS-CV had good internal consistency (α=0.95), with coefficients for the subscales ranging from 0.75 to 0.86. The Cronbach's α for the parent version of the Turkish RCADS-CV was 0.95. Values for the subscales all exceeded the 0.70 criterion, demonstrating good internal consistency for all subscales (SAD=0.79, SoP=0.86, OCD=0.76, PD=0.85, GAD=0.85, MDD=0.84, Anxiety total=0.93) (24).

Statistical Analysis

SPSS v21.0 software was used to obtain item distributions and conduct descriptive statistics. Estimates of the reliability of the OCI-CV scores were demonstrated using Cronbach's α. A confirmatory factor analysis was conducted to determine the factor structure. Test-retest reliability was evaluated using Pearson's correlation analysis over two weeks. Pearson correlation analysis between the OCI-CV, LOICV, and RCADS-CV was performed to determine the convergent and discriminant validity of the measure. Within the scope of this study, the Type 1 error rate was set to 0.05, and the results were evaluated with this value.

RESULTS

Sociodemographic Characteristics

The ages of the participants included in the study ranged from 8 to 18 years (mean±SD=13.35±2.68). Of the cases, 46.1% were female (n=107) and 53.9% were male (n=125). Other clinical and sociodemographic characteristics of the participants and the mean score on the OCI-CV and its six subscales are shown in Table 1.

Item Analysis

Item analysis was performed to evaluate the quality of the scale items. The results of the item analysis showed that the corrected item-total correlation coefficients ranged between 0.36 and 0.62 (Table 2).

Construct Validity

The construct validity of the Turkish version was tested using a confirmatory factor analysis. The factor analysis confirmed the original six-factor model of the scale. The fit indices of the Turkish version were found to be acceptable (Minimum Discrepancy per Degree of Freedom (CMIN/df): 1.734; Root Mean Square Error of Approximation (RMSEA): 0.056; Comparative Fit Index (CFI): 0.919; Standardized Root Mean Square Residual (SRMR): 0.067; Incremental Fit Index (IFI): 0.921; Normed Fit Index (NFI): 0.835; Root Mean Residual (RMR): 0.034) (25, 26). The standardized factor loadings of the scale items varied between 0.42 and 0.85, as shown in Figure 1.

Concurrent and Criterion Validity

The LOI-CV and OBQ-CV scales and the child and parent versions of the RCADS-CV were used to determine the criterion validity of the scale. For this purpose, the correlations between the total scores

Table 1: Sociodemographic and study measure characteristics of the respondents (n=232)

Variable	Clinic sample (n=154)	Only OCD sample (n=22)	Healthy control sample (n=78)
	Mean±SD	Mean±SD	Mean±SD
	Frequency (%)/[range]	Frequency (%)/[range]	Frequency (%)/[range]
Gender			
Female	69 (44.8%)	12 (54.5%)	38 (48.7%)
Male	85 (55.2%)	10 (45.5%)	40 (51.3%)
Age	13.65±2.56	13.48±2.42	13.35±2.38
OCI-CV total score	15.9±8.5 [0–38]	20.7±9.4 [0–38]	12.6±8.1 [0–38]
Doubting/checking	4.2±2.8 [0–10]	5.5±3.2 [0–10]	3.8±3.1 [0–10]
Obsession	3.8±2.3 [0–8]	4.7±2.7 [0–8]	2.5±2.4 [0–8]
Hoarding	2.3±1.6 [0–6]	2.5±1.7 [0–6]	2.0±1.7 [0–6]
Washing	1.8±1.9 [0–6]	3.7±2.1 [0–6]	1.2±1.3 [0–4]
Ordering	2.5±1.9 [0–6]	2.6±2.0 [0–6]	2.2±1.8 [0–6]
Neutralizing	1.2±1.5 [0–6]	1.7±2.1 [0–6]	0.9±1.2 [0–5]

OCD: Obsessive compulsive disorder; SD: Standard deviation; OCI-CV: Obsessive Compulsive Inventory-Child Version.

