





# Adaptation of the Food Waste Avoidance Motivation Scale into Turkish: A Validity and Reliability Study

Cansu Memiç İnan<sup>1</sup>, Ceren Şarahman-Kahraman<sup>2</sup>, Özlem Çetiner<sup>3</sup>, Meltem Soylu<sup>2</sup>

<sup>1</sup> Hitit University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Çorum, Türkiye.

<sup>2</sup> Alanya Alaaddin Keykubat University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Çorum, Türkiye.

<sup>3</sup> Atılım University, Faculty of Health Sciences, Department of Nutrition and Dietetics, Ankara, Türkiye.

**Correspondence Author:** Cansu Memiç İnan

**E-mail:** [dyt.cansumemic@gmail.com](mailto:dyt.cansumemic@gmail.com)

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## ABSTRACT

**Objective:** We conducted this research to assess the psychometric properties of the Turkish version of the Food Waste Avoidance Motivation (MAFW) scale, specifically focusing on its use with adults.

**Methods:** Between January and May 2025, data for this research were obtained via in-person interviews conducted with adults who are residents of Niğde, Turkey. The validity of the MAFW scale was examined by employing Confirmatory Factor Analysis (CFA). The internal reliability of the instrument was determined through consistency analysis; consequently, the Cronbach's alpha coefficient was derived.

**Results:** The study's sample population comprised 268 adult subjects, with a mean age of  $29.0 \pm 10.5$  years. With an overall Cronbach's  $\alpha$  of 0.88, the MAFW scale demonstrated strong internal consistency. The reliability coefficients for its individual subscales were observed to fall within the range of 0.82 to 0.96. The four-factor structure of the MAFW scale (environmental motivation, social motivation, financial motivation, and moral motivation) was confirmed through CFA, and the fit indices indicated a good model fit ( $\chi^2/df=2.88$ ; RMSEA=0.084; GFI=0.95; AGFI=0.94; CFI=0.92; TLI=0.91; SRMR=0.04). According to the convergent validity analysis, significant correlations were observed between the MAFW scale score and the Plate Clearing Tendency Scale and Household Food Security Survey Module– Short Form. Convergent validity analyses showed statistically significant but weak correlations between the MAFW scale score and both the Plate Clearing Tendency Scale and the Household Food Security Survey Module–Short Form

**Conclusion:** Our findings indicate that the Turkish adaptation of the MAFW scale can be effectively utilized as a valid and reliable tool for measuring adult motivation to avoid food waste. The MAFW scale presents a valuable resource for subsequent studies aiming to gauge individuals' knowledge, opinions, and actions concerning food wastage.

**Keywords:** Adult, food waste, motivation, reliability, validity

## 1. INTRODUCTION

Foods are critically important for sustaining life, ensuring optimal growth and development, protecting against diseases, and regulating metabolic processes (1). Food reaches the table through a complex system referred to as “farm to fork,” which includes production, harvesting, processing, packaging, distribution, and delivery to consumers (2). The rapid increase in the world population intensifies competition for water, soil, and energy resources, thereby limiting food production (3). Therefore, the concept of food waste, which causes economic and environmental problems in today's world, has gained significant importance. The term ‘food waste’ refers to any item of food that has been manufactured for people to eat but is nevertheless disposed of somewhere along the food supply chain (4). Approximately one-third of all food produced each year is lost or wasted, a statistic highlighted by the United Nations Food and Agriculture Organization (FAO) (5). Globally, the scale of food loss and waste has arrived at a

critical threshold in current times. This phenomenon has been documented to exert a detrimental effect on food security, to contribute to the augmentation of greenhouse gas emissions, and to engender economic losses (6). Turkey ranks third among the top 10 countries worldwide with the highest per capita food waste (7). Therefore, preventing food waste in Turkey holds great importance.

