Food Literacy in Turkey: A Cross-Sectional Study Evaluation

Table 1

Sociodemographic Information

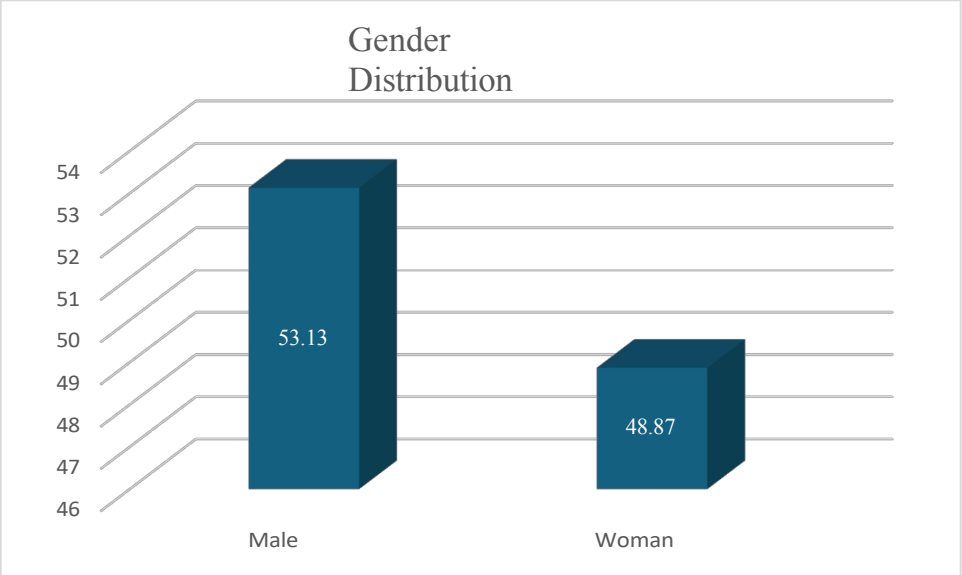
Features	***N***	**%**
Whole Sample	9293	100
Gender		
Male	5188	55
Woman	4055	43
Empty	50	0.50
Marital Status		
Single	2941	31
Married	6352	68
Education Level		
Literate	162	1.7
Primary education	801	8
Secondary Education	1785	19
High School	1282	13
Licence	4064	43
Undergraduate - Doctorate	1199	13
Profession		
Technical Staff	3053	32.7

Self-employment	994	10.7
Unemployed (Including Students)	976	10
Health Workers	573	6.1
Educator	531	5.7
Officer	400	4.3
Housewife	167	1.8
Other	2632	28.2
Number of Children		
0	3460	37
1	1667	18
2	2656	28
3 and more	1510	16
Age		
Under 18 years old	284	3
30-34	979	10
35-39	4099	44
40-59	3264	35
60 years and older	667	7
Monthly Income		

No income	985	10
1.000-17.000	706	7.6
17.001-25.000	903	9
25.001- 40.000	1505	16
40.001- 60.000	3811	41
60.001- 80.000	1034	11
80.000₺ and above	349	3.8
Region		
Mediterranean	850	9
Aegean	1621	17
Central Anatolia	1671	18
Black Sea	1810	19
Eastern Anatolia	914	9
Southeast Anatolia	718	8
Marmara	1696	18
Abroad	13	0.1