Table 2: Descriptive characteristics of the 21 items of the OCI-CV and overall reliability item analysis results

Item	M	SD	Corrected item-total correlation	Cronbach's alpha if item
OCI1	0.84	0.74	0.56	0.88
OCI2	0.51	0.71	0.54	0.88
OCI3	0.78	0.78	0.49	0.88
OCI4	0.91	0.67	0.44	0.88
OCI5	0.95	0.73	0.56	0.88
OCI6	0.36	0.60	0.40	0.88
OCI7	0.48	0.66	0.43	0.88
OCI8	0.72	0.77	0.38	0.88
OCI9	0.55	0.71	0.41	0.88
OCI10	0.52	0.70	0.36	0.88
OCI11	1.03	0.78	0.59	0.88
OCI12	0.22	0.51	0.45	0.88
OCI13	0.78	0.70	0.60	0.88
OCI14	1.00	0.78	0.62	0.88
OCI15	0.58	0.69	0.54	0.88
OCI16	0.96	0.79	0.52	0.88
OCI17	0.92	0.84	0.43	0.88
OCI18	0.47	0.71	0.54	0.88
OCI19	0.79	0.72	0.40	0.88
OCI20	0.80	0.73	0.62	0.88
OCI21	0.60	0,74	0.40	0.88

M: Mean; SD: Standard deviation; OCI-CV: Obsessive Compulsive Inventory-Child Version.

of the LOI-CV, OBQ-CV scales, and the obsession sub-dimension scores of the RCADS-CV scales, and the total scores of the OCI-CV were analyzed using Pearson's correlation analysis. Values related to the criterion validity for the OCI-CV are shown in Table 3. According to the Pearson Correlation results, a significant positive correlation ($p<0.001$) was found within the scope of the concurrent validity of the

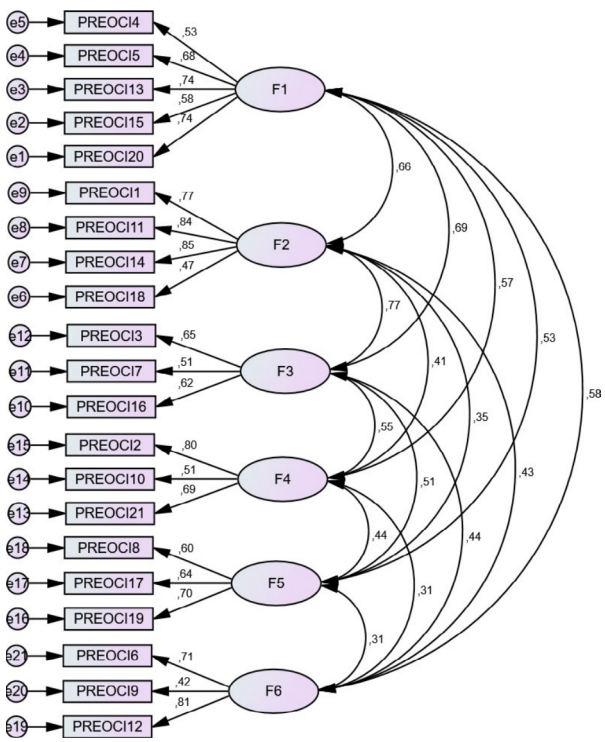

Figure 1. Confirmatory factor analysis path diagram showing item loadings for the six factors of the Obsessive Compulsive Inventory-Child Version (OCI-CV).

OCI-CV. To ensure the criterion validity of the scale and the total score differences between the healthy control group and the group diagnosed with OCD were examined using a t-test. A significant difference was found between the scores in Table 1 and the mean score and standard deviation values ($p<0.001$).

Internal Consistency

The six-factor model was confirmed to be similar to the original scale, and the number of items per factor was as follows: Factor 1: Doubting/checking (five items); Factor 2: Obsessing (four items); Factor 3: Hoarding (three items); Factor 4: Washing (three items); Factor 5: Ordering (three items); and Factor 6: Neutralizing (three items) (Table 4). The Cronbach's α coefficient of the six-dimensional 21-item scale was found to be 0.88, and the coefficients for the sub-dimensions of the scale ranged between 0.63 and 0.81, respectively (Table 4).