The motivation to engage in behaviors that reduce food waste is referred to as “food waste avoidance motivation.” (8). In food waste avoidance motivation, which refers to the willingness to take action to reduce the amount of food wasted, social, financial, moral, and environmental motivations have been reported to influence individuals' behaviors by driving change (9, 10). This indicates that food waste avoidance motivation is multidimensional. The environment is suggested to be the most important factor in food waste; because food waste leads to unnecessary use of

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soil and water, disrupting ecological balance and negatively affecting natural resources and sustainability (11).

Individuals with high environmental and social motivations are known to avoid factors that negatively impact the environment (3); in this context, having environmental motivation is important for food waste avoidance. It has been established that feelings of unease stemming from food waste are linked to an individual's moral attitude. Findings in the literature frequently indicate that people feel unfavorable emotions as a consequence of discarding food. We hypothesize that individuals holding firm moral convictions regarding the ethical implications of food waste will show a significantly lower propensity for wastage. Consequently, these moral positions are anticipated to influence both their purchasing and consumption patterns, alongside a commitment to learning more effective food preservation techniques (13). Additionally, the concern and guilt felt towards people lacking sufficient access to food morally influence the motivation to reduce food waste (10). It can be posited that individuals who are ethically minded tend to be more conscientious about food waste.

From an economic vantage point, food waste constitutes a substantial source of cost, with the potential to engender considerable economic losses (14). A study revealed that factors such as guilt and financial anxiety have a significant impact on reducing food waste (15). In today's world, marked by economic crises, the increase in food production costs and consequently food prices may lead to a greater influence of economic factors on food waste avoidance. Humans are social beings; therefore, social motivational factors also play a role in the emergence of food waste behavior (16). All of these factors indicate that multiple elements play a role in food waste avoidance. Although there are scales in the literature that include components of attitudes or awareness toward food waste (17, 18, 19), there was a lack of a scale measuring the different motivations for avoiding food waste. Therefore, the Food Waste Avoidance Motivation (MAFW) scale was developed by Ribbers et al. (20). As far as is known, there is no comprehensive scale in Turkey that measures motivations to prevent food waste. Therefore, this study aimed to adapt the MAFW scale for Turkish culture in an adult population.

## 2. METHODS

### 2.1. Study location and participants

The data for this research were obtained between January and May of 2025 through face-to-face interviews conducted with adult individuals residing in Niğde, Türkiye. A structured questionnaire was utilized for the collection of data. Individuals younger than 19 or older than 64 years of age, those who were not literate in Turkish, those with severe psychiatric or cognitive disorders, and those who did not provide informed consent were excluded from the study. Ethical approval has been granted by the Ethics Committee of a public university (Date: 24.06.2024; Decision No: 188953).

All participants voluntarily consented to participate in the study, which was carried out in accordance with the principles of the Declaration of Helsinki. Tavşancıl (21) asserts that for scale adaptation research, the minimum required sample size ought to be five to ten times greater than the total count of items on the instrument. Given that the MAFW scale comprises 21 items, a sample size of 105–210 participants was deemed sufficient. In light of the potential for data loss, the final analysis was conducted with 268 participants.

### 2.2. Adaptation protocol

The 21-item MAFW scale was adapted into Turkish with the permission of Ribbers et al. (20) as obtained via email. The scale was translated into Turkish using the forward-backward translation method. During the forward translation stage, one bilingual translator and one native Turkish-speaking academic performed the translation independently and without knowledge of each other's work. The initial two translations were evaluated and harmonized by the researchers. Following this, an independent individual back-translated the scale into English, and a three-person expert panel assessed its consistency to yield the preliminary final edition. The scale's clarity and ease of understanding were evaluated through the implementation of a preliminary pilot study. The study population was comprised of 10 individuals who were selected from the target population. Feedback was collected from the participants.