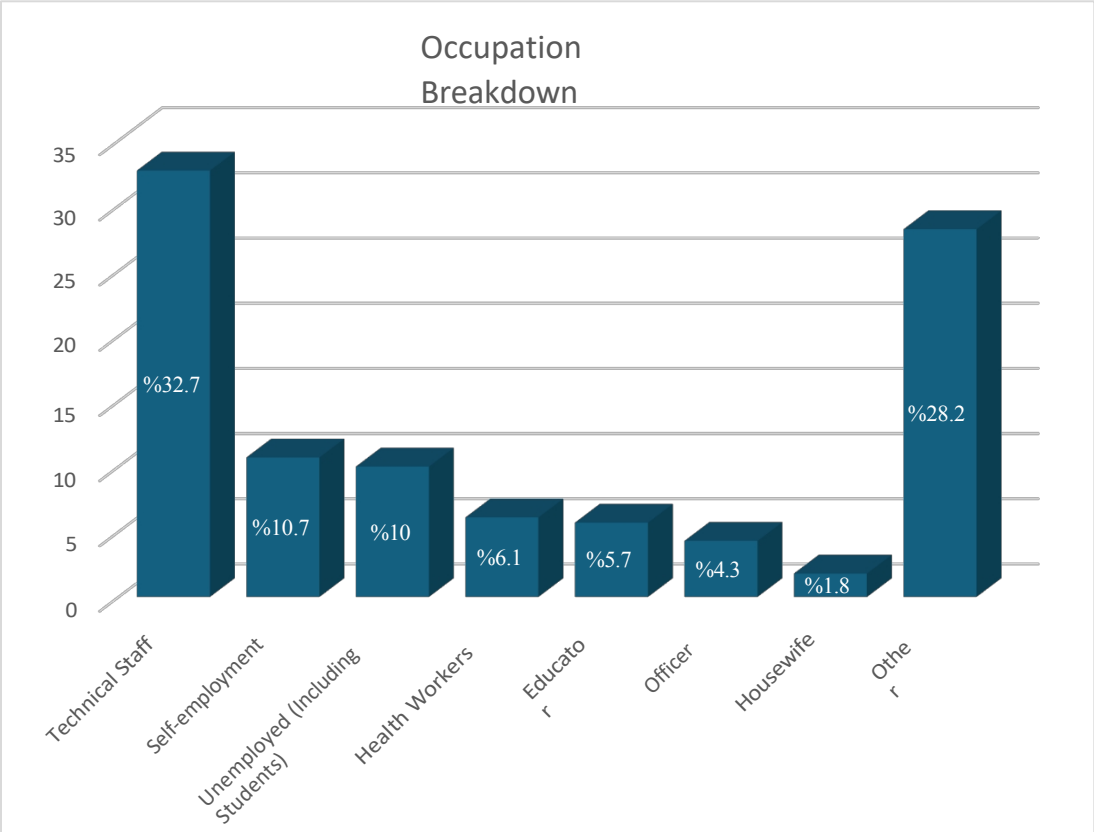
Notes. N, sample number; %, percentage

Graph 1. ***Gender Distribution***



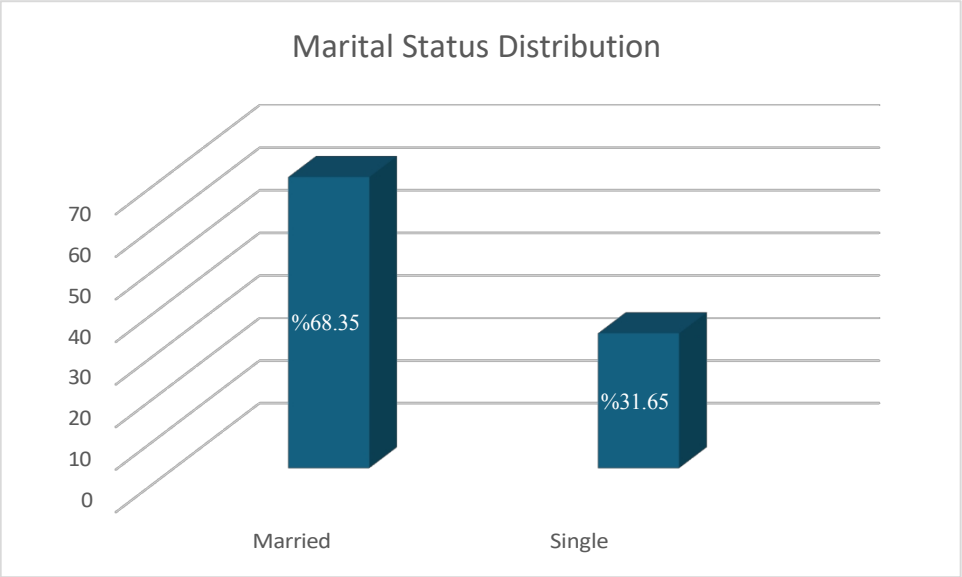
As shown in Graph 1, 53.13% of the participants in our study were male and 43.87% were female. In this direction, the majority of the participants are men.

Graph 2. ***Occupation Distribution***



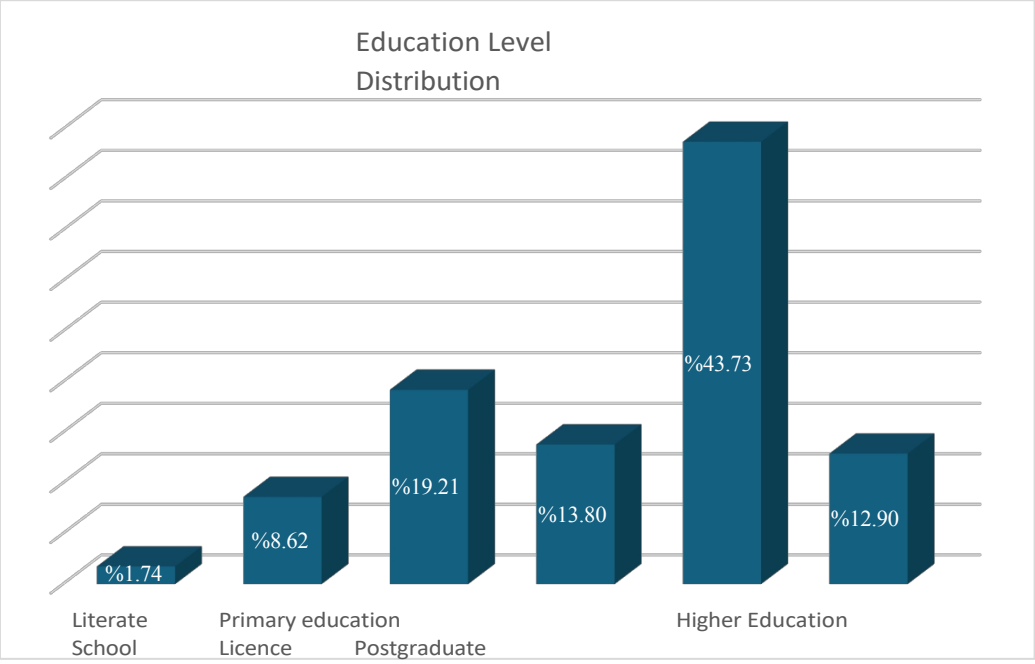
As shown in Graph 2, 32.7% of the participants were technical staff, 10.7% were self-employed, 10% were unemployed or students, 6.1% were health workers, 5.7% were educators, 4.3% were civil servants, 1.8% were housewives and 28% were from other occupational groups.

Chart 3. ***Marital status***



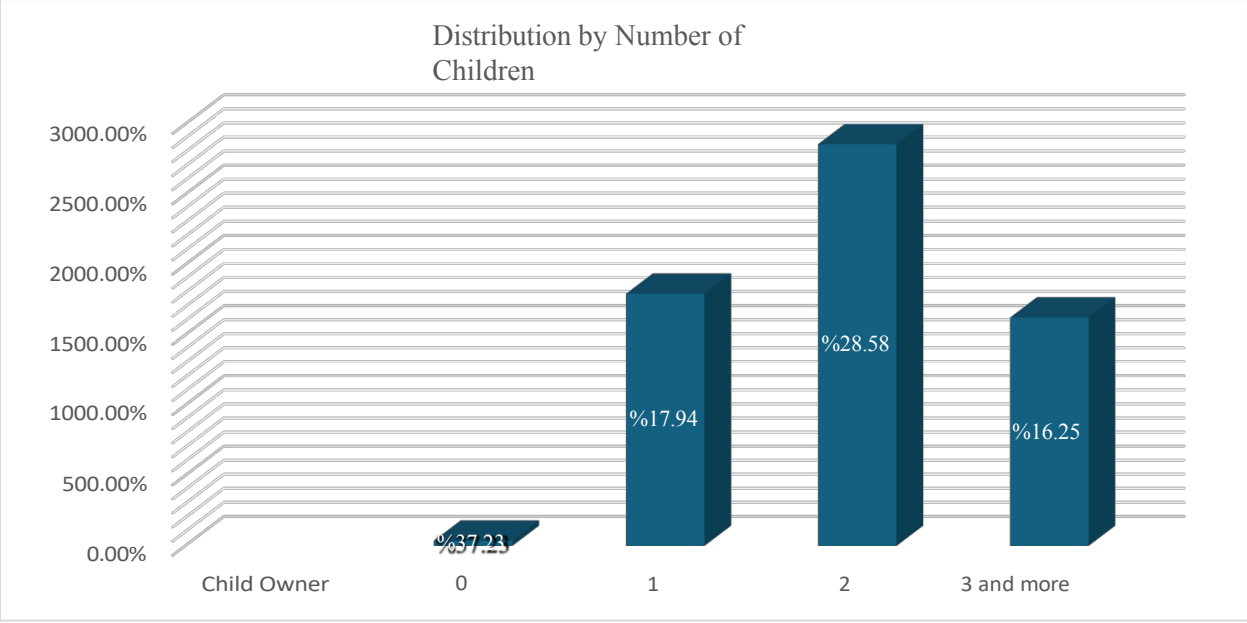
As shown in Graph 3, 31.65% of the participants in our study were single and 68.35% were married. Accordingly, the majority of the participants are married individuals.

