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RESEARCH

Validity and reliability of the Turkish version of The Eating Motivations Scale (EATMOT)

Emre Bayraktaroğlu[1] · Fatmanur Özyürek Arpa[2] · Merve Pehlivan[2] · Raquel PF Guiné[3]

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Abstract

This study aims to adapt "The Eating Motivations Scale (EATMOT)" scale into Turkish and conduct a validity and reliability study of the scale for the Turkish population. Approval was received from the developer of the EATMOT scale to conduct this study. The scale was first translated into Turkish from English by five experts in their fields and one professional translator fluent in both languages. The scale was then administered to 940 participants whose native language was Turkish and whose ages ranged from 18 to 65. Translation, exploratory factor analysis, and confirmatory factor analysis were applied to evaluate the scale's validity. In evaluating its reliability, inter-item correlations, the first 27%-last 27% discrimination, and Cronbach's alpha coefficient were assessed in total-item correlations. Factor analysis showed that item scores were higher than 0.70. The Cronbach's alpha coefficient of the scale was calculated as 0.82, indicating that the scale is reliable. Cronbach's alpha internal consistency coefficients of the subgroups in the scale were found to be varying in the range of 0.6–0.9. It was concluded that the Turkish version of the EATMOT questionnaire is a reliable and valid tool that can be used in field studies to examine the motivations that affect people's food choices and eating behaviors.

Keywords Food choices · Eating behavior · Eating motivations · Dietary habits · The Eating Motivations Scale · Validation

Introduction

Eating behavior and making food choices are a multidimensional and complex process that depends on many internal and external factors [1]. In addition to the appearance, taste, smell, brand, and packaging, which are the unique characteristics of the food, a person's positive or negative feelings about that food depend on internal and external characteristics. Other factors related to food choices are psychological factors, including cognition, memory, and personality traits; biological and physiological factors, such as age, gender, gastrointestinal physiology, hunger, and satiety status; and situational factors related to the physical environment, coping problems, and assimilation [2]. Likewise, since eating is a social occasion and is often an integral part of social events, social reasons are also critical factors [3].

Understanding the motivations underlying people's eating behavior is essential from a health and economic perspective. Information about eating habits is also crucial to promoting effective health strategies [4]. Food choice is a series of conscious or unconscious decisions regarding nutrients during food consumption, food purchase, or any moment between these two actions. Food preferences are seen as the essential component of all purchasing decisions regarding food choices made by consumers [4].

The present study is an extension of the multinational project titled "Psycho-social Motivations Associated with Food Choices and Eating Practices (EATMOT)," conducted in various countries to study some psychological and social motivations that affect people's food choices and eating behaviors. The EATMOT, designed by Polytechnic de Viseu, is a scale developed to determine the psycho-social motivations associated with people's food choices and eating practices. The scale includes six dimensions: health, emotional state, affordability and suitability, social and cultural influences, environmental and political determinants, and marketing and advertising [5]. The validity and reliability of

✉ Merve Pehlivan
mervepehlivan@medipol.edu.tr

1 Department of Nutrition and Dietetics, School of Health Sciences, Istanbul Medipol University, Istanbul, Turkey

2 Department of Nutrition and Dietetics, Faculty of Health Sciences, Istanbul Medipol University, Istanbul, Turkey

3 Department of Food, Industry Polytechnic Institute of Viseu, Viseu, Portugal

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the scale were performed in many countries [6–8]. However, adaptation work has not yet been done in our country. This study aims to determine the motivations for food selection among Turkish people by conducting a validity and reliability study of EATMOT in Türkiye.

Material and method

Data collection

The original EATMOT scale used in the scale development study includes the following sections: Demographic Information (9 questions), Anthropometric Data and Behavioral and Health-Related Factors (9 questions), Perceptions about Healthy Nutrition (10 Questions), Information Sources about Healthy Nutrition (7 items), Health-Related Motivations (10 questions), Emotional Motivations (9 questions), Motivations Related to Economics and Accessibility (7 questions), Social and Cultural Motivations (9 questions), Environmental and Political Motivations (7 questions), Marketing and Commercial Motivations (7 questions). The scale consists of these parts: Demographic Information (9 questions), Anthropometric Data and Behavioral and Health-Related Factors (9 questions), Healthy Nutrition-Related Motivations (7 questions), Health-Related Motivations (10 questions), Emotional Motivations (9 questions), Economic and Accessibility-Related Motivations (7 questions), Social and Cultural Motivations (9 questions), Environmental and Political Motivations (7 questions), and Marketing and Commercial Motivations (7 questions).

The validity and reliability studies of the scale were conducted on 49 items belonging to the last six parts related to motivation. The scale consisting of these six items has a 5-point Likert structure, and each answer statement corresponds to the value in parentheses: Strongly disagree (1), Disagree (2), Neither agree nor disagree (3), Agree (4), Strongly agree (5). In these six main items, the average of all statements is expressed as the motivation of the group to which it belongs. The necessary permission to adapt the questionnaire to Turkish was obtained by the research team that developed the questionnaire via e-mail. The research was approved by the ethics committee of (Intentionally left blank for blind review) (Issue: 1103). In addition, the individuals participating in the study signed an informed consent form that guarantees data protection.