### 2.3. Measures

#### 2.3.1. Questionnaire form

The participants' socio-demographics—comprising age, gender, marital status, education level, and occupation—were collected in the first section of the survey, which also gathered data on their diverse lifestyle practices. Body weight and height data were obtained through self-reports. The body mass index (BMI) was calculated using the following formula: weight (kilograms) / height (meters)<sup>2</sup>. BMI scores were categorized based on the guidelines provided by the World Health Organization (WHO) (22).

#### 2.3.2. Food Waste Avoidance Motivation Scale (MAFW)

The MAFW scale, originally developed by Ribbers et al. (20), aims to identify the underlying motivations that drive consumers to avoid food waste. Comprising a total of 21 statements, the measurement tool utilizes a 7-point Likert continuum. Participants rate items on a range where 1 denotes "Strongly Agree" and 7 signifies "Strongly Disagree." There are no items coded in reverse on the scale. The scale is composed of four dimensions: The following categories are distinguished: environmental motivation, social motivation, financial motivation, and moral motivation. The first seven items of the questionnaire assess environmental motivation, the subsequent eight to thirteen items measure social motivation, the following fourteen to seventeen items correspond to

financial motivation, and the final twenty-one items evaluate moral motivation. The subscales demonstrated commendable internal consistency, with Cronbach's alpha coefficients of 0.91 for Environmental, 0.81 for Social, 0.84 for Financial, and 0.92 for Moral Motivation, respectively.

### 2.3.3. Plate Clearing Tendency Scale (PCTS)

Robinson et al. (23) were the original authors of the Plate Clearing Tendency Scale (PCTS). Later, Şarahman-Kahraman et al. (24) made the scale available in Turkish. The purpose of the scale is to gauge the degree to which people are inclined to eat everything that is dished out onto their plates. The scale under consideration consists of five items that are rated on a 5-point Likert scale. In the present study, the Turkish version that had been validated was utilized, and the Cronbach's alpha reliability coefficient was found to be 0.70. The PCTS score is computed by totaling the participant's responses to the five statements. Importantly, a greater score on this scale reflects an increased likelihood of finishing all food served.

### 2.3.4. Household Food Security Survey Module-Short Form (HFSSM-SF)

The United States Department of Agriculture (USDA) first developed the Household Food Security Survey Module-Short Form (HFSSM-SF). Now used to assess food security levels among people, the scale was made psychometrically sound in Turkish by Emiral et al. (25). The instrument under consideration comprises six items, which are structured on a Likert-type scale. The total score for the scale is computed as a continuous variable, with possible values ranging from 0 to 6 (where 6 indicates the highest level of food insecurity).

## 2.4. Statistical Analysis

For the statistical analysis of the data obtained from the study, R Studio software (26) and SPSS 25.0 package program (27) were used.

Psychometric evaluation of the scale proceeded in four complementary stages: 1) confirmatory factor analysis to establish the measurement model, 2) reliability assessment, 3) evaluation of convergent validity (internal and external), and 4) examination of discriminant validity.

Confirmatory factor analysis (CFA) was performed using R (version 4.4.1) with the *lavaan* package (version 0.6-19). The model was estimated using maximum likelihood (ML). Although the items were measured on 7-point Likert-type scales, they were treated as approximately continuous, which is a common practice in CFA when response categories are five or more and distributions do not show extreme non-normality (28). Missing data were handled using full information maximum likelihood (FIML). Model identification was achieved by fixing latent variable variances to one ( $\text{std.lv} = \text{TRUE}$ ). No correlated residuals were specified, and no post-hoc model modifications based on modification indices were applied.

In the literature, several fit indices are used to test whether the hypothesized factor structure is confirmed by the

adapted scale (29, 30). The chi-square ( $\chi^2$ ) goodness-of-fit index, along with the GFI, AGFI, TLI, CFI, SRMR, and RMSEA, served as the primary indicators for assessing model fit of CFA in the present study. Previously reported cut-off values were used for fit indicators (29, 30).

