

# Parenting strategies for eating and activity scale (PEAS): Turkish validity and reliability study

*Ozlem Sinan<sup>1</sup>, Sibel Kucuk<sup>1</sup>, Betul Tosun<sup>2</sup>, Dilek Uludasdemir<sup>1</sup>, Mibran Kucuk<sup>3</sup>*

<sup>1</sup>Ankara Yıldırım Beyazıt University, Faculty of Health Sciences, Department of Nursing - E-mail: ozlemozdemir310@gmail.com;

<sup>2</sup>Hasan Kalyoncu University, Faculty of Health Sciences, Department of Nursing, Gaziantep; <sup>3</sup>Sincan Dr. Nafiz Körez Public Hospital, Ankara, Turkey.

**Summary.** The aim of this research was to determine Turkish validity and reliability of the Parenting Strategies for Eating and Activity Scale (PEAS). The study group consisted of 1004 parents, who had children at the ages of 6-12 years old and were referred to the children's health and diseases service of a state hospital. The PEAS and the Child-Feeding Questionnaire (CFQ) that is used to measure structure validity were used to collect data. The PEAS consists of five sub-dimensions and 26 items. Internal consistency coefficient and item-total score correlation coefficients of the subscales of the PEAS were calculated for the reliability analysis. Scope and structure validity analyses were conducted for validity. A moderate and more than positive correlation was found between the scores of all sub-dimensions in the structural validity analysis. The correlation between the scores obtained from the PEAS and the CFQ scale was found to be significant in the criterion validity analysis. Cronbach's alpha reliability coefficient value was 0.91. This study showed that the PEAS is a valid and reliable measurement tool to measure parental approaches toward nutrition and activities of children in Turkey. PEAS is suggested to be used by the healthcare professionals working with children and their families to determine the factors related to the parents' approaches regarding children's nutrition and activities.

**Key words:** child health, nutrition, activity, parental control

## Introduction

In childhood, the lack of adequate-balanced nutrition and regular physical activity lead to various health problems and affect the individual's life negatively (1,2). Parenting strategies are of great importance in children's eating and physical activities. Parents' eating habits directly affect children's food selections and eating habits (3,4). Lo et al (2015) have determined that the parental control over the feeding behaviors of children is effective on children's consumption of more fruits and vegetables as well as consumption of high-calorie foods less often (5). In the study of Blissett and Haycraft (2008) examining the effect of parental attitude on eating behavior, it was found that the permissive attitude of parents had less

control over the unhealthy food consumption of children (6). Applying a moderate level of control, such as monitoring unhealthy food consumption, is a healthy strategy for parents in order to manage their children's food consumption (7). There is some variation in the findings concerning the degree of negative impact that excessive control has on child weight (8). The research suggests that highly restrictive feeding practices have been most consistently associated with child weight gain (8), and monitoring feeding practices have been associated with slower weight gain (9).

The evaluation of parental approaches toward children's nutrition and activities is important to raise parental awareness about the growth, development and well-being of children (10). However, in most of the studies conducted, valid and reliable measuring

instruments were not used to determine parental approaches toward children's nutrition and activities, and instead, questionnaires prepared by researchers were used (11,12). Hence, it is necessary to use powerful, valid and reliable measurement tools that allow evaluation of parents' approach. In Turkey, the studies which assess parents' approaches towards children's nutrition and activities are limited. In this study, it was aimed to adapt the Parenting Strategies for Eating and Activity Scale (PEAS) to Turkish and to determine its validity and reliability.

## Material and Method

### *Participants*

This study was planned methodologically and its population consisted of parents who applied to the Child Health and Diseases Service of a State Hospital within a year and had children under the age of 18 years old. The sample was composed of 1004 Turkish literate parents living together with their children between the ages of 6-12 years old and agreed to participate in the survey between August 2015 and December 2016. Parents who were not literate in Turkish, did not have children aged 6-12, did not live with their children, wanted to be excluded from the study at any phase, had physical or psychological problems that affect written or verbal communication were excluded from the study.

