GÜSBD 2024; 13(3): 1021 - 1029 | **Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi** | **Araştırma Makalesi**
GUJHS 2024; 13(3): 1021 - 1029 | Gümüşhane University Journal of Health Sciences | Original Article

Psychometric Properties of the Turkish Version of the Kids-Palatable Eating Motives Scale

Çocuklar İçin Lezzetli Yeme Motivasyonları Ölçeği'nin Türkçe Versiyonunun Psikometrik Özellikleri

Dilek DEMİR KÖSEM[1], Murat BEKTAŞ[2], Mary M BOGGİANO[3]

ABSTRACT

Scales that can elucidate the relationship between eating behavior and obesity in children and thereby improve the prevention and treatment of obesity in this population are lacking. This study was conducted to test the validity and reliability of the Turkish version of the Kids-Palatable Eating Motives Scale.

This methodological research was conducted between March 2023 and May 2023 with 344 children aged 8-18. The children completed a translated and back-translated version of the Kids-Palatable Eating Motives Scale. Validity analysis included content, face, and construct validity methods. Item, split-half method, and Cronbach's alpha coefficient were employed in testing reliability.

The scale consisted of 19 items and four sub-dimensions or motives. According to the explanatory factor analysis, the four-factor structure explained 72.19% of the total variance. Item factor loads varied between 0.32 and 0.99. The Cronbach's alpha coefficient of the scale was 0.92. The goodness of fit indices obtained from confirmatory factor analysis were GFI=0.92, CFI=0.97, IFI=0.97, RFI=0.94, NFI=0.95, TLI=0.96, and RMSEA=0.061. The research indicated that the Turkish Kids-Palatable Eating Motives Scale was valid, reliable, and appropriate for the Turkish language, culture, and Turkish youth who are at risk of obesity and its complications.

Keywords: Children, Palatable, Eating, Motivation, Obesity

ÖZ

Çocuklarda yeme davranışı ile obezite arasındaki ilişkiyi açıklayabilecek ve dolayısıyla bu popülasyonda obezitenin önlenmesini ve tedavisini geliştirebilecek ölçekler eksiktir. Bu çalışma Çocuklar için Lezzetli Yeme Motifleri Ölçeği'nin Türkçe versiyonunun geçerlik ve güvenirliğini test etmek amacıyla yapılmıştır.

Metodolojik tipte gerçekleştirilen araştırma, Mart 2023-Mayıs 2023 tarihleri arasında 8-18 yaş aralığındaki 344 çocuk ile gerçekleştirilmiştir. Çocukların Lezzetli Yeme Motifleri Ölçeği'nin çeviri-geri çeviri yöntemi kullanılarak dil uyarlaması sağlanmıştır. Geçerlilik analizi içerik, yüz ve yapı yöntemlerini içermektedir. Test güvenirliğinde madde, yarıya bölme yöntemi ve Cronbach alfa katsayısı kullanılmıştır.

Ölçek 19 maddeden ve dört alt boyuttan veya motiften oluşmuştur. Açıklayıcı faktör analizine göre dört faktörlü yapı toplam varyansın %72,19'unu açıklamaktadır. Madde faktör yükleri 0,32 ile 0,99 arasında değişmektedir. Ölçeğin Cronbach alfa katsayısı 0,92 olarak bulunmuştur. Doğrulayıcı faktör analizinde uyum iyiliği indeksleri GFI=0,92, CFI=0,97, IFI=0,97, RFI=0,94, NFI=0,95, TLI=0,96 ve RMSEA=0,061 olarak bulunmuştur. Araştırma sonucunda Çocuklar için Lezzetli Yeme Motivasyonları Ölçeği'nin Türk dili, kültürü, obezite ve komplikasyonları riski taşıyan Türk gençleri için uygun, geçerli ve güvenilir bir ölçek olduğu belirlenmiştir.

Anahtar Kelimeler: Çocuklar, Lezzetli, Yeme, Motivasyon, Obezite

This study was presented as an oral presentation at the 14th International Medical and Health Sciences Research Congress held in Ankara-Turkey between 23-24 December 2023.