Translation of the scale

The researchers first translated the original questionnaire for the study into Turkish. During this initial translation, the authenticity of the survey was preserved. The first translation and the original questionnaire were independently reviewed by five experts proficient in both languages and knowledgeable in nutrition and dietetics for preliminary evaluation. The translation was then examined by a professional English-Turkish translator. Based on these evaluations, the translation was finalized, incorporating suggestions for changes. The researchers back-translated the items into the original language using the reverse translation method and compared them with the original. A bilingual translator, an expert in nutrition and dietetics terminology, conducted the back-translation process. A panel of five experts evaluated the original and back-translated versions independently to assess semantic, conceptual, and cultural equivalence. The questionnaire, translated into Turkish, was used for a pilot study. Cultural appropriateness was tested in pilot study with 40 participants who evaluated the clarity and relevance of each item. They were also asked to write down the meaning of the items and suggest how any unclear items should be expressed. Their feedback was analyzed, and minor adjustments were made to ensure cultural and linguistic compatibility before finalizing the scale.

Participants

The survey, which was decided to be appropriate by comparing it with the original through the reverse translation method and taking an expert opinion, was applied by a face-to-face interview method to a total of 940 participants whose native language was Turkish. This sample size was determined based on a 1:10 participant-to-item ratio and an additional allowance for 100 potential missing participants. The participants were literate, 18–65 years of age, 514 (54.68%) women and 426 (45.32%) men living in Türkiye. Participation was based on entirely voluntary.

Individuals who had participated in a similar study and/or did not agree to participate in the study or did not sign the consent form, and/or did not have sufficient reading, comprehension, or response skills in the language used in the scale adaptation, or had mental or physical health problems that prevented them from understanding or answering the questions in the scale were not included in the study.

Statistical calculations

Descriptive statistical analysis was performed and percentage, mean and standard deviation were calculated. The obtained data were evaluated using the IBM Statistical Package for the Social Sciences 24 (SPSS) and AMOS 24 programs. Kaiser–Meyer–Olkin (KMO) and Bartlett's sphericity tests were applied to test whether the data matrix was suitable for validity and reliability studies. A KMO coefficient higher than 0.70 was considered appropriate, and for Bartlett's Test of Sphericity, a p value below 0.05 was required [9]. Exploratory factor analysis (EFA)

and confirmatory factor analysis (CFA) were performed to assess the scale's construct validity. EFA utilized principal components and the direct oblimin method. The number of factors was determined based on eigenvalues more significant than one on the eigenvalue line graph and the number of rapid declines related to acceleration on the graph [10]. When examining the scale items, those with factor loadings greater than 0.60 or between 0.30 and 0.59 were considered suitable, regardless of the direction of the factor weights. It also checked whether items belonged to a single factor or if the difference in factor weight was more than 0.10 when items loaded on more than one factor [11, 12]. Due to the EFA, inappropriate items were removed from the scale. Scale items that were not meaningful in the target culture and language were also removed. The factors constituting the scale were expected to explain more than 50% of the variance [13].

The remaining items were evaluated for suitability in the CFA, which was conducted using the maximum likelihood method. The assessment included the following parameters: CMIN/df, AGFI, GFI, NFI, CFI, IFI, TLI, RMSEA, and RMR. Fit indices were evaluated according to the criteria listed in Table 1 [14, 15].

The scale's reliability was evaluated by assessing the Cronbach's Alpha values of the scale and its sub-factors, as well as using Item-Total Score Correlation and Lower 27%-Upper 27% (Distinctiveness) Methods. The Cronbach's alpha reliability coefficient was considered highly reliable between 0.60 and 0.90. Each item on the scale was required to exhibit a significant relationship with the total score, with a correlation coefficient of at least 0.30. Additionally, a statistically significant difference between the lower 27% and upper 27% of the measurement tool was required [16]. The independent groups' *T* test was used for the distinctiveness test, and the Pearson correlation test was used for correlation tests. A *p* value smaller than 0.05 was considered statistically significant.

Table 1 Criteria for fit indices

Model[1]	Perfect fit	Acceptable fit
CMIN/df	$0 \leq \text{CMIN/df} \leq 2$	$2 \leq \text{CMIN/df} < 3$
AGFI	$0.90 \leq \text{AGFI} \leq 1.00$	$0.85 \leq \text{AGFI} \leq 0.90$
GFI	$0.95 \leq \text{GFI} \leq 1.00$	$0.90 \leq \text{GFI} \leq 0.95$
NFI	$0.95 \leq \text{NFI} \leq 1.00$	$0.90 \leq \text{NFI} \leq 0.95$
CFI	$0.95 \leq \text{CFI} \leq 1.00$	$0.90 \leq \text{CFI} \leq 0.95$
IFI	$0.95 \leq \text{IFI} \leq 1.00$	$0.90 \leq \text{IFI} \leq 0.95$
TLI	$0.95 \leq \text{TLI} \leq 1.00$	$0.90 \leq \text{TLI} \leq 0.95$
RMSEA	$0.00 \leq \text{RMSEA} \leq 0.05$	$0.05 \leq \text{RMSEA} \leq 0.08$
SRMR	$0.00 \leq \text{SRMR} \leq 0.05$	$0.05 \leq \text{SRMR} \leq 0.10$

[a]Adjustment Goodness of Fit Index (AGFI), Goodness of Fit Index (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker–Lewis Index (TLI), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR)

Results

A total of 940 people were interviewed face-to-face and participated in the Turkish adaptation study of the scale. Supplementary Table S.1 provides participants' demographics, anthropometric data, behavioral and health-related factors, perceptions about healthy nutrition, and sources of information about healthy nutrition.