The sample size was calculated by taking into consideration the number of scale items, Likert type and the factor analysis that is to be made. There are several suggestions in the literature about the calculation of sample size for factor analysis. Gorusch (1983) and Hatcher (1994) proposed to researchers approximately (5-10): 1 subject-item ratio for factor analysis (13-15). Another suggestion in factor analysis about the number of subjects is the assessment of 200 subjects as "moderate", 300 subjects as "good", 500 subjects as "very good", and 1000 subjects "excellent" (16,17). In our study, there were 26 items in the scale that we tested for its reliability and Turkish validity and the results were evaluated as a 5 point-Likert scale. Based on all of these suggestions, in our study, we aimed to reach 1000 participants, rated as "excellent" considering that accurate results were ob-

tained in factor analysis, and a sufficient sample size was achieved with 1004 participants.

### *Ethical Considerations*

We first received permission via e-mail from Sandra E Larios, who developed the scale (PEAS) that we tested for validity and reliability for the Turkish version in our study. Ethical approval was received from the Ethics Committee of Yildirim Beyazıt University prior to conducting the study. Written informed consent was obtained from each patient who met the inclusion criteria.

### *Data Collection Tools*

In this study, an introductory information form developed by the researchers and the Parenting Strategies for Eating and Activity Scale were used as data collection tools, and the Child Feeding Questionnaire (CFQ) was used to test the validity of the structure.

### *Introductory information form*

This form consisted of nine questions making up the first part of the data collection form and was prepared to designate some personal features (age, gender, income status, family type, etc.) of parents and children.

### *The Parenting Strategies for Eating and Activity Scale (PEAS)*

The PEAS was developed by Larios et al (2009) and it assesses families' attitudes towards children's nutrition and activities. The scale consists of five subdivisions and contains 26 items (14 items are nutrition-limiting and 12 items are activity-limiting):

**Monitoring:** Seven items (five items about nutrition and two items about activity) measured monitoring frequency of families regarding their children's healthy behaviors.

**Discipline:** Five items measured (three items about nutrition and two items about activity) the frequency of disciplinary practices of families about restricted unhealthy nutrition (e.g. soft drink consumption) and sedentary life behaviors (e.g. watching TV) of their children. **Control:** Six items (five items about nutrition and one item about activity) measured the control approaches used by families.

**Restrictions:** Six items (two items about nutrition and four items about activity) assessed the appropriate restrictions used by families about unhealthy nutrition and sedentary lifestyle behaviors of their children.

**Supporting:** Two items (one item about nutrition and one item about activity) measured the use of praise for children when they consumed healthy snacks or when they were busy with activities.

The five-point Likert scale, where '1 = never' to '5 = always', was used in the subdivisions of monitoring, discipline and support. The five-point Likert scale, where '1 = I do not agree' to '5 = I agree', was used in the subdivisions of control and restriction. The scores of the sub-scales were equal to the sum of the scores received in items 1-5. As the scores received in the sub-scales increased, parents' had positive approach and as the decreased, parents had negative approach, except for the control sub-scale (18).

#### *The Child Feeding Questionnaire (CFQ)*

The CFQ, developed by Camcı 2010, consists of 7 sub-scales; out of which 3 sub-scales (Restriction, Monitoring, and Pressure to Eat) evaluate parental controls over child feeding; and 4 sub-scales (Perceived Responsibility for Child Feeding, Interest on Children's Weight, Perceived Children's Weight, Perceived Parent's Weight) evaluate parental attitudes and behaviors about child feeding. The items in the questionnaire are evaluated with the 5-point Likert scale. One of the sub-scales included in the questionnaire, 'Perceived Children's Weight', rates parental perception' about the overweight situation of their child at various ages between 1 (thin) through 5 (overweight) (19).

#### *The Application of Data Collection Tools*

##### *Preliminary application*

The Turkish version of the scale, with its language and content validated, was applied as a preliminary application to 20 parents who applied to the child health and illness polyclinic where the study was carried out. In the preliminary application performed with the parents, it was aimed to identify the items that were not understood and not suitable. The data collection form of the study consisted of the short, clear and applicable final states of the questions in the questionnaire. No

items were removed from the scale and the preliminary application data were not included in the study.

##### *Application*

Data collection was carried out in the child health and illness clinic, an environment where the interviews would not be interrupted. The data were collected in one-time face-to-face interviews based on self-reports of the individuals. Each interview lasted approximately 10-15 minutes. In order to ensure the privacy of the participants, specific numbers were written on the forms in place of the patients' names.