[1] Dr. Öğr. Üyesi Dilek DEMİR KÖSEM, Hakkari Üniversitesi, Sağlık Bilimleri Fakültesi, Hemşirelik Bölümü, Çocuk Sağlığı ve Hastalıkları Hemşireliği ABD, dilekdemir624@gmail.com ORCID: 0000-0001-9914-8299
[2] Prof. Dr. Murat BEKTAŞ, Dokuz Eylül Üniversitesi Hemşirelik Fakültesi, Çocuk Sağlığı ve Hastalıkları Hemşireliği ABD, mbekta@gmail.com ORCID: 0000-0003-3327-8204
[3] Prof. Dr. Mary M BOGGİONA, Birmingham Alabama Üniversitesi, Psikoloji Bölümü, boggiano@uab.edu ORCID: 0000-0002-3662-155X

İletişim / Corresponding Author: Dilek DEMİR KÖSEM
e-posta/e-mail: dilekdemir624@gmail.com

Geliş Tarihi / Received: 27.03.2024
Kabul Tarihi/Accepted: 15.07.2024

INTRODUCTION

Unhealthy food intake and maladaptive eating habits have adversely affected the healthy environment where children live all over the world, resulting in health problems that accompany overweight and obesity.[1,2] Obesity has come to be a critical and prevalent childhood health problem recently.[1,3] It causes many physical, mental, and social disorders at an early age.[2] Since childhood is an important time in life for developing healthy eating behaviors which can prevent obesity-related problems from developing in the coming years, it is the ideal time to adopt positive eating behaviors.[1,3]

The consumption of very delicious foods and beverages such as French fries, hamburgers, pizza, chocolate, soda, and fruit juice has played a considerable role in the development of childhood obesity.[4] These foods and beverages are rich in fat, sugar, salt, and calories and are extremely processed.[3] When they are consumed while the person does not feel hungry physiologically, they lead to weight gain excessively.[3,5,6] In other words, these delicious foods and beverages can be addictive and cause obesity by triggering overeating.[7-9] Very tasty foods and beverages can change the purpose of eating, from that of meeting basic nutritional needs to a habitual way of coping or of rewarding oneself. The Kids-Palatable Eating Motives Scale (K-PEMS) was particularly designed to reveal these alternate purposes or motives underlying the consumption of very delicious foods.[10,11] It identifies four motives: to socialize, cope, enhance reward, and conform.[10,12] Those who primarily eat to cope eat to ignore their concerns and feel better when they are feeling down.[12] The aim of eating primarily to enhance reward is to derive pleasure and excitement from the food itself. The aim of eating primarily to socialize is to increase the pleasure of parties and other gatherings. Eating primarily to conform includes yielding to pressure from family or friends or to be more accepted by them.[10,12] The frequency of consuming delicious foods and beverages for coping, rewarding, conformity, and social motivation in children is positively related to BMI.[10,11]

Despite the increase in research into the topic, there is a need for an increase in the number of studies to clarify the relationship between children's motives for palatable food eating and obesity better.[10,11] Cultural adaptations of the scales developed in other societies should be done so that the results of studies in different countries can be compared. For example, more K-PEMS motives were associated with higher BMIs in Chinese children than in American children.[11] A review of studies on children's palatable eating motives in Türkiye indicated that there were very few standard scales with established validity and reliability. We aimed to do the Turkish adaptation study of the Kids-Palatable Eating Motives Scale and test the reliability and validity of the measure in the present research

MATERIALS AND METHODS

Participants

The sample consisted of n=344 children aged 8-18 from two provinces, one located in the west and the other in the east of Türkiye. Inclusion criteria were age 8 to 18 and literacy in Turkish. Children whose parents refused to join the research were excluded. The final number of child participants was 344.

When the number of participants in the sample of scale development, validity, and reliability studies is determined, it has been emphasized in the literature that a sample with less than 200 subjects is inadequate to reveal the factor structure of the scale but that 300+ is adequate.[13] Additionally, for an adequate sample size, it needs to have individuals that are 5-10 times as many items as on the scale.[14,15] The item count of the scale was 20, so the sample included subjects more than 10 times the number of items.

Data Collection

Data were collected online from children who met the inclusion criteria between March and May 2023 using a questionnaire created on Google Forms. The link to the questionnaire was sent to the families in the social media network of the researchers through WhatsApp, Messenger, Telegram, Facebook, Instagram, and Twitter. The families participating in the study and their children were also requested to share the study link with other families having children aged 8 to 18. Participants were informed that the questionnaire could be filled out in 15-20 minutes, they were invited to the study, and informed consent of both parents and children was obtained.