The KMO coefficient of the data was calculated as 0.867, and the Bartlett's Test of Sphericity result was 10,034.427 ($p < 0.001$). The line graph of the eigenvalues of the scale is presented in Fig. 1. According to the graph, the scale comprises six factors: Health, Emotions, Convenience, Society, and Marketing (Fig. 1). These six factors explain 59.331% of the total variance. As a result of the EFA, 28 items on the scale were appropriate. The factors and factor weights of the items that make up the scale are shown in Table 2.

After a confirmatory factor analysis, the factor weights of all items were above 0.40, indicating a strong relationship between the items and their respective factors (Fig. 2). According to all the goodness-of-fit tests evaluated, the scale exhibited an acceptable or excellent level of fit (Table 3).

The results of the reliability tests conducted with the final version of the scale are shown in Table 2. The Cronbach's alpha coefficient was determined as 0.821 for the whole scale, 0.837 for the health factor, 0.896 for the emotions factor, 0.776 for the Convenience factor, 0.61 for the society factor, 0.828 for the environment and politics factor, 0.658 for advertising. It was found that all the items comprising the scale showed a significant correlation above 0.30. When the participants' scores from the scale were assessed, a significant difference was found between the bottom 27% and the top 27%. Considering these three aspects, it has been demonstrated that the scale was very reliable and distinctive in the Turkish version (Table 4).

Table 5 shows the results of the scale for the participants. The sample indicated that health-related motivations affected food choice first, followed by factors associated with the environment and emotions.

Discussion

This study aimed to assess the validity and reliability of the Turkish version of EATMOT developed by Guine et al. [17]. The structure and reliability of the scale were evaluated using exploratory factor analysis, confirmatory factor analysis, Cronbach's alpha reliability coefficient, total item correlation, and discrimination testing methods, and

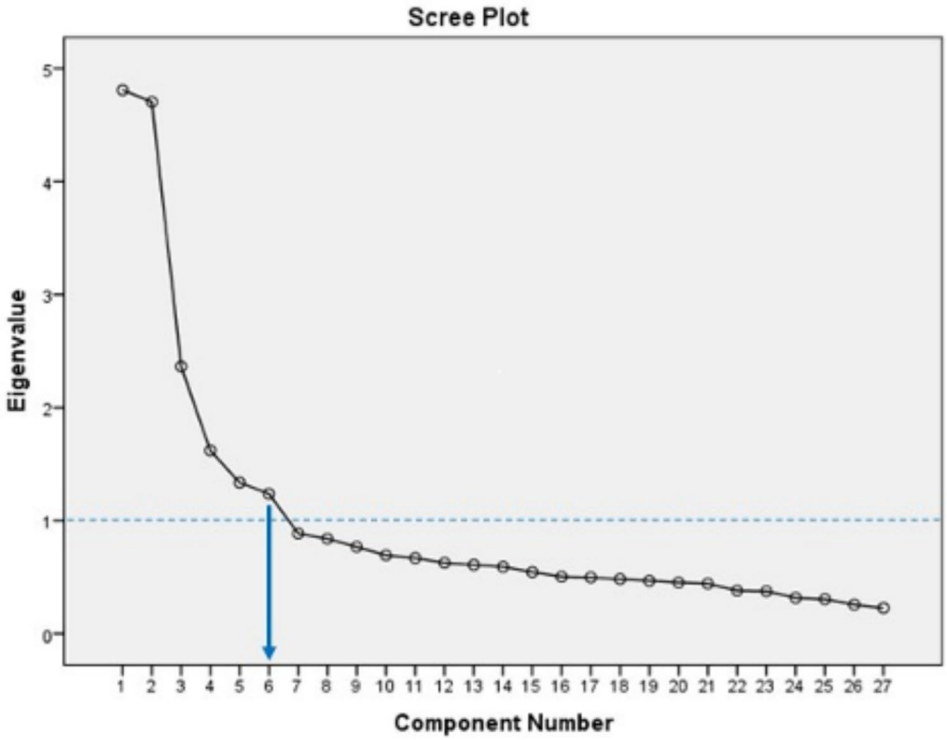

Fig. 1 Line graph of the eigenvalues of the scale

the relationships between the relevant variables were investigated. According to the findings, the Turkish version of EATMOT provided good validity and reliability.

The sample consisting of the participants included in the study ($n=940$) is largely similar to the 2023 Turkish population statistics in terms of median age, gender distribution, education level, and living environment in Turkish society. In terms of marital status, while the majority of Turkish society is married, in our study, the majority are single and living alone [18]. According to the Turkish physical activity guideline, the physical activity frequency of adults is 28.1% [19]. Similar results are seen with the sample in our study (Supplementary Table 1). In a study conducted in Mediterranean countries, including Turkey, the prevalence of food allergy and non-allergic food hypersensitivity was determined as 9.5% [20]. In our study, this rate was found to be 9.15%. It was seen that general sociodemographic characteristics and certain life parameters reflected the Turkish sample. The KMO value provided for our data and the significance of Bartlett's Test of Sphericity indicate that the data collected in our study are suitable for factor analysis. Following the exploratory factor analysis, it was found that the Turkish adaptation of the scale consists of 6 sub-dimensions, similar to the original development study. Then, 28 of the 49 items that make up the original scale were deemed appropriate and preserved within the scope of the Turkish adaptation studies [5]. In the development study conducted by Guine et al., a second dimension was created and CFA was repeated. Nevertheless, it had to be found appropriate according to the goodness of fit indices and the final version of the scale was formed with a total of 20 items [17]. In our study, including a second dimension was deemed unnecessary, and our scale was found appropriate in terms of fit indices in the first dimension CFA. The fact that the original development work was done with the participation of people from many cultures may have resulted in more items being retained in our study.