##### *Data Analysis*

The validity of Parenting Strategies for Eating and Activity Scale was considered by testing the language and scope validity, structural validity and criterion validity. Kendall W analysis was used for doing the compatibility analysis of expert opinions stated about the language (scope) validity of the scale. Structural validity was evaluated by using exploratory factor analysis. Criterion validity was determined by using Spearman correlation test with the evaluation of the correlation between the means of the Child Feeding Questionnaire and Parenting Strategies for Eating and Activity Scale. Compliance of the data for factor analysis was evaluated by measuring the sample adequacy with Kaiser-Meyer-Olkin test and Bartlett's globalism test. In order to determine the reliability, internal consistency analysis and test-retest methods were used. The data were analyzed by using the Statistical Package for Social Sciences (SPSS) for Windows 15.0 software (SPSS Inc., Chicago, IL, USA) and by receiving assistance of bio-statistics specialists. The descriptive statistics are presented as frequency, percentage, means and standard deviations.  $p$  value  $\leq 0.05$  was considered statistically significant.

## **Results**

The mean age of the parents was  $36.72 \pm 7.64$  (min: 20.01-max: 74.05), 74.1% were mothers, 42.1% had two children and 37.4% were high school graduates. The parents mostly (84.3%) lived in nuclear families and 54.3% of them were employed and their

mean monthly income was  $2824.44 \pm 1642.21$  TL ( $n = 1004$ ).

#### *Validity analysis results of the scale*

##### *Language and content validity*

To ensure language validity of the scale, the first questionnaire form was prepared by translating the questionnaire to the target language and retranslating it to the original language (English). Initially, each item in the scale was translated to Turkish and evaluated by three different English linguists. For the Turkish version, the most appropriate translation of each item was used. Then, the completed new Turkish version was translated to the original language by three different English linguists. The final Turkish and English versions of the questionnaire were compared with the original English version and 5 academic lecturers, who were literate both in Turkish and English and specialized in health field, determined whether they were compatible. In the evaluation of expert opinions, Content Validity Index (CVI) was calculated by using Davis technique. The experts were given the original scale and its translation and were asked to evaluate each item as 1 = not relevant, 2 = item need some revision, 3 = relevant but need minor revision, 4 = very relevant. To obtain CVI for relevancy of each item (I-CVI), the number of those judging the item as relevant (rating 3 or 4) was divided by the number of content experts. The I-CVI expresses the proportion of agreement on the relevancy of each item, which is between 0 and 1(20) and I-CVI in our study was calculated to be 0.94. The mean score assigned by the five experts for the scale items was determined as  $3.78 \pm 0.2$  (min 3-max 4). According to Kendall's Coefficient of Concordance Test (Kendall's W) analysis made to evaluate the compatibility of the expert opinions, the difference between the scores given by the experts to the scale items was found to be statistically insignificant (Kendall W = 0.07,  $p = 0.44$ ).

##### *Structural validity*

In our study, Kaiser-Meyer-Olkin (KMO) 0.91,  $p < 0.001$  and Bartlett Test (approximately  $\chi^2$ ) = 11864.30, were determined as  $p < 0.001$ . Accordingly, it was found that the data obtained from the scale in

the study were perfectly compatible for doing factor analysis (Table 1).

Factor analysis was made by using the principal component method and the varimax axis rotation method in order to test the construct validity of the scale. It was found in the analysis that there were 5 factors as similar to the original scale.

The factor loads introduced by the items and the correlations of each item with the total scores are shown in Table 3. All of the factors explain 59.36% of the variance. The factors in this study are called "monitoring, discipline, control, restriction, and support" by remaining loyal to the original scale (Table 2). Based on the factor analysis result, it is possible to see that the supporting sub-dimension of the 2 items (item 5 and item 7) of the monitoring sub-dimension is distributed (Table 3). The table shows that there was a positive, intermediate and higher correlation between the mean of all sub-dimensions ( $p < 0.001$ ).

##### *Criterion validity*

In the examination of the criterion validity of the scale and considering the relation between the scores obtained from the CFQ and the scores obtained from the PEAS, the correlation between all of the sub-dimensions was found significant ( $p < 0.001$ ) (Table 3). Moreover, it was found that the highest correlation coefficients were obtained between the sub-dimensions questioning the similar items. There was a strong correlation between the mean score of the monitoring sub-dimension of the PEAS and the monitoring sub-dimension of the CFQ ( $r = 0.643$ ,  $p < 0.001$ ). There was a moderate correlation between the mean scores of the control sub-dimension of the PEAS and the Restriction and Pressure to Eat sub-dimensions of the CFQ ( $r = 0.441$ ,  $p < 0.001$ ;  $r = 0.489$ ,  $p < 0.001$ ). Furthermore, there was a moderate and high correlation between the mean scores of the Restriction sub-dimension of the PEAS and the Concern about Child's Weight, Restriction