Measures

Study data were collected using a Descriptive Information Form, which was created by the researchers following a review of the literature, and the Kids-Palatable Eating Motives Scale. The forms were filled by the children.

Descriptive Information Form

Participants' demographic information (age, gender, economic status), information on how the children evaluated their body weight and height, and whether they had an adequate and balanced diet were collected using this form.

The Kids-Palatable Eating Motives Scale (K-PEMS)

K-PEMS was developed to determine children's palatable eating motives. The original scale consisted of 20 items, but two of them were excluded because the factor loads of these items were below 0.30 (items 15 and 19). For this reason, the measure has 18 items. It uses a five-point Likert-type structure with the following options: 1=never/almost never, 2=some of the time, 3=half of the time, 4=most of the time, and 5=almost always/always. Factor analysis was done using the Varimax Kaiser Normalization rotation and Principal Components Analysis.

The scale has four motives or sub-dimensions: reward enhancement, coping, conformity, and social. Items on the coping sub-dimension are associated with eating to deal with worries and negative situations; those on the reward enhancement sub-dimension are related to eating for the pleasure of the food; the items of the social sub-dimension are associated with increasing enjoyment of parties and other social events; and those on the conformity sub-dimension are related to eating to be accepted and not to feel excluded. The sub-dimensions and their items are as follows: coping: 1, 4, 6, and 17; reward enhancement: 7, 9, 10, 13, and 18; social: 3, 5, 11, 14, and 16; and conformity: 2, 8, 12, and 20. Cronbach's alpha of the sub-factors varied between 0.64 and 0.90. Sub-dimension scores are calculated by taking the mean of the 1-5 point scale responses.[10] In addition, it was requested that item 19, which was removed by the author of the scale when obtaining permission for the scale, be included as an important item. Also, item 15 was added because it reflected an important sub-dimension and was adapted to the Turkish sample. It was determined that as the score obtained from the scale increased, children ate irregularly, their desire to eat delicious foods increased, and they overate. The scale was filled out by children and was determined to be a reliable and valid measure that could be employed to determine the individual motives of children for eating delicious foods and to assess the risk of developing eating disorders and obesity.

Procedures

In this study, the steps followed in the adaptation process were conducted under the guidance of the publications of the International Testing Commission and the World Health Organization. The adaptation process included translation, expert panel, back translation, pilot study, cognitive review, obtaining the final version, and documentation steps.[13,16]

The translation of the scale items into Turkish was performed independently by two instructors with expertise in English to achieve language equivalence. The two draft translations were compared and examined by the authors, and a draft Turkish form was

created. Nine experts were consulted for the content validity assessment of the form. The Davis technique was used in this evaluation.[17] It is recommended to consult at least three and a maximum of 20 experts.[15,18] The expert group consisted of five faculty members from Child Health and Diseases Nursing, two from Psychiatric Nursing, and two from Nutrition and Dietetics. They were contacted via e-mail, and an expert evaluation form was used to obtain expert opinions. They were asked to rate the items using 1=not appropriate, 2=somewhat appropriate (revision of item/statement is required), 3=quite appropriate (appropriate but needs revision), and 4=extremely appropriate (may remain the same). Content validity index (CVI) and content validity ratio (CVR) were used to evaluate expert opinions.[14,15] Following the expert evaluations, the draft form was translated back into English by an independent interpreter who did not know about the scale. The back translation was compared to the original English scale. The Turkish translation of some of the items was re-evaluated and improved. The scale was piloted to 21 children to test the intelligibility of the items. As a result, the scale items were found intelligible and the final form of the measurement tool was obtained. Children in the pilot group were not included in the sample. All steps performed until the final version was obtained were reported and presented.

Data Analysis

Data were analyzed on the SPSS V25 and AMOS V24 software packages. The significance level was set at $p<.05$ and a confidence interval of 95%. Descriptive data were presented using means and standard deviations (±). Language validity was performed using the translation-back translation method. Experts were consulted, a content validity index/ratio was calculated, interrater agreement was examined, a pilot study was conducted, and validity was analyzed with explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) to achieve content validity. Besides, item analysis, split-half analysis, and Cronbach's alpha was calculated.