Graph 4. ***Education level***



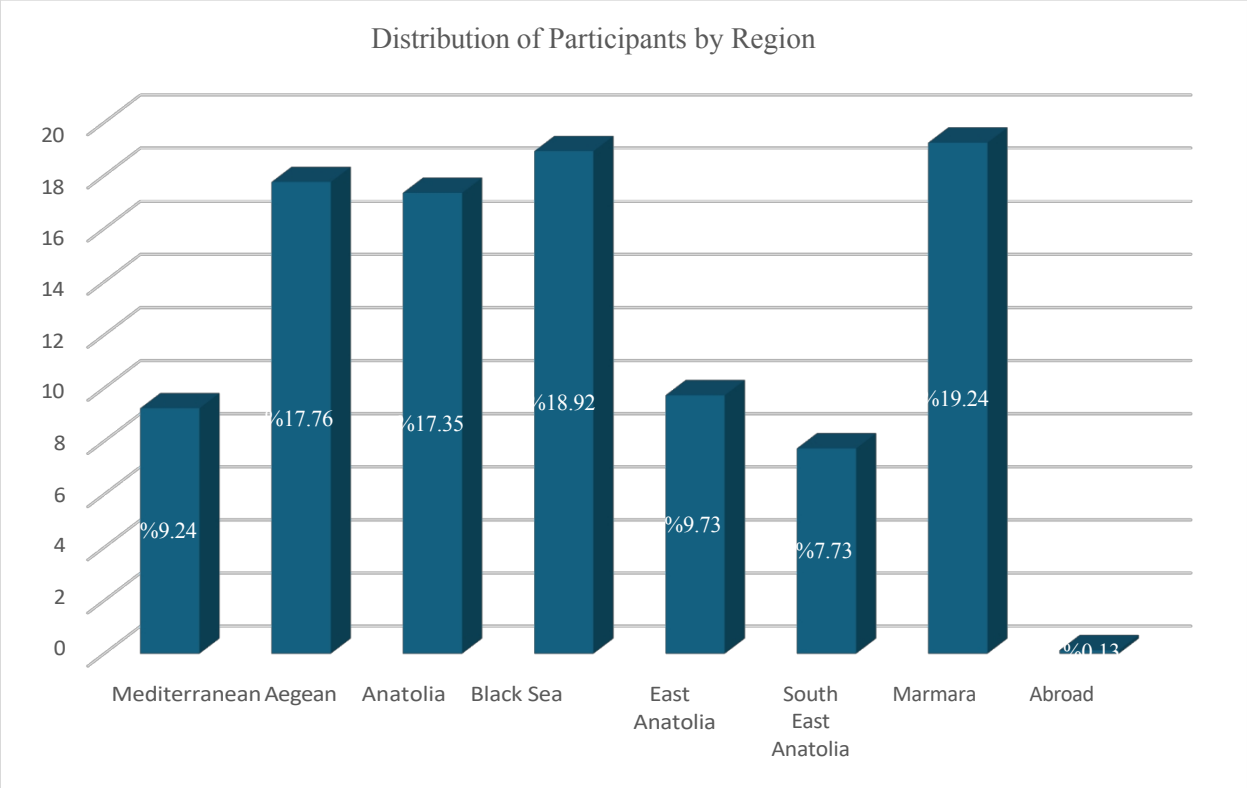
As shown in Graph 4, 1.74% of the participants in our study are literate, 8.62% have primary education, 19.21% have secondary education, 13.80% have higher education, 43.73% have undergraduate and 12.90% have postgraduate education.

Graph 5. ***Number of children the participants have***



As shown in Graph 5, 37.23% of the participants in our study had no children, 17.94% had one child, 28.58% had two children, and 16.25% had three or more children.

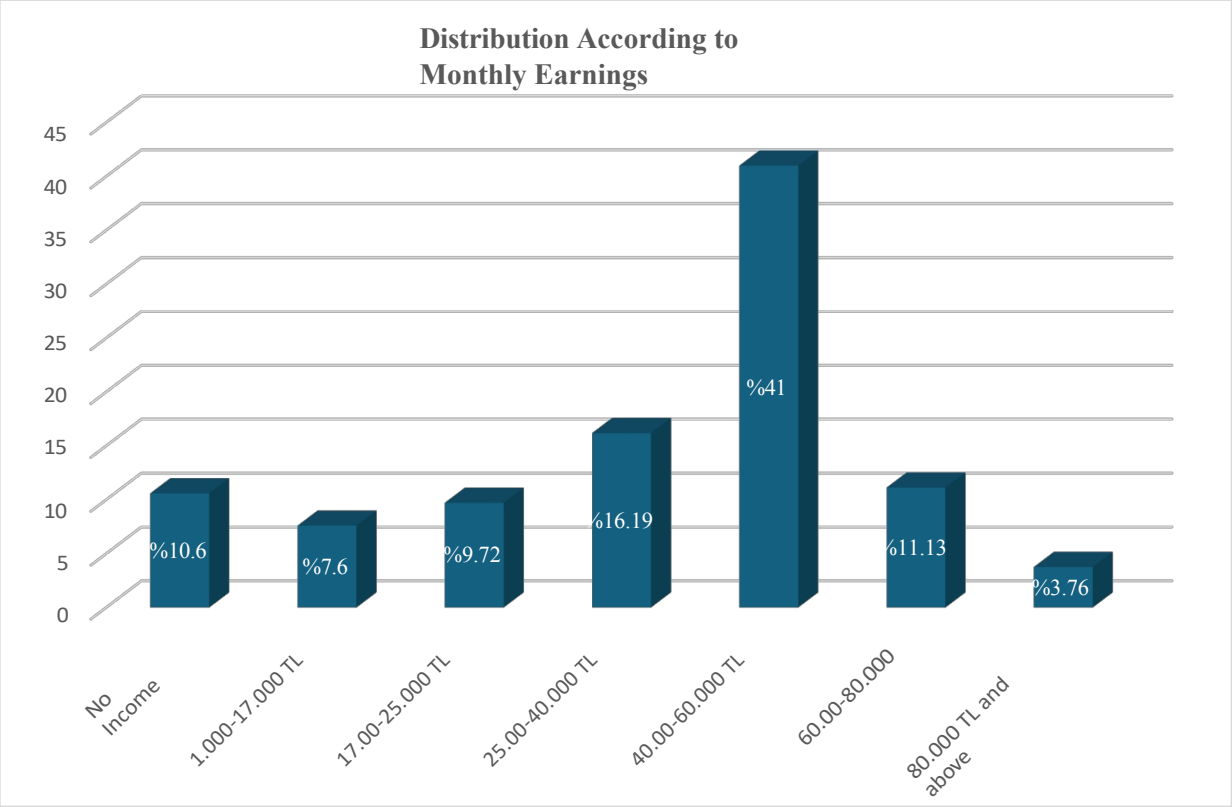
Graph 6. ***Distribution according to the regions where the participants live***



shown in Graph 6, 9.24 per cent of the participants in our study were from the Mediterranean Region, 17.76% from Aegean Region, 17.35% from Central Anatolia Region, 18.92% from Black Sea Region

Region, 9.73 per cent from Eastern Anatolia Region and 7.73 per cent from Southeastern Anatolia Region, 19.24% of the participants were from the Marmara Region and 0.13% were from abroad.