**Table 1.** KMO and Bartlett's test statistics of PEAS

Statistic Test	Test Value
Kaiser-Meyer-Olkin (KMO) Sampling Compliance Measure	0.91
Bartlett's Test Approximate chi-square ( $\chi^2$ )	1186430
Degree of Freedom (df)	325; $p < 0.001$

**Table 2.** The factor analysis results of PEAS

Scale Items	Factors				
	1	2	3	4	5
Monitoring question 1		.831			
Monitoring question 2		.849			
Monitoring question 3		.765			
Monitoring question 4		.654			
Monitoring question 5		.169		.716	
Monitoring question 6		.648			
Monitoring question 7		.189		.652	
Discipline question 8					.667
Discipline question 9					.666
Discipline question 10					.412
Discipline question 11					.730
Discipline question 12					.677
Discipline question 13			.520		
Discipline question 14			.620		
Discipline question 15			.512		
Control Question 16			.645		
Control Question 17			.685		
Control Question 18			.663		
Restriction 19	.511				
Restriction 20	.466				
Restriction 21	.755				
Restriction 22	.782				
Restriction 23	.774				
Restriction 24	.787				
Supporting 25				.589	
Supporting 26				.652	

*Note: Rotation Method: Varimax with Kaiser Normalization*

tion, Pressure to Eat and Monitoring sub-dimensions of the CFQ (respectively,  $r=0.446$ ,  $p<0.001$ ;  $r=0.646$ ,  $p<0.001$ ;  $r=0.431$ ,  $p<0.001$ ;  $r=0.407$ ,  $p<0.001$ ) (Table 4).

**Table 3.** The correlation coefficients between the sub-dimensions of the PEAS

	Monitoring	Discipline	Control	Restriction	Supporting
Monitoring	-				
Discipline	$r=0.475^*$	-			
Control	$r=0.516^*$	$r=0.555^{**}$	-		
Restriction	$r=0.577^{**}$	$r=0.532^*$	$r=0.629^{**}$	-	
Supporting	$r=0.410^*$	$r=0.438^*$	$r=0.516^*$	$r=0.683^{**}$	-
Scale Total	$r=0.759^{**}$	$r=0.752^{**}$	$r=0.807^{**}$	$r=0.874^{**}$	$r=0.709^{**}$

*Note. r = Spearman correlation; \* Moderate level correlation coefficients,  $p < 0.001$ ; \*\* High level correlation coefficients,  $p < 0.001$ .*

### Reliability analysis results of the scale

The reliability level of the scale was studied by examining its internal consistency. None of the items had a negative effect on the reliability based on the Cronbach's alpha reliability coefficient calculation. Therefore, no item was excluded. Cronbach's alpha reliability coefficient  $\alpha$  was calculated as 0.91 for the entire Turkish form of the scale. Cronbach's alpha reliability coefficients for the sub-dimensions were calculated as 0.80 for the monitoring sub-dimension;  $\alpha = 0.75$  for the discipline sub-dimension;  $\alpha = 0.81$  for the control sub-dimension;  $\alpha = 0.86$  for the restriction sub-dimension; and  $\alpha = 0.82$  for the supporting sub-dimension (Table 5).

### Discussion

We achieved a large sample with the large number of participants ( $n=1004$ ) for the validity and reliability evaluation, and our study results show that the Turkish form of the PEAS is a reliable and valid tool. The mean age of the parents we reached in this study were above middle age and nearly half of them had two children. In addition, our study was conducted with participants who applied to a state hospital with their children, and it is very important that parents living in middle-income families, which make up a large portion of the Turkish society, reflect Turkish culture in the best way and that the results are generalized to the population.