Ethical Considerations

The written permission of the author who developed the original form of the scale was obtained via e-mail. The study was approved by the Scientific Research and Publication Ethics Committee of the University (date: 03.03.2023, decision no: 2023/27-1). During the data collection process, children and their parents were informed about the research online, and their consent was obtained by asking them to check the "I agree to participate in the research" box on the first page of the questionnaire. At all stages of the study, the principles of scientific research and publication ethics were followed.

Limitations

One of the limitations of this research was the utilization of the convenience sampling method and the inclusion of only children and parents who agreed to fill out the questionnaire, which may have biased the sample to only those having online access. Also, test-retest reliability was not performed. Another limitation was the absence of children diagnosed with clinical obesity in the study.

RESULTS AND DISCUSSION

Descriptive Characteristics

Children's mean age was 13.26 ± 4.40, 50.9% of them (n=175) were female, and 49.1% (n=169) were male. Of the children, 81.7% (n=281) had equal income and expenses, 16.6% (n=57) had more income than their expenses, and 1.7% (n=6) had less income than their expenses. Also, 79.7% of them (n=274) described their weight and height as normal, and 91.0% (n=313) stated that they had an adequate and balanced diet.

Validity of the Turkish Kids-Palatable Eating Motives Scale

The item-level content validity index (I-CVI) of the Turkish-translated sale was between 0.98 and 0.99, and the scale-level content validity index (S-CVI) was 0.99.

When the sample size was analyzed, a KMO value of 0.915 was found. According to Bartlett's Sphericity test, the value of chi-square was significant ($\chi2$=6195.792, p<0.001). After the data was found suitable for factor analysis, EFA was done with principal components analysis to test the factor structure of the measure. The owner of the scale, requested to include item 19, which was removed from the original scale, and also add a new item (item 15) to parallel the revised adult PEMS. However, according to EFA results, the factor load of the 15th item remained low in the Turkish sample, and this item was removed by contacting the author of the original scale. The 19 items on the Turkish version were grouped into four sub-dimensions (coping, reward enhancement, social, and conformity) according to factor analysis. The sub-dimensions and their items were as follows: coping: items 1, 4, 6, and 17; reward enhancement: items 7, 9, 10, 13, and 18; social: items 3, 5, 11, 14 and 16; and conformity: items 2, 8, 12, 19 and 20. These factors explained 72.19% of the total variance, 5.31% of which belonged to the first factor (coping), 19.76% to the second factor (reward enhancement), 43.16% to the third factor (social), and 3.96% to the fourth factor (conformity). Eigenvalues were 1.304, 4.011, 8.425, and 0.994, respectively. Factor loadings of the items are listed in (Table 1).

The CFA fit indexes of the measure were DF= 134, $\chi2$= 307.443, $\chi2$/DF= 2.294, GFI=0.92, RMSEA =0.061, CFI=0.97, RFI=0.94, IFI=0.97, NFI=0.95, and TLI=0.96

As a result of the CFA, factor loadings of the measure were 0.78-0.98 for the coping sub-dimension (first factor, F1), 0.85-0.93 for the reward enhancement sub-dimension (second factor; F2), 0.87-0.95 for the social sub-dimension (third factor; F3), and 0.34-0.92 for the conformity sub-dimension (fourth factor; F4). CFA of the four sub-dimensions is given in Fig. 1.

Reliability Analysis Results for the Kids-Palatable Eating Motives Scale

Cronbach's alpha value of the scale was 0.92 for the total scale, 0.94 for the coping sub-dimension, 0.95 for the reward enhancement sub-dimension, 0.95 for the social sub-dimension, and 0.72 for the conformity sub-dimension. The correlation between the answers given to the items (1,3,5,7,9…) in the first half and the answers given to the items (2,4,6,8,10…) in the second half was analyzed with Spearman-Brown coefficient and Gutmann split-half analysis.

The split-half analysis indicated that Cronbach's alpha values were 0.87 and 0.82 for the first and second halves, respectively. The Spearman-Brown coefficient was 0.96, the Guttman split-half coefficient was 0.95, and the correlation coefficient between the two halves was 0.93. As a result of the analysis, Hotelling's T^2 value was determined as 3082.546, F=162.765, and p<0.001.

