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RESEARCH

Cross-cultural adaptation and psychometric validation of the Turkish Düsseldorf Orthorexia Scale in adolescents

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Abstract

Purpose Orthorexia nervosa (ON) is characterized by an excessive preoccupation with healthy eating that may lead to rigidity, distress, and functional impairment. Validated instruments for assessing orthorexic tendencies in adolescent psychiatric settings remain limited. This study aimed to examine the psychometric properties of the Turkish version of the Düsseldorf Orthorexia Scale (TR-DOS) in a clinically referred adolescent sample.

Methods Adolescents aged 12–18 years presenting to a child and adolescent psychiatry outpatient clinic completed the TR-DOS, Orthorexia Nervosa Inventory (ONI), Eating Attitudes Test-26 (EAT-26), and Revised Child Anxiety and Depression Scale–Child Version (RCADS-CV). Psychiatric diagnoses were established through clinician-administered DSM-5 interviews. Construct validity was examined using exploratory and confirmatory factor analyses, internal consistency using Cronbach's alpha and McDonald's omega, and convergent validity through correlations with related measures.

Results The sample comprised 209 adolescents (61.2% female; mean age = 15.7 ± 1.72 years). Exploratory factor analysis supported a single-factor solution. Confirmatory factor ana`lysis also supported a one-factor structure, with good model fit (χ^2/df = 1.51, CFI = 0.977, TLI = 0.967, RMSEA = 0.049, SRMR = 0.039). All factor loadings were statistically significant, with standardized loadings ranging from 0.335 to 0.725. Internal consistency was high (Cronbach's alpha = 0.868; McDonald's omega = 0.871). TR-DOS scores were positively correlated with ONI and EAT-26, but not with BMI or RCADS-CV total anxiety. Adolescents with obsessive-compulsive disorder had significantly higher TR-DOS scores than those without this diagnosis.

Conclusion The TR-DOS demonstrated satisfactory validity and reliability in a clinically referred Turkish adolescent sample.
Level of evidence Level V, descriptive study

Keywords Orthorexia nervosa · Adolescent mental health · Psychometric validation · Düsseldorf Orthorexia Scale · Eating behavior disorders

Introduction

Adolescence represents a critical period in which biologic, hormonal, cognitive, and psychological alterations occur rapidly and the need for energy and food required by development increases [1]. In this process, sensitivity to body image, fears of becoming overweight, and social influences may render adolescents vulnerable to irregular eating attitudes and unduly controlled behaviors about healthy eating [2]. Therefore, nutritional problems are more common in this period and eating habits acquired at these ages may persist throughout life [3].

Interest in healthy eating has increased in recent years [4]. However, this growing interest may give rise in some individuals to rigid rules, obsessive thoughts, and

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considerable functional losses over time. This condition, first referred to by Bratman in 1997 as orthorexia nervosa (ON), can be distinguished from traditional eating disorders by a focus on nutritional quality and purity, rather than quantity [5, 6]. This process that begins with the intention of healthy eating may be transformed over time to an obsessive passion that can adversely affect the daily life, social relations, and psychological well-being of individuals [7]. Orthorexia nervosa has been primarily studied in adults, with few studies and validated diagnostic scales in adolescents. Among a limited number of studies in Türkiye, one study, which employed the Orthorexia Nervosa Inventory (ONI), reported a prevalence of 0.5% in high school students, being 0.3% among boys, and 0.6% among girls [8].