Test-Retest Reliability

The test-retest method was used to evaluate the scale's reliability over time. The scale was administered to 20 participants twice at a two-week interval. No statistically significant difference ($p=0.424$) was found between the total OCI-CV scores obtained from the first and second administrations. Additionally, there was a positive, strong, and highly significant relationship ($r=0.852$; $p<0.001$) between the total scores obtained.

Table 3: Correlational analyses between OCI-CV total and other study measures

Test	OCD
LOI-CV total	
r	0.784*
p	<0.001
OBQ-CV total	
r	0.782*
p	<0.001
Child RCADS-CV-OCD total	
r	0.877*
p	<0.001

OCI-CV: Obsessive Compulsive Inventory-Child Version; LOI-CV: Leyton Obsessional Inventory-Child Version; OBQ-CV: Obsessive Beliefs Questionnaire-Child Version; RCADS-CV-OCD: Revised Child Anxiety and Depression Scale-Child Version; *: p<0.001.

Table 4: Cronbach's alpha – internal consistency

Scale Sum and sub-dimensions	Cronbach's alpha	Number of items
Doubting/checking	0.80	5
Obsession	0.81	4
Hoarding	0.63	3
Washing	0.70	3
Ordering	0.69	3
Neutralizing	0.67	3
Total	0.88	21

DISCUSSION

This study addressed the need for a comprehensive assessment tool in clinical evaluations and academic research with Turkish children and adolescents. This study evaluated the OCI-CV for its reliability and validity to fill this gap in a clinical sample of Turkish youth. The findings indicate that the OCI-CV is a valid and reliable instrument for the multidimensional assessment of OCD in this population. The results demonstrated that the OCI-CV possesses robust psychometric properties consistent across cultures, supporting the conclusions of the original development study by Foa et al. (9) and studies conducted in other languages (27–32).

Item analysis was performed to evaluate the scale's discrimination quality. The corrected item-total correlation coefficients, according to the results of the item analysis, ranged between 0.36 and 0.62. This result aligns with that of Secer et al. (11), in which the item analysis results ranged from 0.31 to 0.65 in their study conducted on a community sample. In another study conducted with a community sample in Malaysia, these values varied between 0.37 and 0.63 (29). If the item-total correlation value is below 0.20, the intelligibility of the items is considered weak and should be removed from the scale (33). These results show that all the items on the scale are homogeneous and statistically significantly related to the total scale.

The results of the CFA revealed that the fit indices were acceptable, confirming the construct validity and supporting the original six-factor structure found in many community and clinical samples (9, 11, 14, 27, 30–32, 34–36). However, evidence also indicates a five-factor structure (29, 37). Studies have shown that the OCI-CV hoarding sub-item is the least associated with OCD among the symptom groups (36, 38). Consequently, Abramovitch et al. (37) introduced a revised five-factor model by removing the hoarding subitems, demonstrating its validity and reliability. The standardized factor loadings of the scale items were above the minimum value (≥0.20) reported in the literature. The factor analysis results revealed appropriate factor loadings. In our study, the hoarding and neutralizing subscales of the scale had the lowest loadings, which is mostly consistent with previous studies (31, 34), although they had sufficient factor loadings. This finding is not surprising since hoarding is classified as a separate disorder (39). However, Secer et al. (11) reported different factor load values for OCI-CV. The lowest values were found for the obsession sub-dimension (0.31–0.57), while the neutralizing sub-dimension had the highest values (0.6–0.71) (11), which is inconsistent with our findings. This discrepancy may be related to differences in the study samples, one being clinical and the other community-based. Further research and considerations of construct validity are needed to address these differences.

In our study, the Comparative Fit Index (CFI) value was 0.919. Previously, a CFI value of 0.90 or larger was considered to indicate an acceptable model fit. However, this standard has been updated in recent studies to a minimum of 0.95 for an adequate fit (40). Accordingly, this finding and the results of the present study need to be carefully evaluated. In this study, the scale's psychometric properties were sufficient, and the structure of the original scale was supported.