As shown in Table 2, the item-total score correlations of the measure varied from 0.32 to 0.78, and the item-sub-dimension score correlations changed from 0.34 to 0.93 (Table 2) (p<0.001).

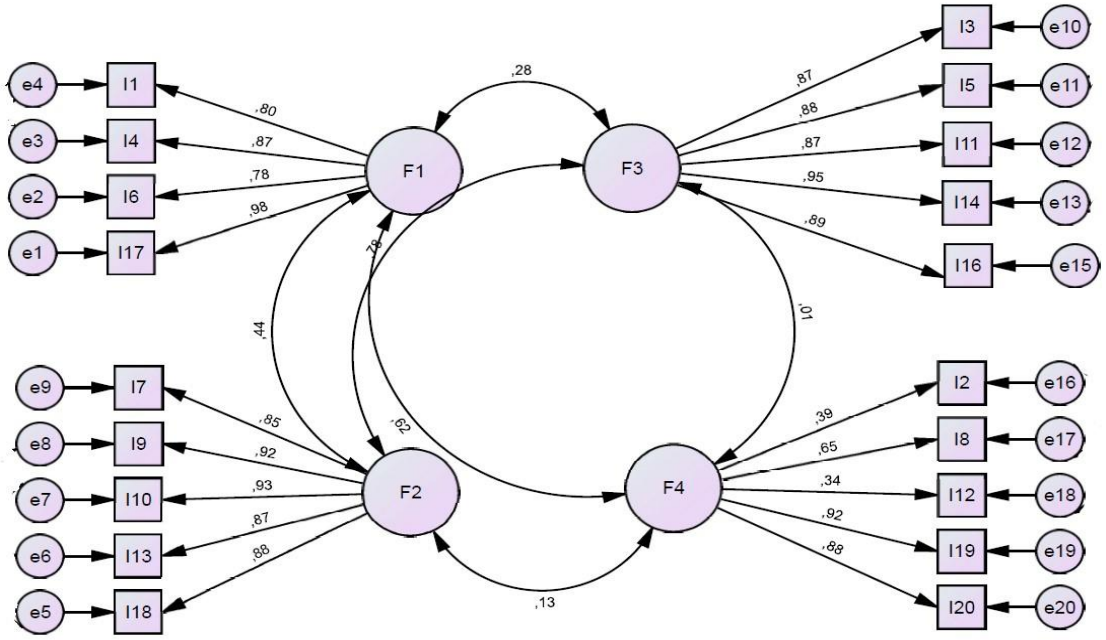

Figure 1. Structural Equation Model for Confirmatory Factor Analysis of the Kids-Palatable Eating Motives Scale

Table 1. Explanatory Factor Analysis Results for the Kids-Palatable Eating Motives Scale (n=344)

Items	Factor loads for sub-dimensions			
	Coping	Reward enhancement	Social	Conformity
Item 1	0.87			
Item 2				0.44
Item 3			0.88	
Item 4	0.99			
Item 5			0.97	
Item 6	0.80			
Item 7		0.84		
Item 8				0.74
Item 9		0.80		
Item 10		0.88		
Item 11			0.71	
Item 12				0.32
Item 13		0.81		
Item 14			0.99	
Item 16			0.79	
Item 17	0.79			
Item 18		0.73		
Item 19				0.82
Item 20				0.90
Explained variance(%)	5.31	19.76	43.16	3.96
Total explained variance (%)	72.19			
Eigenvalues	1.304	4.011	8.425	0.994
KMO coefficcient*	0.915			
Bartlett's test	6195.792 (p<0.001)			

*KMO: Kaiser-Meyer Olkin

Table 2. Item-total and Sub-dimension Total Score Correlations of the Turkish Kids-Palatable Eating Motives Scale (n=344)