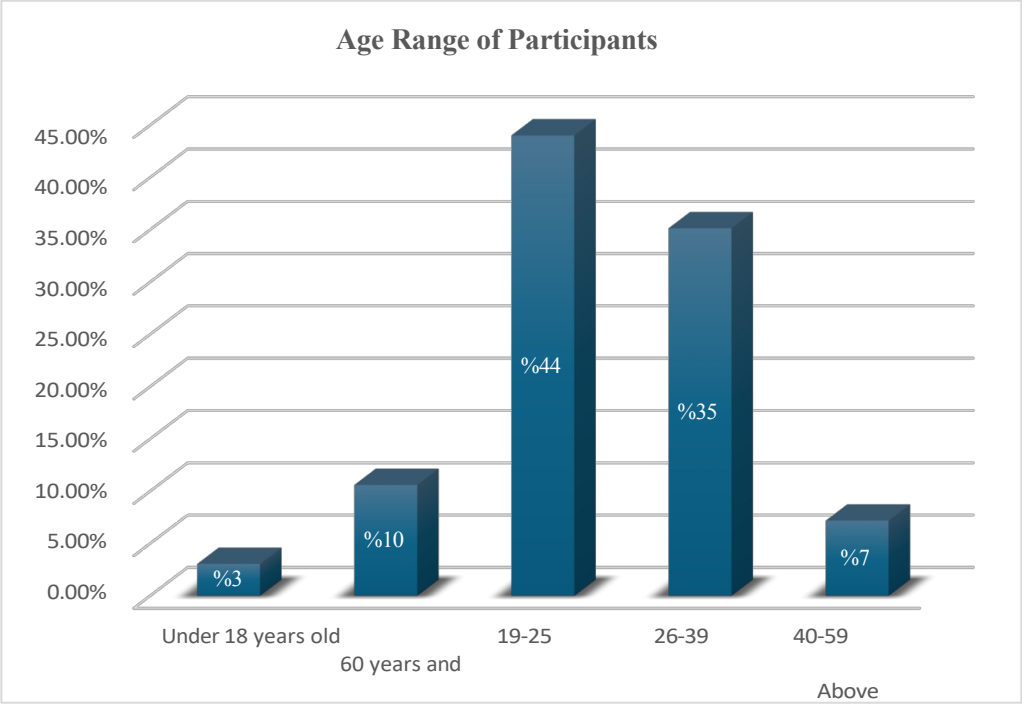
Distribution of participants according to their monthly earnings



According to Graph 7, 10.60% of the participants have no income, 7.60% have an income between 1,000-17,000 TL, 9.72% between 17,001-25,000 TL, 16.19% between 25,001-40,000 TL, 41

40.001-60.000 TL, 11.13% had an income between 60.001-80.000 TL and 3.76% had an income of 80.000 TL and above.

Graph 8. *Age range of participants*

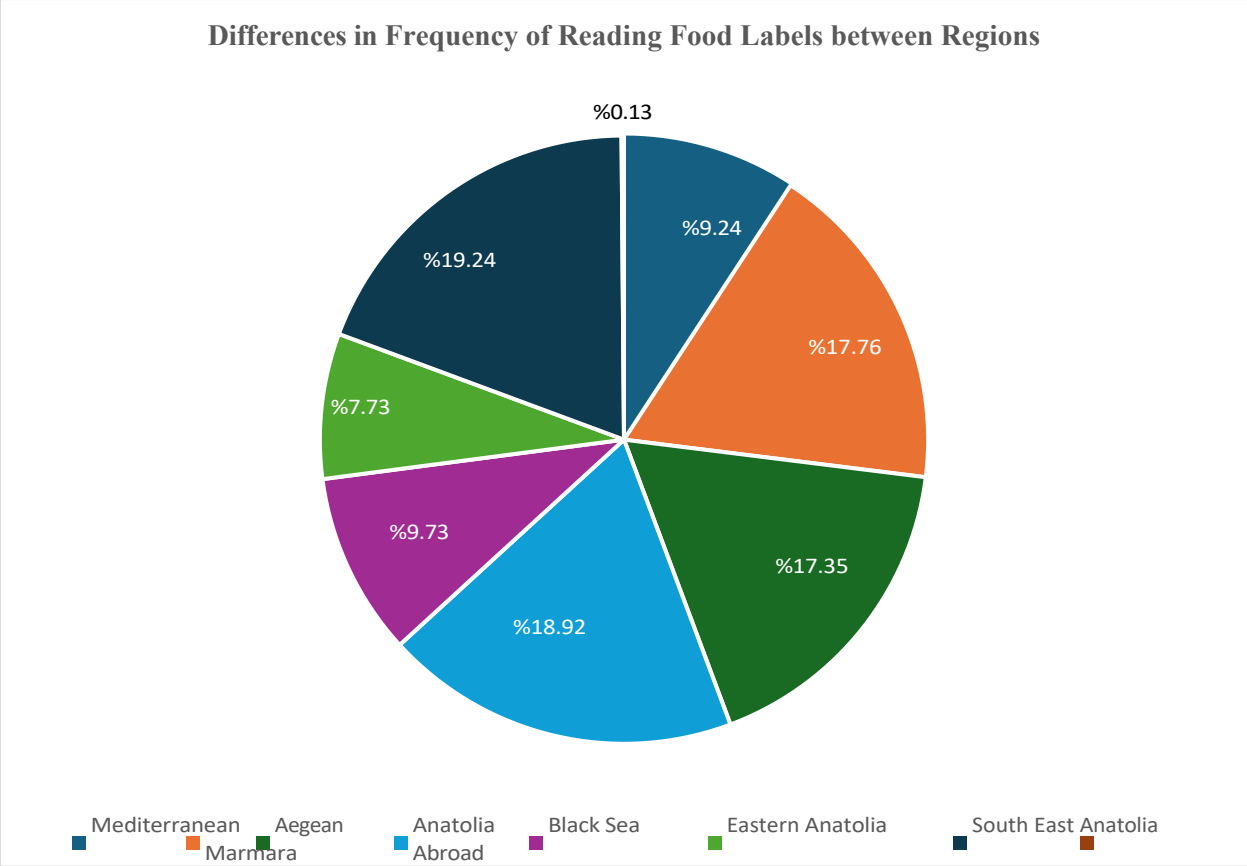


According to Graph 8, 3% of the participants are under the age of 18, 10% are between the ages of 19-25, 44% are between the ages of 26- 39, 35% are between the ages of 40-59 and 7% are 60 years and over.