When the reliability of the factors that make up the scale is evaluated, it was observed that, similar to the original scale, the Society factor had the lowest value. While this value was 0.522 in the original scale, it was determined as 0.61 in our study. This shows that the reliability of the Society factor during our adaptation process was similar to the original scale and even exceeded it to a certain extent [17]. All items in our adaptation study were found to correlate with the total score and exhibit a distinctive feature.

The food choices influence production systems and, therefore, cause environmental impacts [21]. Understanding individual food choices is critical for transforming the current food system to ensure people's health and the planet's sustainability [22]. The determinants of food motivation have been considered from different perspectives, including health, emotional, environmental, cultural, monetary, commercial, and social viewpoints [23]. Research across nine European countries found that price was consistently the most important factor influencing food choice, while familiarity and ethical concerns were consistently ranked as the least important [24]. Another study conducted in Türkiye

Table 2 The factors and factor weight of the items

Items	Factors					
	Health	Emotions	Convenience	Society	Environment	Marketing
21.3 Usually I follow a healthy and balanced diet	0.742					
21.4 It is important for me that my daily diet contains a lot of vitamins and minerals	0.703					
21.6 I try to eat foods that do not contain additives	0.745					
21.7 I avoid eating processed foods, because of their lower nutritional quality	0.777					
21.8 It is important for me to eat food that keeps me healthy	0.743					
21.10 I avoid foods with genetically modified organisms	0.637					
22.1 Food helps me cope with stress		0.790				
22.5 Food makes me feel good		0.746				
22.6 When I feel lonely, I console myself by eating		0.862				
22.7 I eat more when I have nothing to do		0.837				
22.8 For me, food serves as an emotional consolation		0.868				
22.9 I have more cravings for sweets when I am depressed		0.728				
23.2 The main reason for choosing a food is its low price			0.852			
23.3 I choose the food I consume, because it is convenient to purchase			0.794			
23.6 I usually buy food that it is on sale			0.765			
24.1 Meals are a time of fellowship and pleasure				0.582		
24.2 I eat more than usual when I have company				0.782		
24.3 It is important to me that the food I eat is similar to the food I ate when I was a child				0.643		
24.4 I eat certain foods because other people (my colleagues, friends, family) also eat it				0.605		
25.1 It is important to me that the food I eat is prepared/packed in an environmental friendly way					−0.598	
25.3 It is important to me that the food I eat comes from my own country					−0.530	
25.4 I prefer to eat food that has been produced in a way that animals' rights have been respected					−0.767	
25.5 I choose foods that have been produced in countries where human rights are not violated					−0.738	
25.6 I avoid going to restaurants that do not have a recovery policy of food surplus					−0.827	
25.7 I prefer to buy foods that comply with policies of minimal usage of packaging					−0.815	
26.2 I eat what I eat, because I recognize it from advertisements or have seen it on TV						0.724
26.3 I usually buy food that spontaneously appeals to me (e.g., situated at eye level, appealing colours, pleasant packaging)						0.750
26.5 Food advertising campaigns increase my desire to eat certain foods						0.682

determined that food taste had the most impact on food choice [25]. A study on the sustainable food choices of Turkish adults published in 2024 found that under the "General sustainability" factor, the expressions "Traded fairly" and "Produced with sufficient space for animals" had the highest values [26]. Our study confirms that many sensory and non-sensory factors are effective in people's food choices. In our study, the most important factors affecting food choice were environment/politics and emotions. The results of the scale for the participants are presented in Table 5. This study identified several motivations that strongly influenced the participants' food choices. When the results are analyzed in terms of cultural factors, the rate of compliance with religious restrictions in this study in Turkey (7.7%), which is higher than other studies [34], suggests that the religious and social structure in Turkey has a significant impact on food choices. In particular, practices in Islam, such as eating during Ramadan and the prohibition of eating certain animal