Sub-dimensions	Items	Item-total score correlations *(r)**	Item-sub-dimension total score correlations *(r)**
Coping	I1	0.54	0.81
	I4	0.62	0.91
	I6	0.63	0.81
	I17	0.68	0.87
Reward enhancement	I7	0.73	0.84
	I9	0.78	0.88
	I10	0.78	0.88
	I13	0.76	0.86
	I18	0.70	0.80
Social	I3	0.65	0.84
	I5	0.65	0.89
	I11	0.67	0.84
	I14	0.69	0.93
	I16	0.65	0.86
Conformity	I2	0.43	0.45
	I8	0.32	0.63
	I12	0.40	0.34
	I19	0.37	0.62
	I20	0.32	0.63

The first step of the adaptation of a measurement tool to the target language and culture is to establish language validity.[19,20] During the language validity phase, it is very important to ensure that each item has cultural and linguistic consistency.[20] One-way translation, translation-back translation, and group translation methods are used to test the language equivalence of a measure, and the translation-back translation method is often preferred.[20,21] According to the comparison, the back-translated English scale and the original English version were consistent. Thus, the language adaptation of the Turkish scale was achieved. A CVI value of ≥0.80 indicates an acceptable level of content validity.[21,22] The CVI value of the scale items on the adapted version of the K-PEMS was 0.99, which was >0.80. In the study by Boggiano et al. (2015)[10], this value was not given. However, Wang et al. (2022)[11], who adapted the K-PEMS to Chinese, found the content validity index (0.85) greater than 0.80. In comparison, the Turkish adaptation had a higher content validity index than that of the Chinese version.

Today, EFA and CFA are widely used to determine construct validity in cross-cultural scale adaptation studies. EFA and CFA were also used in this study. Before the EFA was performed, Kaiser-Meyer-Olkin (KMO) and Bartlett's sphericity tests, which are hypothesis tests, were used to determine the applicability of the analysis.[18,19,22] These tests yielded significant results, rendering the scale suitable for factor analysis.

Four sub-dimensions were found in both the original K-PEMS (Boggiano et al., 2015)[10] and the Turkish adaptation, but one item was removed as its factor loading was low as a result of the addition of two items by the author of the original version of the scale. The reason for this may have been that the item could not be conceptually adapted. It was seen that this was compatible with the Chinese version.[11] High explained variance rates obtained in validity studies show that the factor structure of the scale is strong.[20,21] An explained variance ratio between 40% and 60% is considered adequate.[19,23] In this study, it was observed that the total variance ratio of the scale was >60% (72.19%). This value can be interpreted as proof that the scale measured children's palatable eating motives. The factor load values in a measurement tool show the association of the items with factors. Generally, it is recommended that the minimum value of an item must reach 0.30 so that it can be placed under a factor.[15,20] It was observed in this study that all items had enough factor loading values (0.32-0.99), which revealed that the measure had a good and valid structure.

CFA is used to examine whether a previously used scale complies with the original factor structure when it is adapted.[19,22] The fit index examined in CFA shows the chi-square ($\chi 2$) fit statistics. In addition, the ratio of the chi-square ($\chi 2$) fit statistics to the degree of freedom (DF) is examined, and a ratio below five indicates an acceptable fit.[15,19] In this study, it was determined that the $\chi 2$/DF value (2.294) was

less than five and that the model was acceptable. Wang et al. found the ratio of chi-square to the degree of freedom (4.052) less than five in the Chinese K-PEMS version (2022).[11] These results were similar to the result of our study. Other goodness-of-fit indices frequently used in CFA analysis in the literature are GFI, CFI, IFI, RFI, NFI, TLI, and RMSEA.[15,19] These values showed an acceptable level of fit in our study. In the Chinese version, Wang et al. (2022) found that the fit index values (GFI, TLI, AGFI, RMR) were >0.80, and the RMSEA value was >0.08 (0.085). When these results were compared with our study results, the fit indices of our study were better than those of the Chinese version. It is recommended that the factor loads of a scale obtained from CFA be ≥0.30.[22,23] The factor loads of the items in this research were at an adequate level as they ranged from 0.32 to 0.99. Wang et al. (2022) found factor loads (0.56-0.83) as >0.30 in the Chinese version.[11]These results were similar to those of our study.

Regarding the reliability of the Turkish K-PEMS, Cronbach's alpha values of the total scale (0.92) and its sub-dimensions (0.72-0.95) were >0.60. The alpha values ranged from 0.64 to 0.90 for the original K-PEMS (Boggiano et al., 2015)[10] and from 0.92 to 0.93 for the Chinese version.[11] Turkish and Chinese adaptations of the scale had comparable Cronbach's alpha values, but the value of the Turkish version was greater than that of the original study. This may have been in part due to the addition of the two items.