Graph 9. ***How often do you read food labels when buying food?***

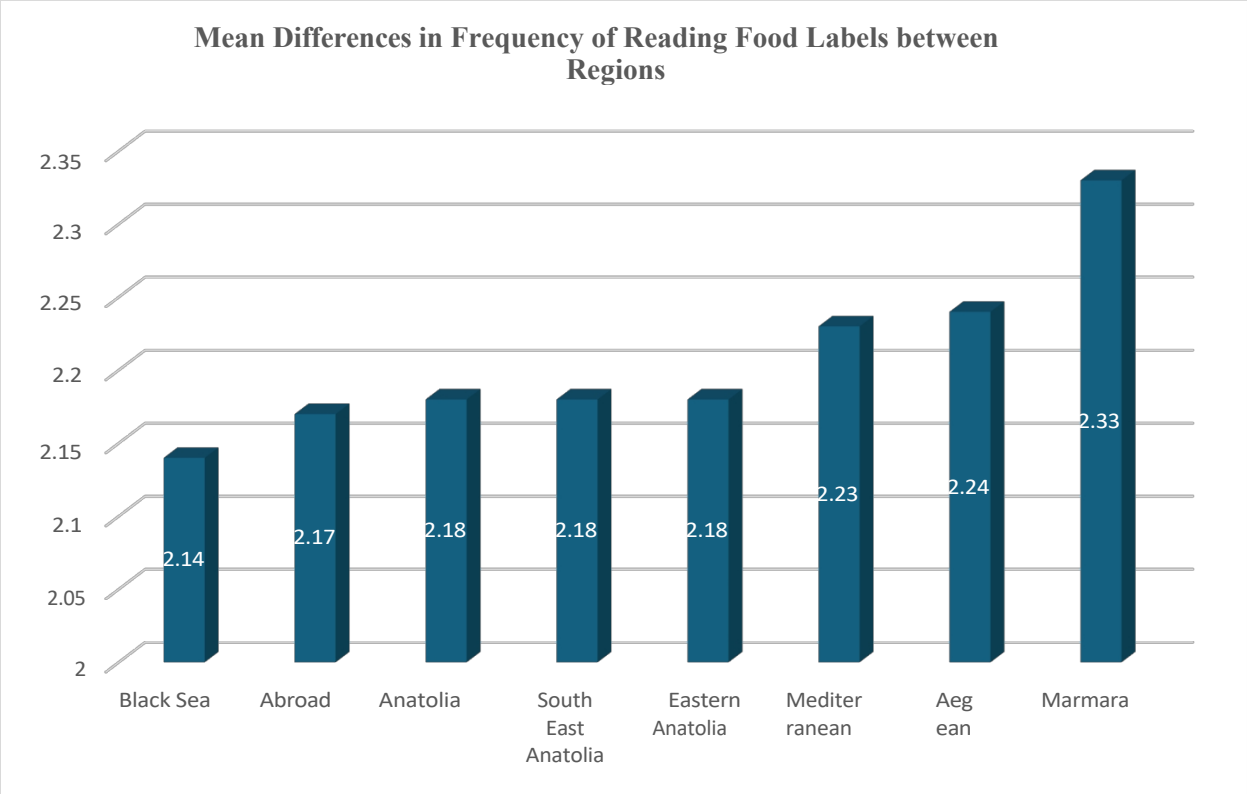
According to the t-test independent samples analysis results in Graph 9, the frequency of reading labels when purchasing food was compared between men and women. According to the results obtained, the mean score of women regarding the frequency of reading food labels (M= 2.31, SD= 0.801) was higher and significant ($p < 0.001$) compared to men (M = 2.15, SD = 0.908). These results that females showed a greater tendency towards reading food labels. Further analyses are needed to assess the statistical significance of the difference between the groups.

Graph 10. ***Differences in Frequency of Reading Food Labels between Regions***



According to the data in Graph 10, the rates of reading food labels when purchasing food are as follows according to regions: 19.24% in the Marmara region, 18.92% in the Black Sea region, 17.76% in the Aegean region, 17.35% in Central Anatolia, 9.73% in Eastern Anatolia, 9.24% in the Mediterranean and 0.13% abroad.

Graph 10.1 ***Mean Differences in Frequency of Reading Food Labels between Regions***