Nevertheless, an international consensus regarding the diagnostic classification and assessment of ON has not yet been established [6, 9, 10]. In studies based on ORTO-15, one of the most commonly used tools in the assessment of orthorexic tendencies, differences in cut-off points and methodological approaches have led to highly variable prevalence rates being reported in adolescent samples. For instance, in a study conducted among Polish adolescents, the prevalence of ON varied between 24.7% and 77.8% depending on the cut-off points used for ORTO-15 [9]. Similarly, across different countries and samples, prevalence rates identified with ORTO-15 have been reported to range widely—from as low as 6% to as high as 88% [11]. These debates on measurement have clearly revealed the need for approaches with high diagnostic specificity, incorporating functional impairment and supported by robust psychometric properties. In this context, the Düsseldorf Orthorexia Scale (DOS) was developed to provide a more reliable assessment of ON [12]. The DOS is a 10-item scale that measures the severity of orthorexic behaviors, and validation studies conducted in different cultures have demonstrated high internal consistency and a strong factor structure [13–16]. Moreover, the validity and reliability of the scale have also been investigated in adolescent populations; for instance, in Lebanon, among adolescents aged 15–18, the DOS demonstrated high internal consistency and unidimensional construct validity, while in the United States, face validity was found to be satisfactory in adolescents aged 14–17 [17, 18].

The study aimed to evaluate the validity and reliability of the Turkish version of the DOS (TR-DOS) in a clinically referred adolescent sample, addressing the methodological gap in the assessment of orthorexic tendencies. The findings may contribute to a better understanding of the associations between orthorexic tendencies and psychiatric diagnoses and may support clinical assessment and early identification in child and adolescent mental health settings.

Methods

Participants and procedure

This study was conducted among adolescents aged 12–18 who presented to a child and adolescent psychiatry outpatient clinic in Istanbul, the most populous city in Türkiye [19]. Written permission was obtained from the developer of the DOS before data collection; the study was approved by the Institutional Review Board of Çam and Sakura City Hospital (Decision No: 2024-KAEK-11), and it was conducted in accordance with the Declaration of Helsinki. All participants in the clinical sample were assessed through face-to-face psychiatric interviews conducted by a clinician using DSM-5 criteria; current psychiatric diagnoses were determined according to DSM-5 diagnostic standards and documented in the medical records. The inclusion criteria were being between 12 and 18 years of age, providing voluntary participation consent from both the parent and the adolescent, and completing all scales in full. The exclusion criteria were being outside the specified age range, having an intellectual disability, a psychotic disorder, or a history of serious neurological illness, being illiterate, and not consenting to participate in the study.

Cross-cultural adaptation process

This phase was carried out in accordance with the standard principles for the linguistic and cultural adaptation of international assessment instruments. The translation was performed by five child and adolescent psychiatrists who are native speakers of Turkish and fluent in English. First, the original form of the scale was translated into Turkish by two child psychiatrists independently of each other. By comparing the translations obtained, semantic integrity was preserved, and a unified draft was created by ensuring conceptual equivalence. Afterwards, this draft was back-translated into English by two language experts who were unaware of the original form of the scale. The back-translations were reviewed by the developer of the scale to assess whether conceptual and semantic consistency had been preserved, and they were deemed appropriate. In the subsequent phase, a pilot administration was conducted with a group of 20 adolescents to determine the comprehensibility and cultural appropriateness of the scale. In line with the feedback received from the participants, minor linguistic adjustments were made and the Turkish version of the scale was finalized. Finally, the resulting Turkish version of the DOS was administered to the study sample to be used in the validity and reliability analyses.

Measures

Sociodemographic data form

This form was prepared by the researchers in order to collect information regarding the participant's demographics, medical, psychiatric, and eating habits. The questions were created using the literature on ON and other eating disorders.

The form includes questions addressing demographic variables such as age, gender, grade level, height, weight, family structure, parents' educational and occupational status, family income level, and number of siblings, as well as psychiatric diagnosis and medication use, history of chronic medical conditions, diet type, number of daily meals, water and nutritional supplement intake, and smoking and alcohol consumption.

Düsseldorf Orthorexia Scale (DOS)

The Düsseldorf Orthorexia Scale (DOS) is a 10-item, 4-point Likert-type self-report measure developed by Barthels et al. [12] to assess rigid and obsessive tendencies related to healthy eating. Higher total scores indicate greater orthorexic tendencies [12]. Previous Turkish validation studies reported high internal consistency and evidence of construct validity, including convergent validity through correlations with related measures (e.g., ONI and EAT-26) [16, 20]. In the present study, we re-examined the DOS in a clinically referred adolescent sample.