The OCI-CV has been identified as having some weaknesses, which the authors of this measure highlighted. Although in the initial study conducted by Foa et al. (9), the OCI-CV was found to be a reliable and valid measure to assess childhood OCD, some findings were inconsistent with the authors' expectations (9). The most surprising finding was the stronger correlation of the OCI-CV with the Children's Depression Inventory (CDI) (r=0.47) than with the CY-BOCS (r=0.31 for CYBOCS total). Larger correlations would be expected as OCI-CV and CY-BOCS tap the same construct. However, the correlation was small to moderate. The authors attributed this finding to methodological variance between the two measures, as one is a self-report while the other is clinician-rated (9). To support this explanation, the OCI-CV correlated more with the self-reported level of dysfunction in CY-BOCS than with clinician-rated levels (r=0.45 vs. r=0.31). However, in another study on the psychometric properties of the OCI-CV, the measure's convergent validity was noted to be significant, while discriminant validity produced mixed results (41). In contrast, we found a significant correlation between the OCI-CV and the RCADS-CV-OCD (r=0.877; p<0.001), OBQ-CV total (r=0.782; p<0.001), and LOI-CV total (r=0.784; p<0.001). These differences may stem from the variations between self-report measures and clinician assessments, as well as the different dimensions of OCD captured by each scale. Our findings indicated that the OCI-CV demonstrated satisfactory criterion validity.

The second aim of this study was to evaluate the internal consistency and temporal stability estimates (test-retest reliability) of the OCI-CV. The results indicated very good total scale internal consistency, with a Cronbach's alpha of 0.88. The internal consistency was also acceptable across all subscales, with the highest values observed for the Doubting/Checking (α=0.80) and Obsessions subscales (α=0.81), and the lowest values for the Hoarding (α=0.63) and Neutralizing subscales (α=0.67). These findings regarding total internal consistency align with those of previous studies, which reported Cronbach's alpha values ranging from 0.84 to 0.88 in clinical samples (9, 34, 35, 41), from 0.83 to 0.94 in non-clinical samples (17, 28, 29, 32, 37), and from 0.84 to 0.89 in mixed populations (14, 27). For the subscales, the internal consistency scores for Hoarding (α=0.43–0.57) (14, 27, 28) and Neutralizing (α=0.55–0.71) (17, 34–37, 41) were consistently found to be the lowest in most studies conducted with both clinical and community samples. Rodriguez-Jiménez et al. (35) compared

community and clinical samples and found that the internal consistency coefficient for Hoarding was 0.88 in the clinical sample, whereas it was 0.62 in the community sample. However, studies conducted with clinical samples do not consistently account for this variation (9, 34, 41). Our results demonstrate that the scale is valid within the study sample.

Temporal stability, an important measure of the scale's reliability, was evaluated using the test-retest method. The results showed a high and significant correlation between the initial and final measurements ($r=0.852$; $p<0.001$), and there was no significant difference between the scores of the first and last measurements ($p=0.424$). Although this value is higher than those reported in studies with Turkish samples (11, 14), it is within a comparable range. A study conducted with a mixed sample in Iran reported a temporal correlation of 0.95 (27). Rodriguez-Jiménez et al. (35) found a temporal stability value of 0.92 in a clinical sample and 0.85 in a community sample. In the original development study, the value was reported as 0.77 (9). Collectively, these findings indicate that the OCI-CV is a measurement tool with proven temporal stability across different cultures and languages. However, more data are needed to explain the variations observed consistently between different languages and samples.

Major limitations of the study could be listed as the relatively small sample size, the heterogeneous nature of diagnoses, and the lack of use of the clinician-rated evaluation tool, CY-BOCS, to confirm the diagnosis of OCD. On the other hand, confirmation of diagnoses with clinical evaluation by expert specialists would be a major strength of the study.

CONCLUSION

This study represents the first psychometric examination of the OCI-CV conducted on a clinical sample in Turkiye, allowing for a dimensional evaluation of OCD symptoms. The results demonstrate that the scale is a valid and reliable measurement tool with robust psychometric properties. In addition to filling the gap in self-report-based evaluations, recent studies suggest that the OCI-CV can also be used for screening purposes, offering a certain cut-off value (38). Future research might focus on determining its predictive value within the Turkish population to enhance the scale's utility. Additionally, expanding psychometric examinations to include cases with common comorbidities of OCD, such as ASD and tic disorders, would be beneficial.