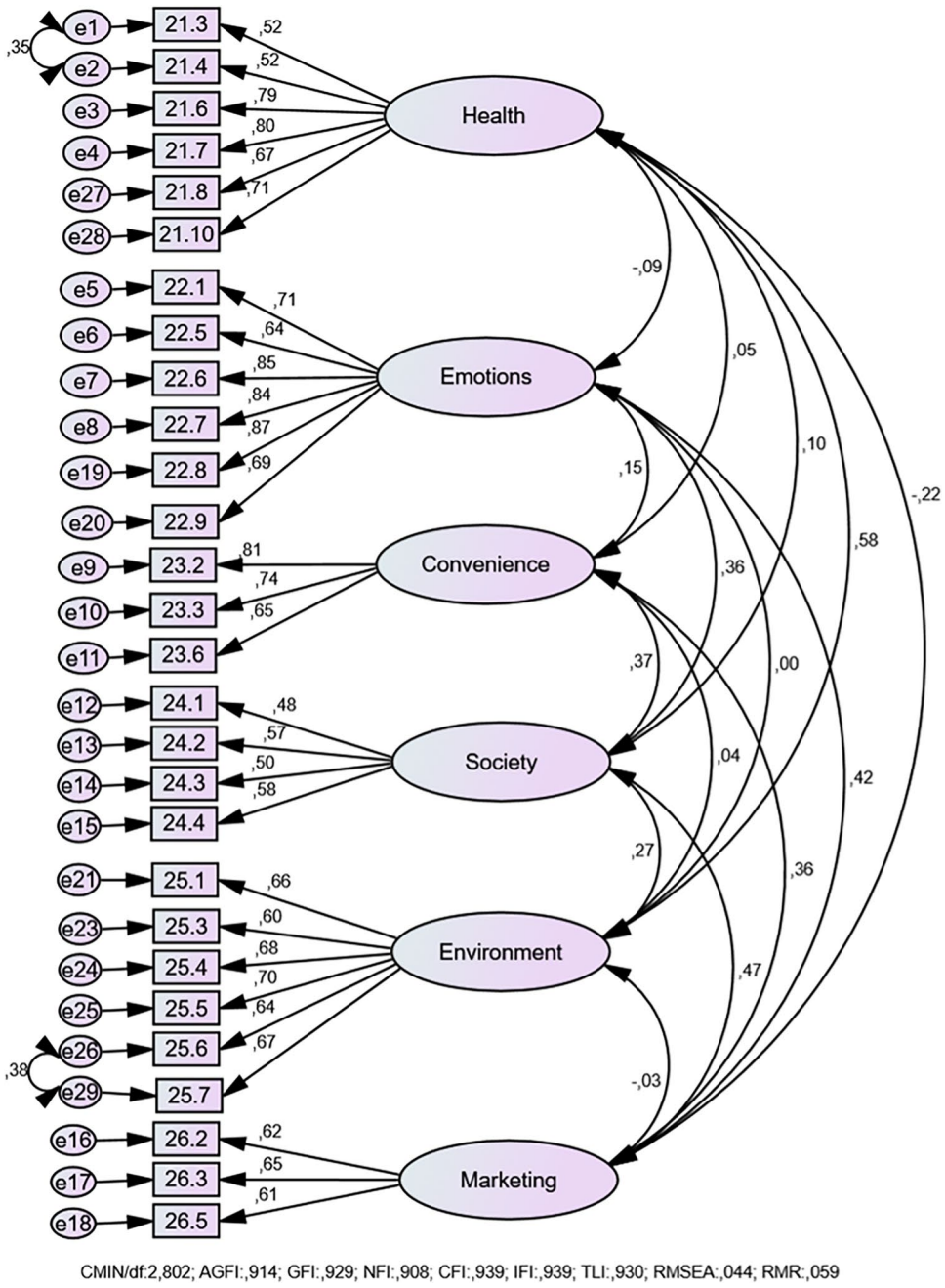

Fig. 2 The first level confirmatory factor analysis model

meats, may have contributed to this. Another important finding is that health-oriented (mean = 3.44) and environmental-oriented (mean = 3.37) motivations were prominent in our study. Especially in terms of health-oriented motivation, our study is similar to Guiné et al. (2020). This may be due to changes in people's perceptions of health and environment, especially after the pandemic. Although social and family factors have a lower impact (mean = 2.93) compared to health, emotional, and environment factors, the high level of approval of statements such as "Meals are a time of fellowship and pleasure" in the scale shows that this parameter is still important for the Turkish society despite having a low impact compared to other parameters. These results can be used to develop interventions that raise awareness about the environment and recycling.

Besides information and knowledge, other cognitive aspects contribute to food choices. People with chronic diseases generally aim to meet both the body's physiological needs and obtain extra health benefits [27]. Additionally, some chronic diseases may require following a special diet [28]. This may cause individuals to differ in their food preferences from the general population [29, 30]. In the study, 26.87% of the participants had chronic diseases, with the most common being gastric disorders at 6.49%. Circulatory

Table 3 Goodness of fit values obtained as a result of confirmatory factor analysis

Model[a]	Scale	Fit assessment
CMIN/df	2.802	Acceptable
AGFI	0.914	Perfect
GFI	0.929	Acceptable
NFI	0.908	Acceptable
CFI	0.939	Acceptable
IFI	0.939	Acceptable
TLI	0.930	Acceptable
RMSEA	0.044	Perfect
SRMR	0.059	Acceptable

[a]Adjustment Goodness of Fit Index (AGFI), Goodness of Fit Index (GFI), Normed Fit Index (NFI), Comparative Fit Index (CFI), Incremental Fit Index (IFI), Tucker–Lewis Index (TLI), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR)

diseases accounted for close to one-third (32.4%) of all deaths in the EU in 2021. The second most common cause was cancer (21.6%) [31]. Although chronic diseases are similar to those in Europe, the high prevalence of gastrointestinal disorders is an important factor affecting individuals' food preferences.