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

This scale was developed by Chorpita and colleagues to evaluate anxiety disorders and depressive symptoms based on DSM-IV criteria [21]. The scale consists of a total of 47 items and has a 4-point Likert-type structure. The Turkish validity and reliability study was conducted by Görmez et al. [22]. The scale consists of six subscales: Generalized Anxiety Disorder, Social Phobia, Separation Anxiety Disorder, Panic Disorder, Obsessive-Compulsive Disorder, and Major Depressive Disorder. In the present study, RCADS-CV Total Anxiety was operationalized as the raw (sum) score obtained by summing items from the anxiety-related subscales (Generalized Anxiety Disorder, Social Phobia, Separation Anxiety Disorder, Panic Disorder, and Obsessive-Compulsive Disorder), with higher scores indicating greater anxiety symptom severity. Although the scale developers recommend age- and sex-adjusted standardized T-scores, normative T-score conversion tables have not been provided for the Turkish version; therefore, standardized T-scores could not be computed in the present study.

Eating Attitude Test-26 (EAT-26)

The instrument is a self-report measure developed by Garner and Garfinkel to assess eating attitudes and behaviors related to anorexia nervosa [23]. The scale consists of 26 items, and the total score obtained from the scale ranges between 0 and 53. The recommended cut-off score for the scale is 20; scores of 20 and above indicate abnormal eating attitudes, whereas scores below 20 indicate normal eating attitudes. In the Turkish validity and reliability study conducted by Ergüney-Okumuş and Sertel-Berk [24], the internal consistency coefficient of the scale was reported as 0.84, and the test–retest reliability coefficient was reported as 0.78 [24].

Orthorexia Nervosa Inventory (ONI)

This scale, developed by Oberle et al. [25], was designed to assess ON symptoms [25]. It consists of 24 items with a 4-point Likert-type response format. In the original scale development study, the internal consistency coefficient (Cronbach's α) was reported as 0.94.

The scale includes three subscales: behavioral tendencies, impairment in physical and psychosocial functioning, and emotional distress. An increase in the total and subscale scores indicates higher levels of orthorexic symptoms. Scores of 72 and above have been proposed as a threshold indicating elevated orthorexic symptom severity or increased risk, rather than a definitive diagnosis.

The Turkish validity and reliability studies were conducted in adolescent and adult samples. Cronbach's α was found to be 0.92 in the Turkish adolescent group, while it was 0.91 in the adult group [26, 27].

Statistical analyses

All analyses were conducted using SPSS version 23.0 (IBM SPSS Statistics) and R (version 4.3.3), with exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) performed using the lavaan package. The distributional properties of continuous variables were evaluated using skewness and kurtosis. Continuous variables are reported as mean ± standard deviation (SD), and categorical variables as frequencies and percentages.

In this study, EFA and CFA were applied to examine the construct validity of the scale. The Kaiser–Meyer–Olkin (KMO) sample adequacy test and Bartlett's sphericity test were performed to assess the applicability of factor analysis. The minimum residuals (minres) method was used to

extract the factors. The oblimin rotation method was preferred, assuming that relationships between the factors could be found. The eigenvalue and scree plot graph were considered when determining the number of factors.

CFA was applied to validate the factor structure of TR-DOS obtained from EFA. For model identification, the latent factor variance was fixed to 1, and the model was estimated using maximum likelihood. Model fit was evaluated using multiple indices, including χ^2 and degrees of freedom (df), the χ^2/df ratio, Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). No correlated residuals were specified and no post hoc modifications based on modification indices were applied. Item-level diagnostics are reported as standardized factor loadings.

Internal consistency was assessed using Cronbach's α and McDonald's ω. Convergent validity was evaluated using Pearson correlation coefficients between TR-DOS total scores and related measures (ONI, EAT-26, and RCADS-CV Total Anxiety).