Contribution Categories		Author Initials
Category 1	Concept/Design	V.G., A.B., Y.M., E.E., B.D., T.S.
	Data acquisition	V.G., A.B., Y.M., E.E., B.D., T.S.
	Data analysis/Interpretation	V.G., A.B., S.C., Y.M., S.D., B.D., T.S.
Category 2	Drafting manuscript	V.G., A.B., S.C., E.E., S.D.
	Critical revision of manuscript	V.G., A.B., S.C., Y.M., S.D.
Category 3	Final approval and accountability	V.G., A.B., S.C., Y.M., S.D., B.D., T.S.
Other	Supervision	V.G., A.B., S.C.

Ethical Approval: The Bezmialem Vakif University Ethics Committee granted approval for this study (date: 13.06.2017, number: 11/170).

Conflict of Interest: The authors declare that they have no conflict of interest.

Informed Consent: Informed consent was obtained from all participants.

Use of AI for Writing Assistance: Not declared.

Financial Disclosure: The authors declare that they have no financial support.

Peer-review: Externally peer-reviewed.

REFERENCES

1. Zohar AH. The epidemiology of obsessive-compulsive disorder in children and adolescents. Child Adolesc Psychiatr Clin N Am 1999; 8:445-460. [CrossRef]
2. Heyman I, Fombonne E, Simmons H, Ford T, Meltzer H, Goodman R. Prevalence of obsessive-compulsive disorder in the British nationwide survey of child mental health. Br J Psychiatry 2001; 179:324-329. [CrossRef]
3. Piacentini J, Bergman RL, Keller M, McCracken J. Functional impairment in children and adolescents with obsessive-compulsive disorder. J Child Adolesc Psychopharmacol 2004; 13(Suppl 1):S61-69. [CrossRef]
4. Geller DA, Biederman J, Faraone S, Agranat A, Cradock K, Hagermoser L, et al. Developmental aspects of obsessive compulsive disorder: Findings in children, adolescents, and adults. J Nerv Ment Dis 2001; 189:471-477. [CrossRef]
5. Edelbrock C, Costello AJ, Dulcan MK, Kalas R, Conover NC. Age differences in the reliability of the psychiatric interview of the child. Child Dev 1985; 56:265-275. [CrossRef]
6. Rapoport JL, Inoff-Germain G, Weissman MM, Greenwald S, Narrow WE, Jensen PS, et al. Childhood obsessive-compulsive disorder in the NIMH MECA study: Parent versus child identification of cases. Methods for the epidemiology of child and adolescent mental disorders. J Anxiety Disord 2000; 14:535-548. [CrossRef]
7. Swedo SE, Rapoport JL, Leonard H, Lenane M, Cheslow D. Obsessive-compulsive disorder in children and adolescents: Clinical phenomenology of 70 consecutive cases. Arch Gen Psychiatry 1989; 46:335-341. [CrossRef]

8. Scahill L, Riddle MA, McSwiggin-Hardin M, Ort SI, King RA, Goodman WK, et al. Children's Yale-Brown Obsessive Compulsive Scale: Reliability and validity. J Am Acad Child Adolesc Psychiatry 1997; 36:844-852. [CrossRef]

9. Foa EB, Coles M, Huppert JD, Pasupuleti RV, Franklin ME, March J. Development and validation of a child version of the obsessive compulsive inventory. Behav Ther 2010; 41:121-132. [CrossRef]

10. Mataix-Cols D, Rosario-Campos MC, Leckman JF. A multidimensional model of obsessive-compulsive disorder. Am J Psychiatry 2005; 162:228-238. [CrossRef]

11. Secer I. Adapting the child version of Obsessive-Compulsive Inventory into Turkish: The study of reliability and validity. Educ Sci 2014; 39:355-367. [CrossRef]