To determine the adapted scale's internal reliability, the Cronbach's alpha coefficient was calculated. For this analysis, a minimum threshold of 0.6 was established as the acceptable value (31). Along with the Cronbach's alpha, model-based reliability coefficients were calculated using McDonald's omega and composite reliability based on the standardized CFA solution with the threshold of 0.7 (32). The relationship between the items in the scale and their corresponding factors was evaluated using item-total correlation values. Items with correlations approaching or exceeding 0.50 were considered acceptable, consistent with common psychometric guidelines, supporting flexibility for theoretically relevant items with slightly lower values (33).

Convergent validity was examined at two complementary levels. First, convergent validity at the measurement-model level was evaluated using average variance extracted (AVE), which indicated that the latent constructs accounted for a substantial proportion of variance in their indicators with the threshold of 0.50 (34). Second, external convergent validity was assessed using two theoretically related scales – the PCTS and HFSSM-SF. Spearman correlation coefficients were computed to determine the relationship between the MAFW scale's composite and factor scores and the overall composite scores derived from the other two instruments. The strength of the relationships between the scales was evaluated based on the cutoff values presented in the literature (35).

Discriminant validity was evaluated using the Fornell-Larcker criterion. Specifically, the average variance extracted (AVE) for each latent construct was compared with the squared correlations between constructs derived from the CFA model (36). In all statistical analyses, the significance level was accepted as  $p < 0.05$ .

## 3. RESULTS

The demographic and general characteristics of the participants are detailed in Table 1. The study participants were largely composed of females (73.1%) and those aged 19 to 24 (52.6%). The average age for the entire group was calculated as  $29.0 \pm 10.5$  years. Furthermore, nearly half (48.9%) of the sample reported having a low income. Individuals with a normal body weight comprised 57.8% of the sample (mean BMI  $24.2 \pm 4.4$  kg/m<sup>2</sup>). Eighty-five point four percent (85.4%) of the participants hold a university undergraduate degree. The mean environmental motivation score was  $40.3 \pm 8.9$ , the social motivation score was  $18.8 \pm 11.6$ , the moral motivation score was  $16.8 \pm 4.5$ , and the financial motivation score was  $21.9 \pm 5.9$ . The MAFW scale yielded an mean total score of 97.9 (with a standard deviation of  $\pm 19.7$ ).

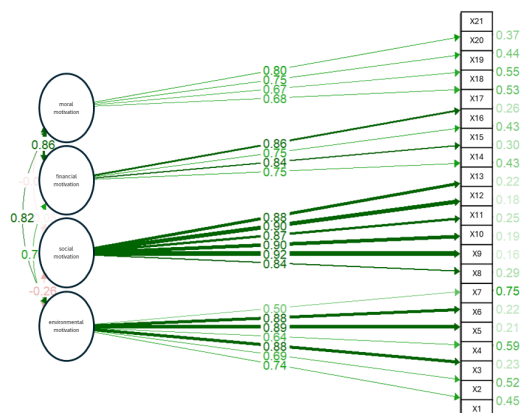
**Table 1.** General information of the individuals of the participants

Variables	n (%) or Mean ± SD
<b>Age (years)</b>	29.0±10.5
19-24	141 (52.6)
25-62	127 (47.4)
<b>Sex</b>	
Female	196 (73.1)
Male	72 (26.9)
<b>Income</b>	
Low	131 (48.9)
Medium	14 (5.2)
High	123 (45.9)
<b>BMI (kg/m<sup>2</sup>)</b>	24.2±4.4
Underweight	13 (4.9)
Normal	155 (57.8)
Overweight	69 (25.7)
Obesity	31 (11.6)
<b>Education status</b>	
Primary and secondary school	6 (2.2)
High school	13 (4.9)
University Undergraduate	229 (85.4)
University Postgraduate	20 (7.5)
<b>Environmental motivation</b>	40.3±8.9
<b>Social motivation</b>	18.8±11.6
<b>Moral motivation</b>	16.8±4.5
<b>Financial motivation</b>	21.9±5.9
<b>MAFW scale</b>	97.9±19.7

BMI: Body Mass Index; SD: Standard Deviation; MAFW: Food Waste Avoidance Motivation. Note: Age was categorized based on the median value.