For psychiatric comorbidity comparisons, TR-DOS scores were compared between groups using independent-samples *t*-tests or Mann–Whitney *U* tests, as appropriate. To further examine whether the association between OCD and TR-DOS scores persisted after adjustment, a multivariable linear regression model was fitted with TR-DOS total score as the dependent variable and OCD status as the primary predictor, adjusting for age and sex.

Results

The sociodemographic, clinical, and dietary characteristics of the participants are presented in Table 1. The mean age of the participants was 15.7±1.72 years, and 61.2% of the participants were female. 77.0% of participants came from nuclear families. 16.7% of participants had a chronic medical condition. A family history of psychiatric disorders was reported in 70 participants (33.5%). 10.5% reported following a specific diet. Daily meal patterns showed that 80 participants (38.3%) consumed 1–2 meals per day, 118 participants (56.5%) consumed 3–4 meals, and 11 participants (5.3%) consumed 5 or more meals. 28.2% of participants reported eating alone. Dietary supplement use was reported in 43 participants (20.6%). 32 participants were smokers (15.3%).

In the additional analyses regarding comorbidities, only the presence of OCD was found to be significantly associated with DOS scores ($p = .013$), and a medium effect size was calculated (Cohen's $d = 0.59$).

Exploratory factor analysis (EFA) was applied to examine the construct validity of the DOS. The Kaiser–Meyer–Olkin

Table 1 Sociodemographic and clinical characteristics of the sample ($n = 209$)

Variables	*n* (%) or mean ± SD
Age (years)	15.7 ± 1.72
BMI (kg/m^2)	22.5 ± 5.1
Gender	
Female	128 (61.2)
Male	81 (38.8)
Family type	
Nuclear	161 (77.0)
Extended	25 (12.0)
Other	23 (11.0)
Presence of chronic medical condition	
Yes	35 (16.7)
No	174 (83.3)
Family history of psychiatric diagnosis	
Yes	70 (33.5)
No	139 (66.5)
Following a specific diet	
Yes	22(10.5)
No	187(89.5)
Daily meal pattern	
1–2 meals	80 (38.3)
3–4 meals	118 (56.5)
5 or more meals	11 (5.3)
Eating habits	
Eating alone	59 (28.2)
Eating with others	150 (71.8)
Dietary supplement use	
Yes	43 (20.6)
No	166 (79.4)
Smoking status	
Smoking	32.(15.3)
Non-smoking	177.(84.7)
Psychiatric comorbidities	
Generalized anxiety disorder	84 (40.6)
Major depressive disorder0	64 (30.9)
Attention deficit and hyperactivity disorder	60 (29.0)
Obsessive compulsive disorder	20 (9.7)
Social anxiety disorder	18 (8.7)
Panic disorder	14 (6.8)
Oppositional defiant disorder	9 (4.3)
Conduct disorder	8 (3.9)
Dissociative disorder	8 (3.9)
Post-traumatic stress disorder	7 (3.4)
Specific learning disorder	5 (2.4)
Body dysmorphic disorder	4 (1.9)
Tic disorders	3 (1.4)
Eating disorders	2 (1.0)
Autism spectrum disorder	1 (0.5)
Bipolar disorder	0 (0.0)
Psychotic disorder	0 (0.0)

Table 2 Model fit statistics

Index	CMIN/df	CFI	TLI	RMSEA	SRMR
Study findings	1.51	0.977	0.967	0.049	0.039

CMIN/df: discrepancy divided by degree of freedom, CFI: Comparative Fit Index, TLI: Tucker–Lewis Index, RMSEA: root mean square error of approximation, SRMR: standardized root mean square residual

Table 3 DOS reliability statistics

	Mean	SD	Cronbach's α	McDonald's ω
DOS	1.78	0.641	0.868	0.871

Table 5 Correlations between the DOS and other variables

	DOS	ONI	BMI	EAT-26	RCADS-CV total anxiety
DOS	–				
ONI	0.59*	–			
BMI	0.10	0.25*	–		
EAT-26	0.37*	0.11	0.11	–	
RCADS-CV total anxiety	0.07	0.25*	−0.02	0.39*	–