12. Berg CJ, Rapoport JL, Flament M. The Leyton Obsessional Inventory-Child Version. J Am Acad Child Psychiatry 1986; 25:84-91. [CrossRef]

13. Boysan M, Kadak MT, Tarakcioglu MC, Sertdurak ZS, Demirel OF. Psychometric properties of Turkish versions of the Leyton Obsessional Inventory-Child Version (LOI-CV) and Obsessive Beliefs Questionnaire-Child Version (OBQ-CV). Bull Clin Psychopharmacol 2016; 26:382-396. [CrossRef]

14. Aydin A, Boysan M, Kalafat T, Selvi Y, Besiroglu L, Kagan M. Validation of the Turkish version of the Obsessive-Compulsive Inventory-Revised (OCI-R) in clinical and non-clinical samples. Noro Psikiyatr Ars 2014; 51:15-22. [CrossRef]

15. Foa EB, Huppert JD, Leiberg S, Langner R, Kichic R, Hajcak G, et al. The Obsessive-Compulsive Inventory: Development and validation of a short version. Psychol Assess 2002; 14:485-496. [CrossRef]

16. Ernesto Martinez-Gonzalez A, Antonio Piqueras J, Carlos Marzo J. Validation of the Obsessive-Compulsive Inventory Revised (OCI-R) for Spanish adolescent population. An Psicol 2011; 27:763-773. [Spanish]

17. Piqueras Rodriguez JA, Martinez Gonzalez AE, Hidalgo Montesinos MD, Fullana Rivas MA, Mataix-Cols D, Rosa Alcazar AI. Psychometric properties of the Obsessive Compulsive Inventory - Revised in a non-clinical sample of late adolescents. Behav Psychol 2009; 17:561-572.

18. Berg CZ, Whitaker A, Davies M, Flament MF, Rapoport JL. The survey form of the Leyton Obsessional Inventory-Child Version: Norms from an epidemiological study. J Am Acad Child Adolesc Psychiatry 1988; 27:759-763. [CrossRef]

19. King N, Inglis S, Jenkins M, Myerson N, Ollendick T. Test-retest reliability of the survey form of the Leyton Obsessional Inventory-Child Version. Percept Mot Skills 1995; 80:1200-1202. [CrossRef]

20. Stewart SE, Ceranoglu TA, O'Hanley T, Geller DA. Performance of clinician versus self-report measures to identify obsessive-compulsive disorder in children and adolescents. J Child Adolesc Psychopharmacol 2005; 15:956-963. [CrossRef]

21. Flament MF, Whitaker A, Rapoport JL, Davies M, Berg CZ, Kalikow K, et al. Obsessive compulsive disorder in adolescence: An epidemiological study. J Am Acad Child Adolesc Psychiatry 1988; 27:764-771. [CrossRef]

22. Chorpita BF, Yim L, Moffitt C, Umemoto LA, Francis SE. Assessment of symptoms of DSM-IV anxiety and depression in children: A revised child anxiety and depression scale. Behav Res Ther 2000; 38:835-855. [CrossRef]

23. Gormez V, Kilincaslan A, Orengul AC, Ebesutani C, Kaya I, Ceri V, et al. Psychometric properties of the Turkish version of the Revised Child Anxiety and Depression Scale-Child Version in a clinical sample. Psychiatr Clin Psychopharmacol 2017; 27:84-92. [CrossRef]

24. Gormez V, Kilincaslan A, Ebesutani C, Orengul AC, Kaya I, Ceri V, et al. Psychometric properties of the parent version of the Revised Child Anxiety and Depression Scale in a clinical sample of Turkish children and adolescents. Child Psychiatry Hum Dev 2017; 48:922-933. [CrossRef]

25. Ainur AK, Sayang MD, Jannoo Z, Yap BW. Sample size and non-normality effects on goodness of fit measures in structural equation models. Pertanika Pertanika J Sci Technol 2017; 25:575-586.