One of the methods for measuring internal consistency reliability is the split-half method.[15,22] The time-dependent invariance of the scale was examined by using the split-half approach instead of the test-retest method to avoid the effect of awareness about the scale items.[15,23] An equation developed by Spearman-Brown was also used to obtain the reliability coefficient for the total scale.[15,22,23] It is expected that there is a correlation of at least 0.70 between the two halves, Cronbach's alpha values of both halves are >0.70, and that the Spearman-Brown and Guttmann split-half coefficients are >0.80.[15,22] In this study, it was determined that the correlation between the two halves of the scale (0.93) and Cronbach's alpha coefficients (0.72-0.95) were >0.70 and that the Spearman-Brown (0.96) and Guttmann split-half coefficients (0.95) were >0.80. The results of the split-half test were above the recommended values. Boggiano et al. (2015)[10], in their original study, and Wang et al. (2022)[11], in the Chinese version, had not performed a split-half analysis; therefore, we could not compare our study results. These results in our study revealed that the scale was highly reliable.

Another method that is used to test reliability and internal consistency is item analysis.[21] Item analysis shows how much the scale items are related.[19,21] An item-total correlation of ≥0.30 indicates that the scale items distinguish the measured features of individuals well.[22,23] In this study, item-total score (0.32-0.78) and item-sub-scale score (0.34-0.93) correlations were >0.30 and all items were at an acceptable level. Boggiano et al. (2015)[10], in their original study, and Wang et al. (2022)[11], in the Chinese version, had not provided item-total score correlation analysis of the scale and sub-dimensions, so we could not compare our study results.

CONCLUSION AND RECOMMENDATIONS

The Kids-Palatable Eating Motives Scale is a reliable and valid measure to be employed in Turkish society. The scale can be used by researchers and clinicians to determine children's primary palatable eating motives and to assess risk of developing obesity and eating disorders.[10,24] Making children and their parents aware of their primary palatable eating motive and targeting the habit with behavioral methods may lead to healthier eating habits and coping and reward strategies. In addition, the use of this scale may contribute to the treatment of children diagnosed with clinical obesity and eating disorders. Clinicians can target the motive for change by identifying the child's primary

palatable eating motives and the conditions that make him/her most vulnerable to overeating palatable foods. It is thought that this measurement tool will form a very good theoretical and experimental foundation for future obesity and eating disorder research. It is recommended to conduct descriptive and experimental studies with this scale, in which children's palatable eating motives are evaluated according to their BMI. Cross-cultural comparative studies can also be conducted using this scale.