Pearson's correlation coefficients (r). *$p < .001$. DOS = Düsseldorf Orthorexia Scale, ONI = Orthorexia Nervosa Inventory, BMI = body mass index, EAT-26 = Eating Attitude Test-26, RCADS-CV = Revised Child Anxiety and Depression Scales-Child Version

(KMO) and Bartlett's sphericity test were performed to determine the suitability of the data set for factor analysis. The analysis revealed a KMO value of 0.861, indicating that the sample adequacy was at a good level. The Bartlett sphericity test result was found to be significant (χ^2 (45) = 803, $p < .001$). These results indicate that the data set is suitable for factor analysis. EFA yielded a single factor with an eigenvalue of 4.08. This factor explains 40.8% of the total variance. Item factor loadings ranged from 0.449 to 0.738.

A CFA was conducted to test the one-factor structure identified in the EFA. The initial model showed inadequate fit; therefore, modification indices were examined (Supplementary Table S2). Based on theoretical considerations, several error covariances between items with similar wording were allowed. The modified model demonstrated a good fit to the data (χ^2/df = 1.51, $p = .033$, CFI = 0.977, TLI = 0.967, RMSEA = 0.049, SRMR = 0.039) (Table 2).

Table 3 presents the reliability statistics for the DOS. The mean item score was 1.78 ± 0.641. The internal consistency of the DOS was robust, with a Cronbach's α of 0.868 and McDonald's ω of 0.871.

As part of the confirmatory factor analysis, standardized factor loadings were obtained and are reported in Table 4. The item loadings ranged between 0.34 and 0.73.

Table 5 summarizes the correlation results of the DOS total scores with each variable. The DOS total scores were positively correlated with ONI ($r = 0.595$, $p < .001$) and EAT-26 ($r = 0.374$, $p < .001$), but not significantly associated with BMI ($r = 0.099$, $p = .159$) or RCADS-CV total anxiety ($r = 0.075$, $p = .282$).

Discussion

To the best of our knowledge, this study is the first to assess the validity and reliability of the Turkish version of the DOS in a clinical adolescent sample. The findings indicate that the scale is a psychometrically robust instrument for assessing orthorexic tendencies in this age group.

Table 4 CFA loadings for the single-factor TR-DOS model

Item	Estimate	SE	95% CI (lower)	95% CI (upper)	Z	p	Standardized loading (λ)
DOS1	0.425	0.0675	0.293	0.557	6.29	< .001	0.453
DOS2	0.562	0.1244	0.318	0.806	4.52	< .001	0.335
DOS3	0.632	0.0712	0.493	0.772	8.87	< .001	0.614
DOS4	0.630	0.0583	0.516	0.744	10.81	< .001	0.713
DOS5	0.617	0.0572	0.505	0.729	10.79	< .001	0.708
DOS6	0.625	0.0700	0.488	0.762	8.93	< .001	0.612
DOS7	0.453	0.0585	0.338	0.568	7.75	< .001	0.550
DOS8	0.618	0.0556	0.509	0.726	11.10	< .001	0.725
DOS9	0.570	0.0718	0.429	0.711	7.93	< .001	0.555
DOS10	0.682	0.0707	0.543	0.820	9.65	< .001	0.652

CFA confirmatory factor analysis; SE = standard error; CI = confidence interval. All factor loadings were statistically significant (p < .001)

Internal consistency and reliability

The analyses have shown that the Turkish version of the DOS has high internal consistency (Cronbach's $\alpha = 0.868$, McDonald's $\omega = 0.871$) and that the scale's factor structure retains its cultural validity in the adolescent sample. Similarly, in the Arabic reliability and validity study of the DOS conducted among Lebanese adolescents, it was reported that the scale's single-factor structure was preserved and that it had high internal consistency (Cronbach's $\alpha = 0.85$) [17].