26. Koyuncu I, Kilic AF. The use of exploratory and confirmatory factor analyses: A document analysis. Edu Sci 2019; 44:361-388. [CrossRef]

27. Zemestani M, Isanejad O, Valiei Z, Storch EA, Coles ME. Psychometric properties of the Obsessive Compulsive Inventory-Child Version in Iranian clinical and community samples. Child Psychiatry Hum Dev 2022; 53:156-164. [CrossRef]

28. Rosa Alcazar AI, Ruiz Garcia B, Iniesta Sepulveda M, Lopez Pina JA, Rosa Alcazar A, Parada Navas JL. Obsessive Compulsive Inventory-Child Version (OCI-CV) in a Spanish community sample of children and adolescents. Psicothema 2014; 26:174-179.

29. Fitri Sarnin E, Sharip S, Badilla Idris I, Mohd Hashim S, Salwina Wan Ismail W, Nazri Abdul Rahman F, et al. Psychometric properties of Malay Obsessive-Compulsive Inventory-Child Version (OCI-CV) in Malaysian perspectives. Scand J Child Adolesc Psychiatr Psychol 2022; 10:114-122. [CrossRef]

30. Opakunle T, Aloba O, Akinsulore A. Obsessive Compulsive Inventory-Child Version (OCI-CV): Confirmatory factor analysis, reliability, validity and correlates among Nigerian adolescents. Malawi Med J 2018; 30:262-269. [CrossRef]

31. Martinez-Gonzalez AE, Rodriguez-Jimenez T, Piqueras JA, Vera-Villarroel P, Godoy A. Psychometric properties of the Obsessive-Compulsive Inventory-Child Version (OCI-CV) in Chilean children and adolescents. PLoS One 2015; 10:e0136842. [CrossRef]

32. Pozza A, Barcaccia B, Dettore D. The Obsessive Compulsive Inventory-Child Version (OCI-CV): Further evidence on confirmatory factor analytic structure, incremental and criterion validity in Italian community children and adolescents. Arch Psychiatr Nurs 2017; 31:291-295. [CrossRef]

33. Buyukozturk S. Sosyal Bilimler için Veri Analizi El Kitabı. Seventeeth ed., Ankara: Pegem Akademi Yayincilik, 2011. [Turkish]

34. Aspvall K, Cervin M, Andrén P, Perrin S, Mataix-Cols D, Andersson E. Validity and clinical utility of the Obsessive Compulsive Inventory-Child Version: Further evaluation in clinical samples. BMC Psychiatry 2020; 20:42. [CrossRef]

35. Rodriguez-Jimenez T, Piqueras JA, Lazaro L, Moreno E, Ortiz AG, Godoy A. Metric invariance, reliability, and validity of the Child Version of the Obsessive Compulsive Inventory (OCI-CV) in community and clinical samples. J Obsessive Compuls Relat Disord 2016; 9:1-8. [CrossRef]

36. Cervin M, Garcia-Delgar B, Calvo R, Ortiz AE, Lazaro L. Symptom dimension breakpoints for the Obsessive-Compulsive Inventory-Child Version (OCI-CV). Child Psychiatry Hum Dev 2023; 54:849-856. [CrossRef]

37. Abramovitch A, Abramowitz JS, McKay D, Cham H, Anderson KS, Farrell L, et al. The OCI-CV-R: A revision of the Obsessive-Compulsive Inventory-Child Version. J Anxiety Disord 2022; 86:102532. [CrossRef]

38. Rough HE, Hanna BS, Gillett CB, Rosenberg DR, Gehring WJ, Arnold PD, et al. Screening for pediatric Obsessive-Compulsive Disorder using the Obsessive-Compulsive Inventory-Child Version. Child Psychiatry Hum Dev 2020; 51:888-899. [CrossRef]

39. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (DSM-5). Fifth ed., Washington, DC: American Psychiatric Publishing, 2013. [CrossRef]

40. Hu L, Bentler PM. Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Struct Equ Model 1999; 6:1-55. [CrossRef]

41. Jones AM, De Nadai AS, Arnold EB, McGuire JF, Lewin AB, Murphy TK, et al. Psychometric properties of the obsessive compulsive inventory: Child version in children and adolescents with obsessive-compulsive disorder. Child Psychiatry Hum Dev 2013; 44:137-151. [CrossRef]