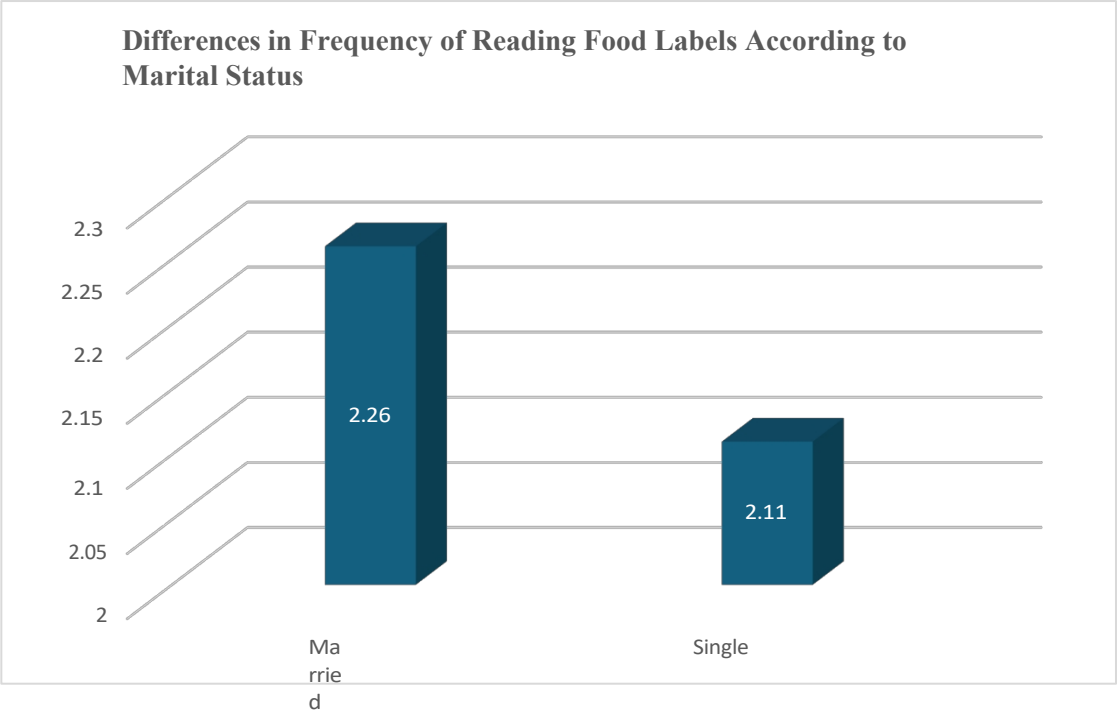


According to the results of the Games-Howell test in Graph 10.1, the frequency of reading food labels of individuals in the Marmara region (M= 2.33, SD= 0.80, $p < 0.001$), Anatolia (M= 2.18SD= 0.86, $p < 0.001$)Black Sea (M= 2.14SD= 0.90 $p < 0.001$)Eastern Anatolia (M= 2.18SD= 0.90p <0.001) and Southeast Anatolia (M = 2.18, SD= 0.91, p <0.001). The frequency of reading food labels in the Mediterranean region and abroad did not differ significantly compared to other regions. In addition, Aegean (M= 2.24, SD=

0.86, $p < 0.001$) and a significant difference was observed between the Black Sea region (M= 2.14, SD= 0.90, p= 0.015) and the Aegean region had a higher average.

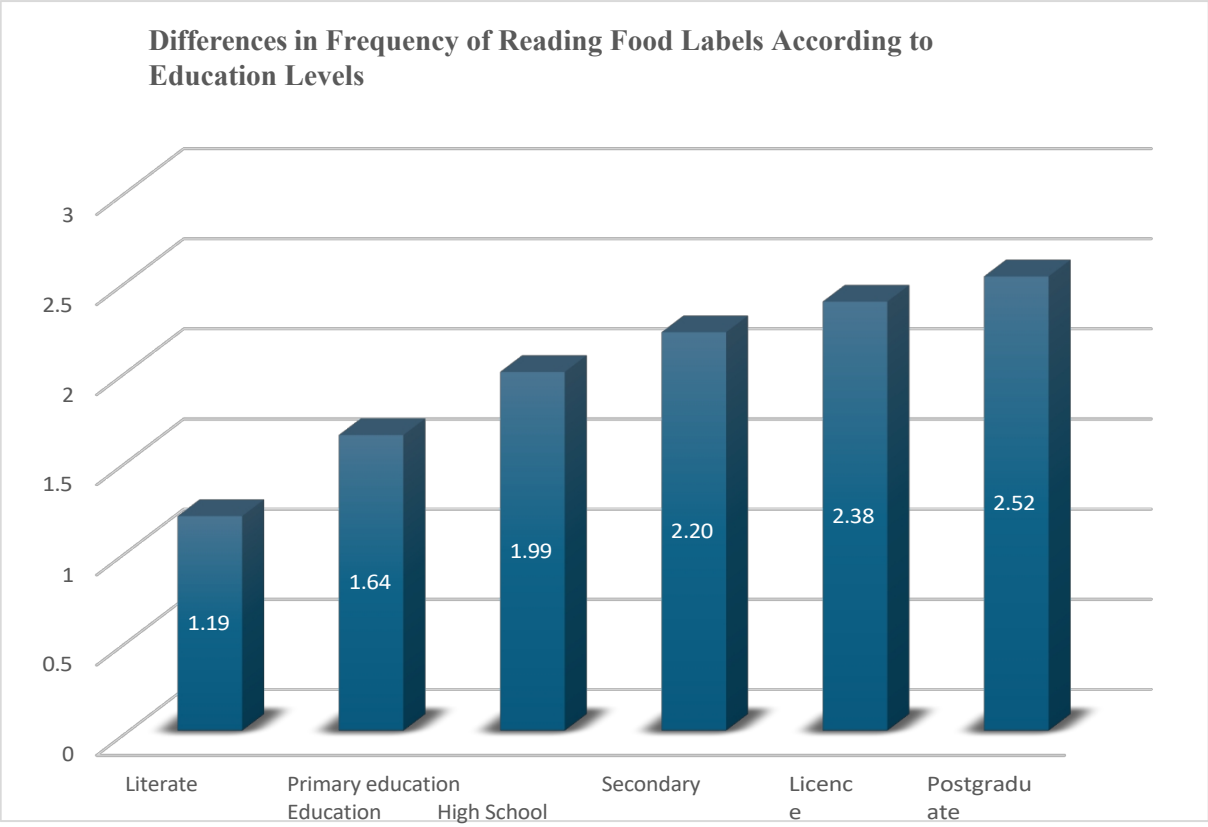
The Marmara region has a significantly higher average frequency of reading food labels compared to most regions. Central Anatolia, Eastern Anatolia and Southeastern Anatolia regions have lower averages compared to Marmara region. These results show that the differences in the frequency of reading food labels are statsignificant except for abroad and the Mediterranean region.

Chart 11. ***Differences in Frequency of Reading Food Labels by Marital Status***



According to the independent sample t-test results in Graph 11, the frequency of reading food labels of married individuals (M= 2.26, SD= 0.856) was significantly higher than that of single individuals (M= 2.11, SD= 0.885), t (9239) =-8.050, $p < 0.00$).

Graph 12. ***Differences in Frequency of Reading Food Labels by Education Level***