**3.1. Confirmatory Factor Analysis**

The primary function of the CFA was to determine if the previously identified structure of the original scale was consistent with the data gathered from the adapted scale. According to the analysis results, the four-factor structure of the original scale was confirmed in the Turkish-adapted version (Figure 1 and Table 2). The fit index values for the four-factor Turkish version of the scale were  $\chi^2/df = 2.88$ ; RMSEA = 0.084; GFI = 0.95; AGFI = 0.94; CFI = 0.92; TLI = 0.91; and SRMR = 0.04. Accordingly, the construct validity tested through CFA demonstrates good/ acceptable fit according to all given reference values.



**Figure 1.** Confirmatory Factor Analysis of the Turkish Version of the MAFW

**Table 2.** Values and fit statistics related to the conformity of the Turkish version of the MAFW to the original scale, based on CFA

	$\beta$	Std. Error	z-value	p	Std. $\beta$
<b>Latent Variables</b>					
<b>Environmental motivation</b>					
x1	1.157	0.083	13.916	<0.001	0.742
x2	1.115	0.088	12.671	<0.001	0.693
x3	1.38	0.077	17.907	<0.001	0.875
x4	1.069	0.094	11.408	<0.001	0.639
x5	1.301	0.071	18.34	<0.001	0.888
x6	1.394	0.077	18.138	<0.001	0.882
x7	0.918	0.109	8.448	<0.001	0.498
<b>Social motivation</b>					
x8	1.817	0.107	16.978	<0.001	0.843
x9	1.968	0.101	19.497	<0.001	0.916
x10	1.919	0.102	18.816	<0.001	0.898
x11	1.846	0.104	17.799	<0.001	0.869
x12	1.948	0.102	19.045	<0.001	0.905
x13	1.87	0.102	18.277	<0.001	0.882
<b>Financial motivation</b>					
x14	1.268	0.091	13.866	<0.001	0.752
x15	1.401	0.087	16.137	<0.001	0.836
x16	1.408	0.101	13.989	<0.001	0.753
x17	1.486	0.088	16.83	<0.001	0.858
<b>Moral motivation</b>					
x18	1.163	0.097	12,006	<0.001	0.684
x19	1.191	0.102	11,644	<0.001	0.67
x20	1.327	0.097	13,669	<0.001	0.747
x21	1.457	0.097	14,965	<0.001	0.796
<b>Covariances</b>					
<b>Environmental motivation</b>					
Social motivation	-0.256	0.061	-4.216	<0.001	-0.256
Financial motivation	0.757	0.034	22.353	<0.001	0.757
Moral motivation	0.821	0.03	27.429	<0.001	0.821
<b>Social motivation</b>					
Financial motivation	-0.049	0.067	-0.734	0.463	-0.049
Moral motivation	-0.091	0.068	-1.332	0.183	-0.091
<b>Financial motivation</b>					
Moral motivation	0.863	0.029	29.763	<0.001	0.863
<b>Goodness-of-fit indices</b>					
$\chi^2 = 527.660, sd = 183, p < 0.001, \chi^2/sd = 2.88$ ;					
RMSEA = 0.084, RMSEA(%90 CI) = 0.076 – 0.092, $p < 0.001$ ;					
GFI = 0.953;					
AGFI = 0.935;					
CFI = 0.922					
TLI = 0.911					
SRMR = 0.036					

**3.2. Reliability Analysis**

Table 3 presents the item analysis and internal consistency. According to the item–factor correlation values, only one item (x7) showed a slightly lower item–scale correlation ( $r = 0.489$ ) and a comparatively lower standardized factor loading ( $Std.\beta \approx 0.50$ ), however both values were close to commonly accepted thresholds. Given its theoretical relevance and contribution to content validity, the item was retained in the scale.