The original scale developed by Barthels et al. [12] demonstrated an internal consistency of 0.84 (Cronbach's alpha), and validity-reliability studies conducted in various countries have also reported Cronbach's alpha values ranging from 0.84 to 0.88 [12–15, 28]. In studies conducted in Türkiye, the internal consistency of the TR-DOS was found to be 0.87 in an adult clinical sample and 0.85 among university students [16–18, 20]. These findings support that the scale is a valid and reliable measurement tool across different age groups and cultural contexts.

Construct and convergent validity

In our study, significant positive correlations were found between the total DOS score and the EAT-26 and ONI scores. These findings indicate that the DOS demonstrates convergent validity with disordered eating attitudes and orthorexic symptoms, consistent with similar studies in the literature [20, 29, 30]. Previous research conducted in different cultures and samples has also shown that the relationship between orthorexic tendencies and eating attitudes falls within the low to moderate range [16, 17]. Our findings support that the DOS sensitively captures the dimensions of reduced flexibility in eating attitudes and cognitive preoccupation with diet in a clinical adolescent sample, and that it exhibits expected associations with related constructs.

Sociodemographic and clinical findings

In our study, no significant relationship was observed between BMI and orthorexic tendencies. This finding is consistent with the literature emphasizing that ON focuses not on weight but on obsessive attitudes regarding the healthiness of foods, and that behavioral patterns may develop that do not necessarily reflect on body weight [31, 32]. This result supports theoretical perspectives suggesting that ON differs from traditional eating disorders that center on weight and body image.

The findings also indicated that there was no significant difference in orthorexic tendencies between genders. This result is partially consistent with the mixed findings in the literature; indeed, several systematic reviews and meta-analyses highlight that ON symptoms are generally independent of gender [33–35]. For instance, reviews focusing on healthcare professionals and university students have reported that gender differences are typically absent, with such inconsistencies being attributed to variations in measurement tools and sample characteristics (such as age and cultural factors) [34, 35]. Our findings support the notion that ON exhibits a more balanced gender distribution compared to traditional eating disorders, thereby underscoring its distinct etiological profile.

In this context, perspectives suggesting that ON may represent a pattern of eating behavior shaped more by individual psychological tendencies rather than gender-based factors are gaining support [36, 37]. Indeed, these findings are reinforced by systematic reviews and meta-analyses, which indicate that ON shows consistent and strong associations with psychological characteristics such as perfectionism, OCD, and anxiety, whereas its associations with demographic and bodily indicators (e.g., age, BMI, gender) remain weak or inconsistent [33, 36–39]. Notably, in our sample, TR-DOS scores were not significantly correlated with RCADS-CV Total Anxiety, suggesting that orthorexic tendencies in clinically referred adolescents may not map onto global anxiety severity as captured by this measure. This underscores, once again, that the evaluation of ON should prioritize individual cognitive–emotional determinants rather than gender-based assumptions.

In contrast to the weak associations observed with sociodemographic variables, the analytical examination conducted according to comorbidity in our study revealed that orthorexic symptoms were specifically confined to the presence of comorbid OCD. This pattern is consistent with studies reporting that increases in OCD symptom severity are associated with elevated ON tendencies [40, 41]. The conceptual proximity between ON and the obsessive-compulsive spectrum is frequently described through obsessive beliefs regarding 'food purity' and contamination, as well as ritualized, rule-bound behaviors related to food preparation and consumption [42, 43]. Taken together, our findings demonstrate that orthorexic symptoms are significantly higher in the presence of OCD, aligning with the ON–OCD connection reported in the literature; however, longitudinal and multivariate studies are needed to clarify the causal direction and continuity of this relationship.