REFERENCES

1. Jalo, E, Konttinen, H, Vepsäläinen, H, Chaput, J.P, Hu, G, Maher, C, Maia, J, Sarmiento, O.L, Standage, M, Tudor-Locke, C, Katzmarzyk, P.T. and Fogelholm, M. (2019). "Emotional Eating, Health Behaviours, and Obesity in Children: A 12-country Cross-Sectional Study". Nutrients, 11(2), 351. https://doi.org/10.3390/nu11020351.
2. Sahoo, K, Sahoo, B, Choudhury, A.K, Sofi, N.Y, Kumar, R. and Bhadoria, A.S. (2015). "Childhood Obesity: Causes and Consequences". Journal of Family Medicine and Primary Care, 4(2),187-192. https://doi.org/10.4103/2249-4863.154628.
3. Obregón, A.M, Pettinelli, P.P. and Santos, J.L. (2015). "Childhood Obesity and Eating Behavior". Journal of Pediatric Endocrinology & Metabolism, 28(5-6), 497-502. https://doi.org/10.1515/jpem-2014-0206.
4. Keser, A, Yüksel, A, Yeşiltepe-Mutlu, G, Bayhan, A, Özsu, E. and Hatun, Ş. (2015). "A New Insight into Food Addiction in Childhood Obesity". The Turkish Journal of Pediatrics, 57(3), 219-224.
5. Bozkurt, O. and Yıldıran, H. (2022). "The Relationship Between Hedonic Hunger and Obesity in Children and Adolescents". Gazi Journal of Health Sciences, 7(2), 103-110. https://doi.org/10.52881/gsbdergi.1034683.
6. Kaur, K. and Jensen, C.D. (2021). Does "Hedonic Hunger Predict Eating Behavior and Body Mass in Adolescents with Overweight or Obesity"? Children's Health Care, 51(2), 184-198. https://doi.org/10.1080/02739615.2021.1983435.
7. Gearhardt, A.N, Davis, C, Kuschner, R. and Brownell, K.D. (2011). "The Addiction Potential of Hyperpalatable Foods". Current Drug Abuse Reviews, 4(3), 140-145. https://doi.org/10.2174/1874473711104030140.
8. Pretlow, R.A. (2011). "Addiction to Highly Pleasurable Food as a Cause of the Childhood Obesity Epidemic: A Qualitative Internet Study". Eating Disorders, 19(4), 295-307. https://doi.org/10.1080/10640266.2011.584803.
9. Yardley, H, Smith, J, Mingione, C. and Merlo, L.J. (2014). "The Role of Addictive Behaviors in Childhood Obesity". Current Addiction Reports, 1, 96-101. https://doi.org/10.1007/s40429-014-0012-0.
10. Boggiano, M.M, Wenger, L.E, Mrug, S, Burgess, E.E and Morgan, P.R. (2015). "The Kids-Palatable Eating Motives Scale: Relation to BMI and Binge Eating Traits". Eating Behaviors,17, 69-73. https://doi.org/10.1016/j.eatbeh.2014.12.014.
11. Wang, D, Boggiano, M.M, Huang, K, Hu, Y. and Fu, J. (2023). "Psychometric and Cross-Cultural Generalizability Outcomes of the Chinese version of the Kids-Palatable Eating Motives Scale (K-PEMS-C)". Journal of Health Psychology, 28(7), 663-674. https://doi.org/10.1177/13591053221129705.
12. Burgess, E.E, Turan, B, Lokken, K.L, Morse, A. and Boggiano, M.M. (2014). "Profiling motives behind hedonic eating. Preliminary Validation of the Palatable Eating Motives Scale". Appetite, 72, 66-72. https://doi.org/10.1016/j.appet.2013.09.016.
13. International Test Commission. (2018). "Guidelines for Translating and Adapting Tests". International Journal of Testing, 18(2), 101-134.
14. Polit, D.F. and Beck, C.T. (2012). "Nursing Research: Principles and Methods". 9th ed. Philadelphia: Lippincott Williams & Wilkins.
15. Tabachnick, B.G. and Fidell, L.S. (2015). "Using multivariate statistics" (M. Baloğlu, Trans.). Ankara: Nobel Academic Publishing.
16. World Health Organization. (2017). "Process of Translation and Adaptation of Instruments". https://www.who.int/substance_abuse/research_tools/translation/en (Accessed May 29, 2023).
17. Davis, L.L. (1992). "Instrument Review: Getting the Most From a Panel of Experts". Applied Nursing Research, 5(4), 194-197.
18. DeVellis, R.F. (2016). "Scale Development, Theory and Applications". 4th ed. India: SAGE Publication Inc.
19. Karagöz, Y. (2016). "SPSS 23 and AMOS 23 Applied Statistical Analysis". Ankara: Nobel Akademi Publishing.
20. Seçer, I. (2018). "Psychological Test Development and Adaptation Process; Spss and Lisrel Applications". 2 nd ed. Ankara: Anı Publishing.
21. Jonhson, B. and Christensen, L. (2014). "Educational Research: Quantitative, Qualitative, and Mixed Approaches". 3rd ed. California: SAGE Publication Inc.
22. Kartal, M. and Bardakçı, S. (2018). "Reliability and Validity Analysis with SPSS and AMOS Applied Examples". Ankara: Akademisyen Publishing.
23. Ozdamar, K. (2016). "Scale and Test Development Structural Equation Modeling". Ankara: Nisan Bookstore Publishing.
24. Orihuela, C.A, Mrug, S. and Boggiano, M.M. (2017). "Reciprocal Relationships Between Emotion Regulation and Motives for Eating Palatable Foods in African American Adolescents". Appetite, 117, 303-309. https://doi.org/10.1016/j.appet.2017.07.008.