The purpose of the content validation is to generate an entirety consisting of meaningful items by asking a specialist group to examine whether the items on the scale represent the area that is to be measured (21). For calculating the content validity, the number of the experts marking option A and option B is divided to

**Table 4.** Correlation between the mean scores of the sub-dimensions of the PEAS and CFQ

The sub-dimensions of the PEAS	Child Nutrition Questionnaire Sub-Dimensions						
	Perception of Responsibility	Parents' Weight Perception	Child's Weight Perception	Anxiety About the Child's Weight	Restriction	Pressure to Eat	Monitoring
Monitoring	r=0.367	r=0.140	r=0.125	r=0.372	r=0.396	r=0.341	r=0.643**
Discipline	r=0.267	r=0.223	r=0.246	r=0.167	r=0.272	r=0.302	r=0.155
Control	r=0.393	r=0.170	r=0.125	r=0.333	r=0.441*	r=0.489*	r=0.299
Restriction	r=0.375	r=0.166	r=0.131	r=0.446*	r=0.646**	r=0.431*	r=0.407*
Supporting	r=0.342	r=0.139	r=0.167	r=0.288	r=0.294	r=0.315	r=0.253

Note. *r* = Spearman correlation, \* Moderate level correlation coefficients  $p < 0.001$ , \*\* High level correlation coefficients  $p < 0.001$ .

**Table 5.** The mean scale scores of the parents' approaches on nutrition and activity and calculated Cronbach's alpha reliability coefficient (n = 1004)

The sub-dimensions of the PEAS	Total Scores Mean±SD	Item Scores Mean±SD	Cronbach's Alpha
Monitoring sub-dimension	24.37±5.39	3.48±0.77	0.80
Discipline sub-dimension	16.18 4.47	4.05±1.14	0.75
Control sub-dimension	20.75±4.88	3.45±0.81	0.81
Restriction sub-dimension	27.26±6.53	4.54±1.08	0.86
Supporting sub-dimension	6.67±2.23	3.33±1.11	0.82
Scale Total	95.27±18.92	3.66±0.72	0.91

the total number of the experts and the CVI value is obtained. In the literature, the value of 0.80 CVI is recommended as the criterion (22,23). In this study, it was found that the expert opinions were compatible with each other concerning whether the PEAS items that were translated to Turkish were appropriate to the language and culture. Based on these results, it can be said that the statements of the PEAS that were translated to Turkish are suitable to Turkish culture and that the content validity is achieved.

In the construct validity study, it is shown that a KMO value of 0.60 or higher sample size is suitable for the factor analysis in order to evaluate whether the sample is sufficient for factor analysis. Moreover, Bartlett test result should be  $p < 0.05$  (17,24). In this study, KMO value of the PEAS was greater than 0.60 and the sample size was sufficient for the factor analysis. The factor analysis is the most commonly used method

for adaptation of intercultural scales and it is used to evaluate whether the items of the scale are gathered under different sub-dimensions (22,24). As a result of the exploratory factor analysis made in our study, it was observed that the areas measured by the items were generally related with each other. Only the "supporting" sub-dimension distribution of the two items belonging to the "monitoring" sub-dimension was observed; (Item 5 "Does your child have to ask for your permission before getting snacks; Item 7 " How seriously do you follow your child's activity / exercise extent?". Despite these two items are related with and similar to the items in the supporting sub-dimension, these situations need to be monitored and supported. When parents support their children for choosing healthy snacks and monitor and support the amount of their movements and exercises, this facilitates their children to adopt healthy lifestyle behaviors as a form of behavior at an early age (18,25). There is a literature which suggests that parents' feeding practices are broadly linked with their parenting styles (26), and that parenting styles are good predictors of children's healthier eating and physical activity behaviours (27). In the study conducted on the development of the PEAS scale, Larios et al. 2009 reported that in case the support sub-scale consisted of only 2 items, this could restrict the support sub-dimension. Hence, evaluation of these two items that are included in the monitoring sub-dimension of the original scale in the supporting sub-dimension may enhance the supporting sub-dimension. In this case, in the Turkish form of the scale, the support sub-scale will consist of 4 items and the monitoring sub-scale will consist of 5 items. Minimum and maximum that the participants can receive from the monitoring sub-dimension are 5 and 25, re-

spectively; the minimum and maximum that they can receive from the support sub-dimension are 4 and 20, respectively (18).

In order to determine the effectiveness of the scale, the criterion validity examines the relationship between the scores received from the scale and the determined criteria (20,22). In our research, the strong correlation between the mean scores received from the monitoring sub-dimension of the PEAS and the monitoring sub-dimension of the CFQ, which is determined as the criterion, shows the compliance validity. Similarly, the moderate correlation between the mean scores received from the Control sub-dimension of the PEAS and the Restriction and Pressure to Eat sub-dimensions of the CFQ's explains the compliance validity. The medium and high level of correlations between the mean scores of the Restriction sub-dimension of the PEAS and the sub-dimensions of Concern about Child Weight, Restriction, Pressure to Eat and Monitoring of the CFQ also indicate that there is compliance validity.