Strength and limitations

Strengths of this study include the focus on a clinically referred adolescent outpatient sample, which enhances clinical relevance, and the use of clinician-administered DSM-5 interviews to ascertain current psychiatric diagnoses. The psychometric evaluation was also comprehensive,

incorporating confirmatory factor analysis, internal consistency indices (Cronbach's α and McDonald's ω), and correlations with theoretically related measures. Nevertheless, several limitations should be noted. The cross-sectional design precludes causal inference and does not allow examination of temporal stability or change over time. The single-center and clinically referred nature of the sample may limit generalizability to community-based adolescents and broader socioeconomic and cultural contexts; it may also introduce referral bias and a higher psychiatric comorbidity burden, which could influence item endorsement patterns, inter-item correlations, and consequently the observed factor structure and correlation patterns. In addition, test–retest reliability was not assessed in adolescents, and measurement invariance (e.g., by sex) was not evaluated; therefore, temporal stability and comparability of scores across subgroups cannot be established. Future research should replicate these findings in multi-center and community-based samples, ideally using longitudinal designs, test–retest assessments, and invariance analyses in larger, more heterogeneous populations to strengthen robustness and generalizability.

Conclusions

In conclusion, the findings demonstrate that the TR-DOS is a reliable and valid measurement tool in a clinical adolescent sample. These results suggest that the scale can be integrated into clinical practice for the assessment of orthorexic tendencies and can serve as a standardized outcome measure in future epidemiological and clinical research. Moreover, the study contributes to a better understanding of the pathological dimensions that may emerge under the discourse of "healthy eating" in adolescents—such as rule-governed behavior, cognitive rigidity, and loss of flexibility—thereby providing a solid foundation for the development of early screening methods, risk stratification strategies, and targeted intervention approaches.

What is already known on this subject?

Orthorexia nervosa (ON) has gained growing clinical and research attention due to increasing societal pressure toward healthy eating and rising concerns about restrictive dietary patterns among adolescents. Although adolescence is a developmentally vulnerable period for disordered eating, the assessment of ON in this population remains challenging. The Düsseldorf Orthorexia Scale (DOS) is one of the most widely used instruments for evaluating orthorexic tendencies and has demonstrated strong psychometric properties in several adult and youth samples across different cultures. However, despite its growing international use, evidence regarding the validity and reliability of the DOS in adolescent clinical populations—particularly within non-Western contexts—remains limited. In Türkiye, no prior study has examined the psychometric properties of the DOS specifically in clinically referred adolescents, leaving a significant gap in the availability of culturally adapted and psychometrically robust tools for identifying ON in routine child and adolescent psychiatric practice.

What this study adds?

In this study, the Düsseldorf Orthorexia Scale (DOS) was linguistically and culturally adapted into Turkish for use in a clinically referred adolescent population. The Turkish version (TR-DOS) demonstrated a strong factorial structure, high internal consistency, and meaningful associations with established measures of orthorexic and disordered eating symptoms. Importantly, this research provides the first evidence supporting the validity and reliability of the DOS in a Turkish clinical adolescent sample, addressing a significant gap in the literature. By establishing an empirically robust tool for assessing orthorexic tendencies, this study offers an important resource for clinical practice and future epidemiological and diagnostic research on ON in youth.

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Author contribution Omca Guney: project administration, conceptualization, formal analysis, investigation, methodology, validation, visualization, writing—original draft, supervision, writing—review and editing. Selman Yildirim: project administration, conceptualization, formal analysis, investigation, methodology, validation, visualization, writing—original draft, supervision, writing—review and editing. Ibrahim Halil Akbas: project administration, conceptualization, data curation, formal analysis, investigation, methodology, validation, visualization, writing—original draft, supervision, writing—review and editing. Duygu Kınay Ermis: data curation, investigation, validation, writing—original draft. Nurdan Kasar: data curation, investigation, validation, writing—original draft.

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Data availability The data sets generated and analyzed are available from the corresponding author upon reasonable request from a qualified investigator.

Declarations

Ethics approval and consent to participate All procedures were carried out in accordance with the World Medical Association Declaration of Helsinki. Written and verbal consent was obtained from all participants following the provision of written information regarding the purpose and methodology of the study to participants who volunteered to participate.

Competing interests The authors declare no competing interests.

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