Following a special diet is also a significant parameter influencing food choices [32]. A study using the EATMOT scale found that 76% of participants did not follow a special diet regimen [33]. In 2019, another study conducted by Guine et al. found this rate to be 77.4%, while 7.8% of participants followed a caloric restriction/weight control diet [34]. In our study, 71.9% of the participants stated that they did not follow a special diet, 12.7% followed a caloric restriction/weight control diet, and 7.7% followed religious restrictions. The rate of those who did not follow a special diet in our study is similar to other studies conducted with the EATMOT scale. However, the rate of those who practiced religious restrictions was higher than in the study by Guine et al.

Food allergies not only affect people's food choices, food preparation, and purchasing habits but also reduce their quality of life [35]. In the Wongprawmas et al. study, 16% of participants, in the Guine et al. study, 13.1% of participants, and 9.15% (86 individuals) of participants in this study reported having an allergy or intolerance to a specific food or nutrient [33, 34]. A study found that the motivations for food choices did not differ between individuals diagnosed with food allergies by healthcare professionals and those without allergies. However, it revealed that individuals who self-reported having food allergies exhibited motivations for food choices that were more emotionally driven compared to the other two groups [36]. Food allergy is a significant health factor that inevitably influences people's food choices. Despite including individuals with food allergies or intolerances at varying rates in previous studies using EATMOT, researchers believe that future studies should assess these individuals separately from the general population for increased accuracy.

Table 4 The results of the reliability tests

Factor	Item	Chronbach's α	Total Item Correlations	First 27%—Last 27% Distinctiveness t (*p*)
Total Scale		0.821		43.413 (<0.01)
Health	21.3	0.837	0.541	
	21.4		0.537	
	21.6		0.678	
	21.7		0.694	
	21.8		0.629	
	21.10		0.600	
Emotions	22.1	0.896	0.683	
	22.5		0.617	
	22.6		0.797	
	22.7		0.781	
	22.8		0.806	
	22.9		0.643	
Convenience	23.2	0.776	0.668	
	23.3		0.612	
	23.6		0.559	
Society	24.1	0.61	0.339	
	24.2		0.450	
	24.3		0.370	
	24.4		0.404	
Environment	25.1	0.828	0.577	
	25.3		0.514	
	25.4		0.603	
	25.5		0.616	
	25.6		0.634	
	25.7		0.658	
Marketing	26.2	0.658	0.470	
	26.3		0.488	
	26.5		0.458	

Table 5 Motivational factors ($N=940$ participants)

Factor	Mean ± Standard deviation
Health	3.44 ± 0.78
Emotions	3.11 ± 1.01
Convenience	2.82 ± 0.91
Society	2.93 ± 0.76
Environment	3.37 ± 0.79
Marketing	2.84 ± 0.86

Limitations

This study has several strengths, but it is not without limitations. First, the survey participants were selected on a voluntary basis, which might have introduced selection bias. As a result, the sample may not fully represent the broader population, potentially limiting the generalizability of the findings to other demographic or cultural groups. Second, the reliance on self-reported data for all scales used in the study may have introduced biases such as social desirability or recall bias, which could influence the accuracy of the responses. Lastly, the economic turmoil experienced in the country during the period of data collection might have influenced participants' responses, as such contextual factors can shape individuals' perceptions and attitudes reflected in the survey results.

Conclusions

Despite these limitations, this study demonstrated the validity and reliability of the EATMOT scale in a Turkish sample for the first time. The findings indicate that the Turkish version of EATMOT has a high level of validity and reliability. This underscores the importance of considering diverse factors influencing food choices in research. In many studies conducted in the field of public health and dietetics, the EATMOT survey provides a valuable tool for detailing individuals' food preferences and motivations. For further understanding of eating behaviors and food choices, future research could consider conducting longitudinal studies using EATMOT tool. For example, in social studies, changes in individuals' eating behaviors and food choices can be monitored over time using EATMOT. Additionally, interventions based on the EATMOT scale results could be designed and tested on the factors, offering insights for targeted health promotion strategies.

Practical implications.

- The questionnaire can be used to assess the eating motivations and dietary habits of individuals or specific groups in Turkey.
- Based on the eating motivations and dietary behaviors analyzed with the questionnaire, public health strategies can be developed for the whole population and specific groups.
- The questionnaire can be a guiding tool for policy makers in the formulation of comprehensive nutrition policies.
- The eating motivations of the groups to receive nutrition education can be determined and can be a guide in designing education.
- By comparing the eating motivations and nutritional behaviors of different groups, intercultural differences can be identified and used to take action accordingly.

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Authors' contribution EB and MP contributed to the study's conception and design. MP and FÖA collected data. EB analyzed all data, contributed to all statistical analyses, and interpreted data. EB, MP, and FÖA wrote the manuscript. RG supervised the article. All authors contributed to the article and approved the submitted version.

Data availability The datasets presented in this article are not readily available due to restrictions (e.g., they contain information that could compromise the privacy of research participants). Requests to access the datasets should be directed to FÖA, fozyurek@medipol.edu.tr.

Declarations

Competing interest The authors declare no competing interests.