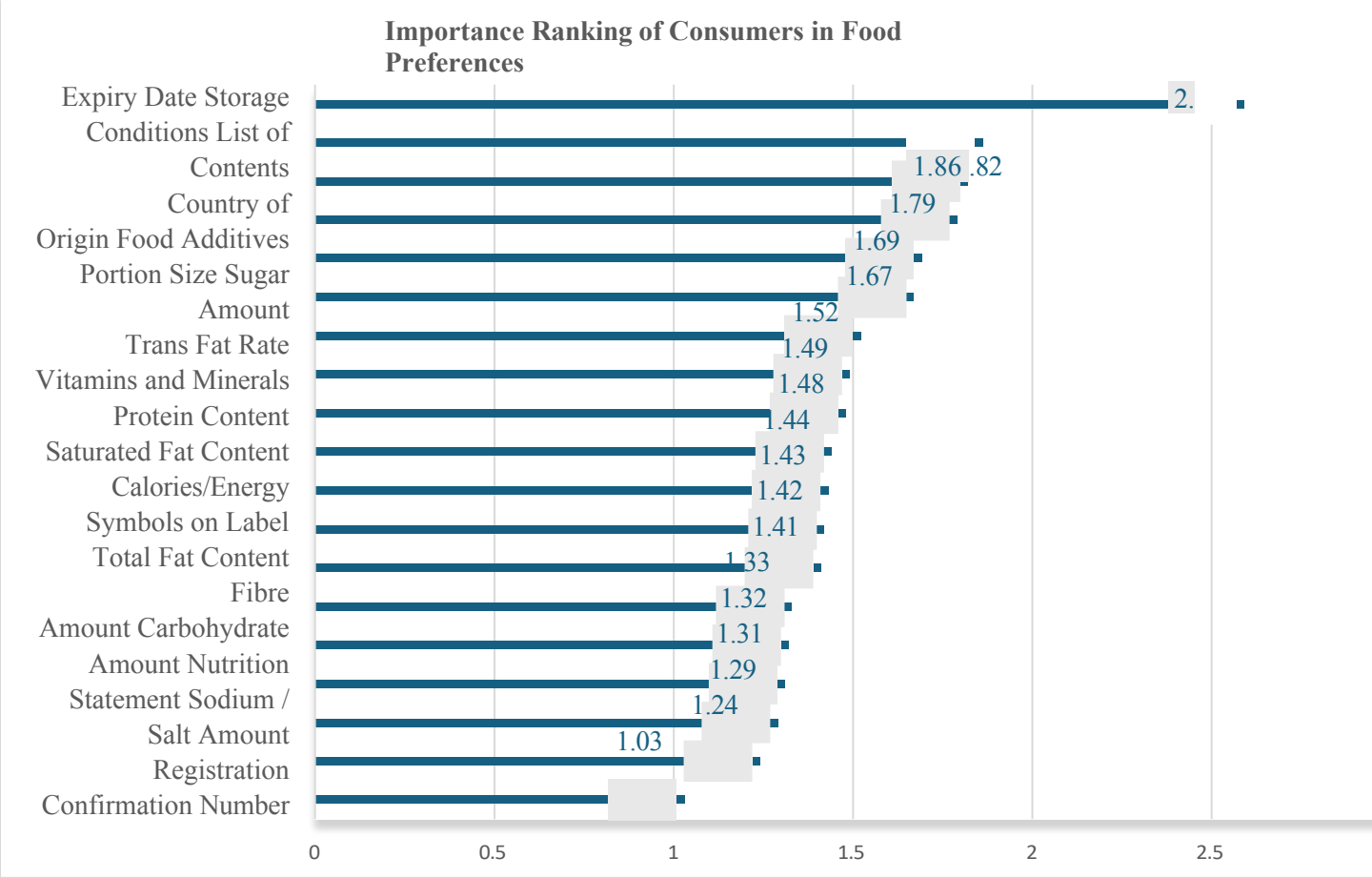
Graph 12 shows the average differences in the frequency of reading food labels according to education levels. Starting from the literate level, the frequency of reading food labels increases as the educational level increases. According to the results of the Games-Howell multiple comparison test conducted according to education levels, the mean frequency of reading food labels was found to be significantly different among all education levels and a significant increase in the frequency of reading food labels was observed as the education level increased significantly (Literate: *M* = 1.19, *SD*= 1.01, p<0.001; , primary education: *M*= 1.64, , *SD*= 1.01, *p* <0.001; secondary education: *M*= 1.99,

SD= 0.92, p<0.001; college: *M*= 2.20, *SD*= 0.83, p<0.001; undergraduate: *M*= 2.38, *SD*= 0.74, *p* <0.001; postgraduate: *M*= 2.52, *SD*= 0.69, *p* <0.001). These results show that the frequency of reading food labels increases with increasing education level. (*f* = 221.755, *p* <0.001)

Overall Result

- As the level of education increased, a significant increase was observed in the average frequency of reading food labels.
- Individuals at **postgraduate** level **(doctorate and above) have** the highest average compared to all other groups.
- **Literate individuals** have significantly lower average compared to all other education groups.

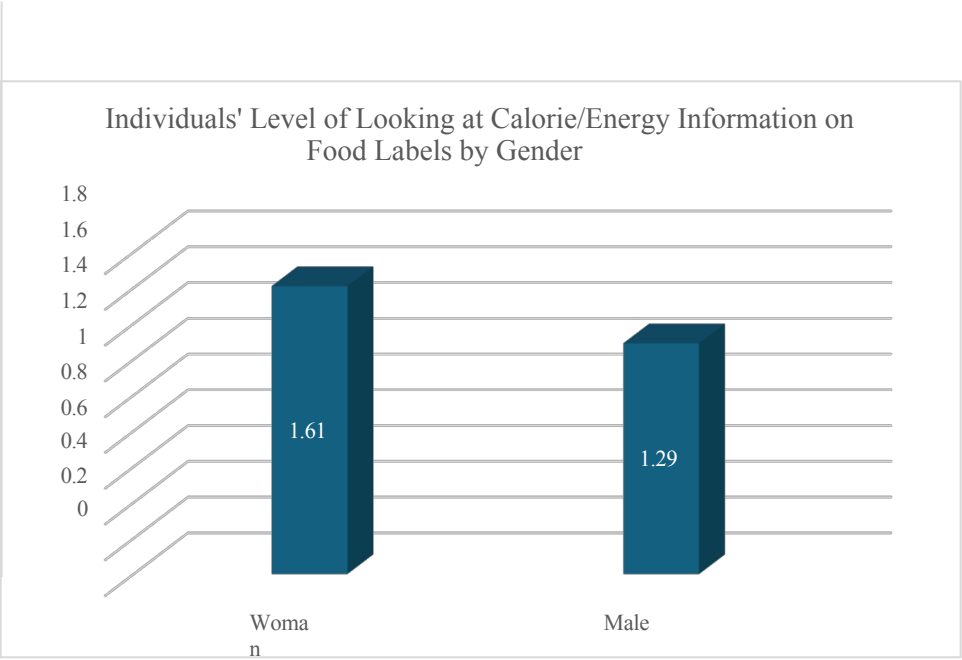
Graph 13. ***Ranking of Importance in Food Preferences***



According to the data in Graph 13, the criteria that individuals consider in their food preferences within the scope of this study are ranked according to the average importance level. According to the findings obtained, the expiry date of the product (*M* = 2.59) ranks first among the criteria that individuals consider the most. This is followed storage conditions (*M*= 1.86) and ingredients list (*M*= 1.82). Country of origin (*M*= 1.79) and food additives (*M*= 1.69) are also important criteria for consumers.