Cronbach's alpha reliability coefficient was used to evaluate the internal consistency of a measurement tool. The coefficient is considered as a determinant of the internal consistency of the questions in the test and is expected to take a value between 0-1. The high reliability coefficient of a measuring instrument indicates that the items in the scale evaluate the same character and they are consistent with each other (21). In our study, the Cronbach's alpha reliability coefficient of the PEAS was found to be 0.91 and it was determined that the internal consistency of the scale was highly reliable. Larios et al (2009), who developed the Parenting Strategies for Eating and Activity Scale, found Cronbach's alpha reliability coefficient of the five sub-scales of the scale as between 0.81 and 0.82 in their original research. Cronbach's alpha reliability coefficient of the sub-scales of the PEAS were also between 0.75 - 0.86 in this study and it had a fairly reliable internal consistency similar to the original study results (18).

## Conclusions

The data obtained from this study also reveal that PEAS is a valid and reliable measurement tool

in measuring parental approaches regarding nutrition and activities of children in Turkey. In this direction, PEAS is suggested to be used by the healthcare professionals working with children and their families to determine the factors related to the parents' approaches regarding children's nutrition and activities. The scale also can be used in making more effective programs and evaluating programs by providing valid and reliable information about children's healthy nutrition and activity programs. Along with that, this scale is suggested as a possible guide for healthcare professionals in preparing nutrition and diet programs for children by revealing parents' attitudes towards nutrition and activity.

## References

1. Yalvac S, Erkan T, Erginöz E, Çokuğraş FÇ, Kutlu F. The evaluation of nutritional status of children by antropometric measurements living in day nursery of Bahçelievler Original Article. *Turkish Archives of Pediatrics* 2008;43:89-93. <http://www.turkpediatriarsivi.com/sayilar/224/buyuk/89-931.pdf>
2. Erkan T, Yalvac S, Erginöz E, Çokuğraş FÇ, Kutlu T. The evaluation of nutritional status of children, by anthropometric measurements, attending the day nursery of Cerrahpasa Medical School. *Turkish Archives of Pediatrics* 2007;42:142-147. <http://www.turkpediatriarsivi.com/sayilar/227/buyuk/142-1471.pdf>
3. Birch LL, Davison KK, et al. Family environmental factors influencing the developing behavioral controls of food intake and childhood overweight. *Pediatric Clinics of North America* 2001; 48: 893-907. [https://doi.org/10.1016/S0031-3955\(05\)70347-3](https://doi.org/10.1016/S0031-3955(05)70347-3)
4. Kobak C, Pek H. Comparison of Mother and Child Health and Nutrition Habits of the Nursery School Kids in Preschool Period (Aged 3-6). *H.U. Journal of Education* 2015; 30:42-55. <http://www.efdergi.hacettepe.edu.tr/yonetim/icerik/makaleler/6-published.pdf>
5. Lo K, Cheung C, Lee A, Tam WSW, Keung V. Associations between parental feeding styles and childhood eating habits: a survey of Hong Kong pre-school children. *Plos One* 2015;10:1-11. <https://doi.org/10.1371/journal.pone.0124753>
6. Blissett J, Haycraft E. Are parenting style and controlling feeding practices related? *Appetite* 2008; 50: 477-485. <https://doi.org/10.1016/j.appet.2007.10.003>
7. Birch LL, Fisher JO, Davison KK. Learning to overeat: Maternal use of restrictive feeding practices promotes girls' eating in the absence of hunger. *American Journal of Clinical Nutrition* 2003; 78(2): 215-220. doi: 10.1093/ajcn/78.2.215