References

1. Sarikaya D, Halil M, Kuyumcu ME, Kilic MK, Yesil Y, Kara O, et al. Mini nutritional assessment test long and short form are valid screening tools in Turkish older adults. Arch Gerontol Geriatr [Internet]. 2015 Jul 1 [cited 2024 Apr 19];61(1):56–60. Available from: https://pubmed.ncbi.nlm.nih.gov/25944059/.
2. Zwierczyk U, Sowada C, Duplaga M. Eating Choices—The roles of motivation and health literacy: a cross-sectional study. Nutrients. (2022) 14: 4026 [Internet]. 2022 Sep 28 [cited 2024 Apr 4];14(19):4026. Available from: https://www.mdpi.com/2072-6643/14/19/4026/htm.
3. Renner B, Sproesser G, Strohbach S, Schupp HT. Why we eat. what we eat The Eating Motivation Survey (TEMS). Appetite. 2012;59(1):117–28.
4. Öztürk E, Tekeli S. Tüketicilerin Besin Seçim Güdüleri: Y ve Z Kışaklarının Karşılaştırılması. Pazarlama ve Pazarlama Araştırmaları Dergisi. 2021;14(1):147–82.
5. Ferrão AC, Guiné RPF, Correia P, Ferreira M, Duarte J, Lima J. Development of a questionnaire to assess people's food choices determinants. Curr Nutr Food Sci. 2017;15(3):281–95.
6. Boustani NM, Guiné RPF. Food choice motivations and perception of a healthy diet in a developing Mediterranean country. Open Agric [Internet]. 2020 Jan 1 [cited 2024 Apr 4];5(1):485–95. Available from: https://doi.org/10.1515/opag-2020-0048/html.
7. Ferreira VA, Cristine Souza Lopes A, Pinho Ferreira Guiné R, Magalhães Fundação Oswaldo Cruz R, Alves Ferreira V, Cosme Ribeiro M, et al. Perception of healthy eating among adults participating in the Eat-Mot survey in Brazil Perception of healthy eating among adults participating in the Eat-Mot survey in Brazil. Soc Dev [Internet]. [cited 2024 May 20]; Available from: https://doi.org/10.33448/rsd-v10i2.12601.