**Table 3.** Item analysis and internal consistency

Factor	Item	Item–scale correlation	Cronbach’s alpha if item deleted
<b>Environmental motivation</b>			
	x1	0.723	0.876
	x2	0.690	0.880
	x3	0.785	0.869
	x4	0.635	0.887
	x5	0.799	0.869
	x6	0.805	0.867
	x7	0.489	0.907
<b>Social motivation</b>			
	x8	0.818	0.953
	x9	0.894	0.944
	x10	0.875	0.946
	x11	0.846	0.949
	x12	0.883	0.945
	x13	0.856	0.948
<b>Financial motivation</b>			
	x14	0.693	0.856
	x15	0.808	0.812
	x16	0.695	0.858
	x17	0.744	0.836
<b>Moral motivation</b>			
	x18	0.649	0.772
	x19	0.657	0.767
	x20	0.621	0.784
	x21	0.645	0.773

Table 4 represents the Cronbach’s  $\alpha$  values and  $\omega$ /CR values for all subscales of the Turkish version of the MAFW scale. The Cronbach’s  $\alpha$  reliability coefficient of the MAFW scale was found to be 0.88. The Cronbach’s  $\alpha$  values for the subscales ‘Environmental motivation,’ ‘Social motivation,’ ‘Financial motivation,’ and ‘Moral motivation’ were calculated as 0.90, 0.96, 0.88, and 0.82, respectively. Accordingly, all subscales of the scale demonstrated high reliability. These results were supported by the composite reliability and McDonald’s omega, in which all constructs demonstrated satisfactory to excellent reliability ( $\omega$ /CR = 0.81–0.96).

**3.3. Convergent validity**

**3.3.1. Internal-convergent validity**

Average variance extracted (AVE) values, standing for internal convergent validity of the scale, are reported in Table 4. As AVE values ranged from 0.53 to 0.79, exceeding the recommended threshold of 0.50 for all constructs, internal convergent validity was supported.

**3.3.2. External-convergent validity**

Correlations assessing the external convergent validity of the MAFW scale are presented in Table 5. Accordingly, a very weak correlation was found between the total score of the scale and the total scores of the PCTS and the HFSSM-SF. When the correlations between the subscales and the scores of other scales were evaluated, it was observed that the ‘Environmental motivation’ and ‘Moral motivation’ subscales showed weak correlations with the PCTS, while the ‘Social motivation’ subscale showed a weak correlation with the HFSSM-SF.

**Table 4:** Reliability, Convergent Validity and Squared Latent Correlations of the Constructs

Construct	Cronbach’s $\alpha$	CR / $\omega$	AVE
<b>Environmental motivation</b>	0.895	0.88	0.55
<b>Social motivation</b>	0.956	0.96	0.79
<b>Financial motivation</b>	0.876	0.87	0.64
<b>Moral motivation</b>	0.820	0.81	0.53
<b>Squared Latent Correlations</b>			
	<b>Environmental motivation</b>	<b>Social motivation</b>	<b>Financial motivation</b>
<b>Environmental motivation</b>	1.000		
<b>Social motivation</b>	0.066	1.000	
<b>Financial motivation</b>	0.573	0.002	1.000
<b>Moral motivation</b>	0.675	0.008	0.745
			<b>Moral motivation</b>

**Table 5.** Correlations between the MAFW scale subscales and total score with PCTS and HFSSM-SF

	PCTS	HFSSM-SF	Environmental motivation	Social motivation	Financial motivation	Moral motivation	MAFW scale
<b>*PCTS</b>	1.000	-0.008	0.207**	-0.085	0.194**	0.243**	0.159**
<b>* HFSSM-SF</b>		1.000	-0.001	0.214**	0.003	0.016	0.135*
<b>*Environmental motivation</b>			1.000	-0.112	0.535**	0.569**	0.647**
<b>*Social motivation</b>				1.000	0.018	-0.061	0.465**
<b>*Financial motivation</b>					1.000	0.611**	0.723**
<b>*Moral motivation</b>						1.000	0.654**
<b>*MAFW scale</b>							1.000