8. Clark HR, Goyder E, Bissell P, Blank L, Peters J. How do parents' child-feeding behaviours influence child weight? Implications for childhood obesity policy. *Journal of Public Health* 2007; 29:132-141.
9. Faith MS, Berkowitz RI, Stallings VA, et al. Parental feeding attitudes and styles and child body mass index: Prospective analysis of a gene-environment interaction. *Pediatrics* 2004; 114(4): 429-436. doi: 10.1542/peds.2003-1075-L
10. Ayala G, Ibarra L, Arredondo E, et al. Promoting healthy eating by strengthening family relations: design and implementation of the Entre Familia: Reflejos de Salud intervention. Matto H, Strolin-Goltzman J, Ballan M, Elk R, Landrine H. *Cancer Disparities: Causes and Evidence-Based Solutions*. American Cancer Society Springer Publishing Company. 2011; 237-245.
11. Palfreyman Z, Haycraft E, Meyer C. Development of the Parental Modelling of Eating Behaviours Scale (PARM): links with food intake among children and their mothers. *Maternal and Child Nutrition* 2014; 10: 617-629. doi: 10.1111/j.1740-8709.2012.00438.x.
12. Economos CD, Bakun JP, Herzog BJ, et al. Children's perceptions of weight, obesity, nutrition, physical activity and related health and socio-behavioural factors. *Public Health Nutrition* 2012; 17: 170-1378. <https://doi.org/10.1017/S136898001200479X>
13. Osborne JW, Costello AB. Sample size and subject to item ratio in principal components analysis. *Practical Assessment, Research & Evaluation* 2004;9(11):1-9. <https://pare-online.net/getvn.asp?v=9%26n=11>
14. Hatcher LA. Step-by-Step approach to using the SAS system for factor analysis and structural equation modeling. Cary, North Carolina, SAS Institute, Inc. 1994;325-339.
15. Gorsuch RL. *Factor Analysis*. 2. Edition, Hillsdale, NJ, Lawrence Erlbaum Associates 1983.
16. Streiner DL, Kottner J. Recommendations for Reporting the Results of Studies of Instrument and Scale Development and Testing. *Journal of Advanced Nursing* 2014;70: 1970-1979. <https://doi.org/10.1111/jan.12402>
17. Tavşancıl E. *Attitude Measurement and Data Analysis with SPSS*. Ankara, Nobel Publishing. 2014;19-51.
18. Larios SE, Ayala GX, Arredondo EM, Baquero B, Elder JP. Development and validation of a scale to measure Latino parenting strategies related to children's obesogenic behaviors. The parenting strategies for eating and activity scale (PEAS). *Appetite* 2009;52:166-172. doi: 10.1016/j.appet.2008.09.011.
19. Camcı N, Bas M, Buyukkaragoz AH. The psychometric properties of the Child Feeding Questionnaire (CFQ) in Turkey. *Appetite* 2014;78:49-54. <https://doi.org/10.1016/j.appet.2014.03.009>
20. Zamanzadeh V, Rassouli M, Abbaszadeh A, et al. Details of Content Validity and Objectifying It in Instrument Development. *Nursing Practice Today* 2014;1:163-171. <http://npt.tums.ac.ir/index.php/npt/article/view/24/75>
21. Harrington D. *Confirmatory Factor Analysis*. Tripodi T. United States Of America, Oxford University Press 2009.
22. Esin MN. Reliability and Validation of Data Collection Tools. Erdoğan S, Nahcivan N, Esin MN. *Research Process, Practice and Criticism in Nursing*. Istanbul, Nobel Medical Bookstores. 2014;216-229.
23. LoBiondo-Wood G, Haber J. Reliability and Validity. LoBiondo-Wood G, Haber J. *Nursing Research*. New York, Elsevier Health Sciences, 2014;289-309.
24. Sencan H. *Validity and Reliability in Social and Behavioral Measures*. Ankara, Seekin Publishing. 2005.
25. O'Connor TM, Hingle M, Chuang JR, et al. Conceptual Understanding of Screen Media Parenting: Report of a Working Group. *Childhood Obesity* 2013;9:110-118. doi: 10.1089/chi.2013.0025.
26. Hughes SO, Power TG, Fisher JO, Mueller S, Nicklas TA. Revisiting a neglected construct: Parenting styles in a child-feeding context. *Appetite* 2005;44:83-92. doi: 10.1016/j.appet.2004.08.007
27. Rhee KE, Lumeng JC, Appugliese DP, Kaciroti N, Bradley RH. Parenting styles and overweight status in first grade. *Pediatrics* 2006; 117: 2047-2054. doi: 10.1542/peds.2005-2259

---

Correspondence:

Ozlem Sinan

Ankara Yıldırım Beyazıt University, Faculty of Health Sciences, Department of Nursing, Ankara, Turkey

Phone: +905322078353

E-mail: ozlemozdemir310@gmail.com