8. Dunn D, Keenan-Miller D, Isoldi KK, Sarcona A, Dolar V, Guiné RPF. Measurement and correlates of food selection motivations in a United States sample. Am J Health Behav [Internet]. 2022 Apr 20 [cited 2024 May 20];46(2):186–96. Available from: https://pubmed.ncbi.nlm.nih.gov/35501960/.
9. Can A. Bir ölçme aracının yapısal özelliklerini belirlemek için: SPSS ile Bilimsel Araştırma Sürecinde Nicel Veri Analizi . 5th ed. Ankara: Pegem Akademi; 2017. 325 p.
10. Çolakoğlu ÖM, Büyükekşi C. Evaluation of factors effecting exploratory factor analysis process. Int Refer J Karaelmas J Educ Sci J Homepage. 2014;2:58–64.
11. Akbaş U, Karabay E, Ayaz A, Osman Özgür D. Türkiye Ölçme Araçları Dizininde Yer Alan Açımlayıcı Faktör Analizi Çalışmalarının Paralel Analiz Sonuçları İle Karşılaştırılması. Kuramsal Eğitimbilim Dergisi [Internet]. 2019 Jul 31 [cited 2024 May 20];12(3):1095–123. Available from: https://dergipark.org.tr/tr/pub/akukeg/issue/46293/453786 .
12. Büyüköztürk Ş. Faktör Analizi: Temel Kavramlar ve Ölçek Geliştirmede Kullanımı. Kuram ve Uygulamada Eğitim Yönetimi [Internet]. 2002 Mar 1 [cited 2024 May 20];32(32):470–83. Available from: https://dergipark.org.tr/en/pub/kuey/issue/10365/126871.
13. Alpar R. Uygulamalı Çok Değişkenli İstatistiksel Yöntemler . Detay Yayıncılık; 2017. 254 p.
14. Erkorkmaz Ü, EtIkan I, DemIr O, Özdamar K, SanIsoğlu SY. Doğrulayıcı Faktör Analizi ve Uyum İndeksleri. Turkiye Klinikleri J Med Sci [Internet]. 2013 [cited 2024 May 20];33(1):210–23. Available from: https://www.turkiyeklinikleri.com/article/en-dogrulayici-faktor-analizi-ve-uyum-indeksleri-64107.html.
15. Ilhan M, Çetin B. LISREL ve AMOS Programları Kullanılarak Gerçekleştirilen Yapısal Eşitlik Modeli (YEM) Analizlerine İlişkin Sonuçların Karşılaştırılması. Egit Psikol Olcme Deger Derg [Internet]. 2014 Jul 9 [cited 2024 May 20];5(2):26–42. Available from: https://dergipark.org.tr/tr/pub/epod/issue/5809/77255.
16. Can A. Bir ölçme aracıyla yapılan ölçümün güvenirliğini belirleme için: SPSS ile Bilimsel Araştırma Sürecinde Nicel Veri Analizi . 5th ed. Ankara: Pegem Akademi; 2017. 391–393 p.
17. Guiné Raquel PF, Duarte J, Ferrão AC, Ferreira M, Correia P, Cardoso AP, et al. The Eating Motivations Scale (EATMOT): Development and validation by means of confirmatory factor analysis (CFA) and structural equation modelling (SEM). Zdr Varst [Internet]. 2020 Dec 31 [cited 2024 Apr 4];60(1):4–9. Available from: https://pubmed.ncbi.nlm.nih.gov/33488816/.
18. Türkiye İstatistik Kurumu. Adrese Dayalı Nüfus Kayıt Sistemi Sonuçları. 2023 [cited 2024 Dec 31]. TÜİK Kurumsal. Available from: https://data.tuik.gov.tr/Bulten/Index?p=Adrese-Dayali-Nufus-Kayit-Sistemi-Sonuclari-2023-49684.
19. TC. Sağlık Bakanlığı. Türkiye Yetişkinlerde Fiziksel Aktivite [Internet]. 2014. Available from: www.fizikselaktivite.gov.tr.
20. Gelincik A, Büyüköztürk S, Gül H, Işik E, Işsever H, Özşeker F, et al. Confirmed prevalence of food allergy and non-allergic food hypersensitivity in a Mediterranean population. Clin Exp Allergy. 2008;38(8):1333–41.
21. Enriquez JP, Archila-Godinez JC. Social and cultural influences on food choices: a review. Crit Rev Food Sci Nutr [Internet]. 2022 [cited 2024 May 27];62(13):3698–704. Available from: https://doi.org/10.1080/10408398.2020.1870434 .
22. Chen PJ, Antonelli M. Conceptual models of food choice: influential factors related to foods, individual differences, and society. Foods 2020, Vol 9, Page 1898 [Internet]. 2020 Dec 18 [cited 2024 May 27];9(12):1898. Available from: https://www.mdpi.com/2304-8158/9/12/1898/htm.
23. Martinho VJPD, Bartkiene E, Djekic I, Tarcea M, Barić IC, Černelič-Bizjak M, et al. Determinants of economic motivations for food choice: insights for the understanding of consumer behaviour. Int J Food Sci Nutr [Internet]. 2022 [cited 2024 May 27];73(1):127–39. Available from: https://doi.org/10.1080/09637486.2021.1939659.
24. Markovina J, Stewart-Knox BJ, Rankin A, Gibney M, de Almeida MDV, Fischer A, et al. Food4Me study: validity and reliability of Food Choice Questionnaire in 9 European countries. Food Qual Prefer. 2015;1(45):26–32.
25. Dikmen D, Inan-Eroğlu E, Göktaş Z, Barut-Uyar B, Karabulut E. Validation of a Turkish version of the food choice questionnaire. Food Qual Prefer. 2016;1(52):81–6.
26. Aksoy Canyolu B, Martini D, Şen N. Determining sustainable food choice motives: validity and reliability of the sustainable food choice questionnaire (SUS-FCQ) in Turkish adults. Sustainability (Switzerland) [Internet]. 2024 May 1 [cited 2024 Jul 4];16(9):3519. Available from: https://www.mdpi.com/2071-1050/16/9/3519/htm.
27. de Mello Marsola C, de Carvalho-Ferreira JP, Cunha LM, Jaime PC, da Cunha DT. Perceptions of risk and benefit of different foods consumed in Brazil and the optimism about chronic diseases. Food Res Int. 2021;143:110227.
28. Brassard D, Manikpurage HD, Thériault S, Arsenault BJ, Lamarche B. Greater adherence to the 2019 Canada's Food Guide recommendations on healthy food choices reduces the risk of cardiovascular disease in adults: a prospective analysis of UK Biobank data. Am J Clin Nutr. 2022;116(6):1748–58.
29. Picard K, Razcon-Echeagaray A, Griffiths M, Mager DR, Richard C. Currently Available Handouts for Low Phosphorus Diets in Chronic Kidney Disease Continue to Restrict Plant Proteins and Minimally Processed Dairy Products. J Ren Nutr. 2023;33(1):45–52.
30. Andersen JLM, Frederiksen K, Kyrø C, Hansen J, Raaschou-Nielsen O, Overvad K, et al. Organic food consumption and the incidence of type 2 diabetes mellitus in the Danish Diet, Cancer and Health cohort. Diabetes Res Clin Pract. 2023;1(205):110972.
31. Causes of death statistics - Statistics Explained [Internet]. [cited 2024 Jul 5]. Available from: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Causes_of_death_statistics.
32. Hoefkens C, Verbeke W, Van Camp J. European consumers' perceived importance of qualifying and disqualifying nutrients in food choices. Food Qual Prefer. 2011;22(6):550–8.
33. Wongprawmas R, Mora C, Pellegrini N, Guiné RPF, Carini E, Sogari G, et al. Food choice determinants and perceptions of a healthy diet among Italian consumers. Foods 2021 10: 318 [Internet]. 2021 Feb 3 [cited 2024 Jul 5];10(2):318. Available from: https://www.mdpi.com/2304-8158/10/2/318/htm.
34. Guiné R, Ferrão AC, Ferreira M, Correia P, Cardoso AP, Duarte J, et al. The motivations that define eating patterns in some Mediterranean countries. Nutr Food Sci. 2019;49(6):1126–41.
35. Lee YM, Sozen E, Wen H. A qualitative study of food choice behaviors among college students with food allergies in the US. British Food J. 2023;125(5):1732–52.
36. Sommer I, MacKenzie H, Venter C, Dean T. Factors influencing food choices of food-allergic consumers: findings from focus groups. Allergy [Internet]. 2012 [cited 2024 Jul 5];67(10):1319–22. https://doi.org/10.1111/j.1398-9995.2012.02883.x