Spearman correlation analysis was used. \*  $p < 0.05$  \*\*  $p < 0.001$

### 3.4. Discriminant validity

Discriminant validity was examined using the Fornell–Larcker criterion by comparing AVE values with the squared latent correlations (Table 4). While constructs involving “social motivation” showed clear discriminant validity, several comparisons among “environmental motivation”, “financial motivation”, and “moral motivation” revealed squared correlations that slightly exceeded the corresponding AVE values. This pattern suggests that these constructs are closely related yet not redundant, which is theoretically plausible given their conceptual overlap. Overall, discriminant validity was partially supported.

## 4. DISCUSSION

It is imperative to comprehend the underlying motivations that underpin efforts to prevent food waste. This fundamental understanding facilitates the identification of the psychological mechanisms and dimensions that are intrinsic to this issue. Moreover, it serves as a foundational element in the development of effective intervention strategies. This investigation’s primary aim is the assessment of the measurement properties of the Turkish MAFW scale, specifically testing its adequacy for adult individuals. The results obtained demonstrate that the Turkish MAFW scale possesses the necessary validity and reliability to be considered a measurement instrument.

The construct validity assessment utilized CFA, the results of which demonstrated that the original four-factor model of the MAFW scale holds true for the Turkish sample as well. The obtained fit indices ( $\chi^2/df = 2.88$ ; RMSEA = 0.084; CFI = 0.92; TLI = 0.91) fall within the acceptable ranges reported in the literature (29, 30). This finding suggests that the four dimensions of the scale—namely, environmental, social, financial, and moral motivation—can also be meaningfully distinguished within the context of Turkish culture. Given the absence of validity and reliability studies of the MAFW scale in diverse cultural contexts, a comparison of the obtained structure with the original study was undertaken.

While the psychometric indicators for item X7 are slightly lower compared to other items, its performance is still within acceptable limits. The decision to retain this item was based on theoretical assessments and the necessity to preserve the conceptual content of the item. The slightly poorer performance may stem from nuances in expression or cultural interpretations. This situation should be examined in future research through qualitative assessment or item improvement.

The evidence gathered in this research confirms the reliability of the MAFW scale’s Turkish adaptation, establishing it as a trustworthy tool for measurement (total Cronbach’s  $\alpha = 0.88$ ; environmental motivation: 0.90; social motivation: 0.96; financial motivation: 0.88; moral motivation: 0.82). Also, the “social motivation” subscale demonstrated very high internal consistency ( $\omega = 0.96$ ), which may reflect significant homogeneity in the content.

While this indicates a well-defined structure, it may also point to potential item redundancy. Future studies could attempt to explore condensed versions of this subscale while maintaining acceptable psychometric quality. Our results are consistent with the Cronbach’s  $\alpha$  values reported in the original version of the scale (ranging from 0.81 to 0.92). Although no scale similar to the MAFW scale that assesses motivations to prevent food waste has been found in the literature. Cronbach’s  $\alpha$  values above 0.80 have generally been reported for various scales related to food waste. The Food Waste Behaviour Scale developed by Tung and Rahman (37) reported a Cronbach’s  $\alpha$  value of 0.78. A Cronbach’s  $\alpha$  value of 0.85 was found for the Food Appreciation Scale used by Cosgrove (38). Furthermore, a Cronbach’s  $\alpha$  of 0.86 was documented for the Household Food Waste Scale that was developed by Ntai et al. (39). These results indicate that the internal consistency values obtained from the Turkish MAFW scale are consistent with those of similar scales reported in the literature.

The literature indicates that concerns about food waste significantly influence self-reported plate-clearing tendencies (17). Furthermore, it has been documented that the propensity to circumvent food wastage is associated with the act of rapidly clearing one’s plate (40). A predominant rationale for individuals’ persistent consumption beyond satiation is the aversion to waste (41). The present study revealed a modest negative correlation between the MAFW scale and the Plate-Clearing Tendency Scale. This finding indicates that the expected moderate or strong correlation was not fully achieved. This weak correlation may suggest that motivations to prevent food waste are associated with factors different from behavioral tendencies such as plate clearing. However, upon thorough examination of the subscales, the WAFW scale reveals a substantial positive correlation between the “Environmental Motivation” and “Moral Motivation” subscales and the PCTS. This finding lends further support to the notion that environmental and moral responsibility awareness is associated with concrete behaviors.

The intricate relationship between food waste and food insecurity is particularly noteworthy. Diana et al. (42) demonstrated a negative correlation between the severity of household food insecurity and food waste. Specifically, as the severity of household food insecurity increases, food waste decreases. In contrast, the findings of another study indicated that households experiencing mild to moderate levels of food insecurity were more prone to waste food, both cooked and uncooked. Conversely, food waste was observed to be comparatively lower in households with adequate food security (43). Another study also found that as food insecurity increases the behavior of avoiding food waste decreases (44). The present study found a very weak correlation between the total score on the MAFW scale and the total score on the HFSSM-SF. These findings suggest that motivations to prevent food waste are not limited solely to concerns about food scarcity or access. The findings reveal a surprising lack of correlation between the HFSSM-SF, a measure of

economic hardship, and the subscales of the MAFW scale, specifically the subscale “Environmental Motivation.” This outcome contradicts the anticipated theoretical relationship and underscores the need for further investigation into the underlying mechanisms that influence these constructs. It is noteworthy that the concepts of “moral motivation” and “financial motivation” were particularly salient. This situation reveals that the motivation to avoid waste is driven more by individual values (environmental and moral responsibility) and social pressures rather than by food insecurity related to a household’s basic food access issues.

In addition to all this, behavioural and motivational factors are thought to play a role in avoiding food waste. A study conducted on overweight/obese adults found a correlation between food preparation and cooking skills and eating behaviours (45). This highlights the need to develop skill-based behaviours to avoid food waste. Therefore, efforts to combat food waste should prioritize the mobilization of deeper motivational sources, such as environmental and moral responsibility, as opposed to a singular emphasis on economic savings messages.

This study has some limitations. Firstly, the evaluation of all the scales used in the study is based on self-reporting. Secondly, the sample is limited in terms of certain demographic characteristics. The generalizability of the findings is constrained by the sample composition, which predominantly consists of young, college-educated women. Consequently, the factor structure and item functionality may not be applicable to other demographic groups. Prospective studies should investigate measurement invariance among gender, age, and educational levels to assess the scale’s robustness across different samples. It is also recommended that the MAFW scale be examined with a larger sample size and across various disease groups.

#### 4. CONCLUSION

The findings of this study substantiate the MAFW scale as a reliable and valid measurement instrument for the Turkish adult population. The scale’s functionality encompasses the assessment of motivations to prevent food waste, in addition to its capacity to gauge four distinct dimensions: environmental, social, financial, and moral motivations. Therefore, it can be used as an effective tool for the comprehensive examination of motivations to prevent food waste and related factors among adults in Turkey. In subsequent studies, it is advised that the scale be administered to diverse demographic groups and cultural contexts to facilitate comparative validity and reliability analyses. Furthermore, the utilization of the MAFW scale as a monitoring and measurement instrument in studies that investigate the effects of interventions designed to reduce food waste could prove advantageous.

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**Author Contributions:**

*Research idea: CMİ, ÇŞK*

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*Acquisition of data for the study: CMİ, ÇŞK, MS*

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*Revising it critically for important intellectual content: MS*

*Final approval of the version to be published: CMİ, ÇŞK, ÖÇ, MS*

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