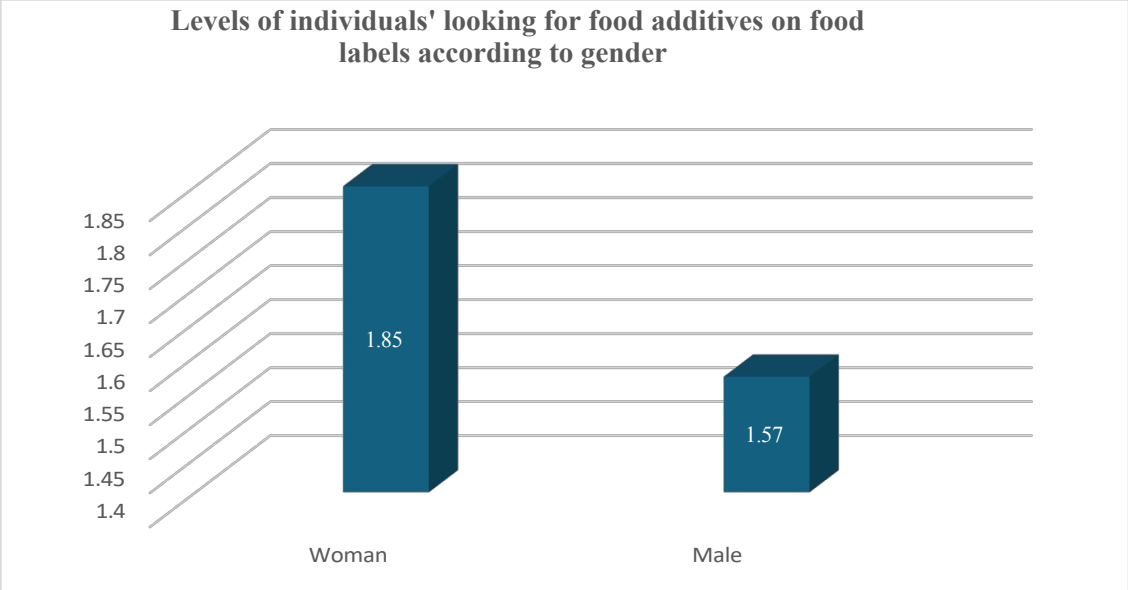
among the factors taken into account. Portion size (*M* = 1.67) and sugar content (*M* = 1.52) also taken into consideration. In terms of nutrition and health, trans fat content (*M* = 1.49), vitamins and minerals (*M* = 1.48), protein content (*M* = 1.44) and saturated fat content (*M* = 1.43). In addition, calorie/energy (M = 1.42) and symbols on the label (*M*= 1.41) are also evaluated by consumers. In addition, macronutrients such as total fat content (*M*= 1.33), fibre content (*M*= 1.32), carbohydrate content (*M* = 1.31) and nutrition claim (*M* = 1.29) are also among the criteria evaluated by consumers. Sodium/salt content (M = 1.24) was observed as a relatively less important factor, while the registration confirmation number (*M*= 1.03) was the least factor for consumers.

Graph 14. ***Individuals' Level of Looking at Calorie/Energy Information on Food Labels by Gender***



According to the independent sample t-test results in Graph 14, women's level of looking for calorie/energy information on food labels (M = 1.61, SD = 1.054) was significantly higher than men's (M = 1.29, SD = 1.067), t(9190) = -13.951, p < 0.001) These results indicate that women attach more importance to calorie/energy information on food labels than men.

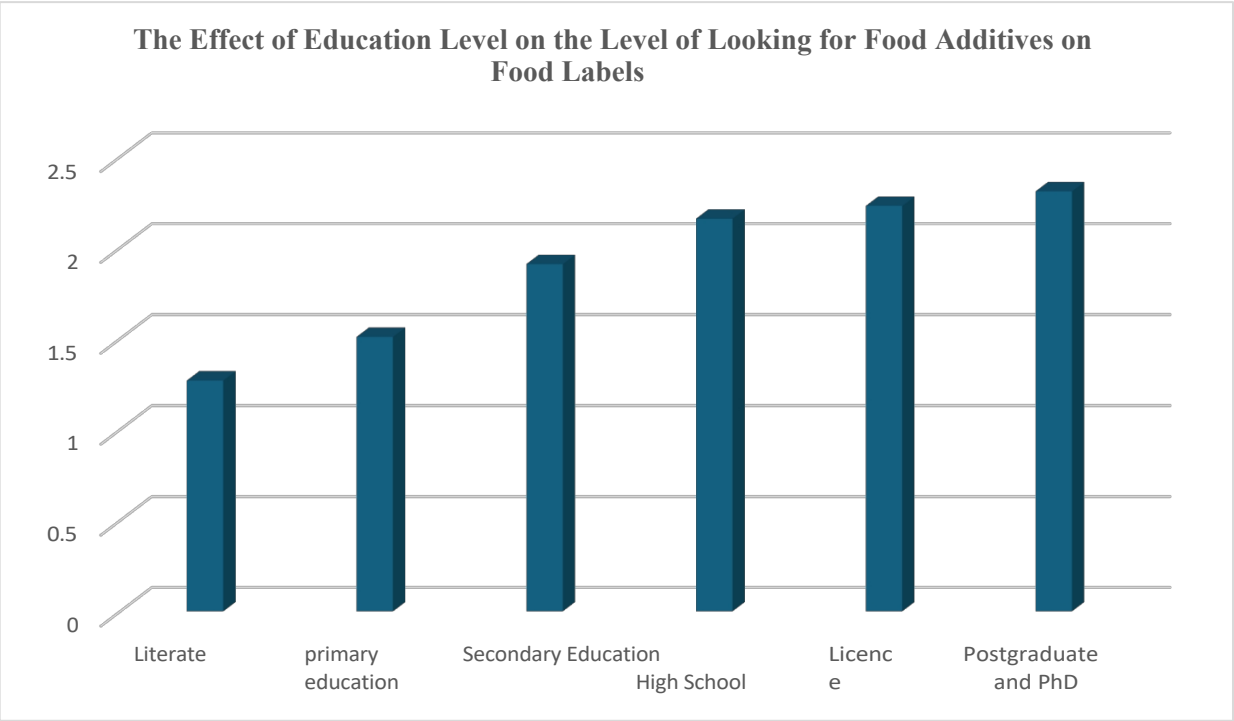
Graph 15. ***Individuals' level of looking for "food additives" on food labels by gender***



According to the independent sample t-test results in Graph 15, women's level of looking for food additives on food labels (M = 1.85, SD = 0.965) significantly higher than that of men (M = 1.57, SD = 1.033). (t (9.190)= -13.309, p< 0.001, MD= -0.281,

95% CI [-0.322, -0.239]. These results suggest that women pay more attention to food additives than men." Women pay more attention to food additives than men. The difference in mean values shows that women have a higher sensitivity in this regard.

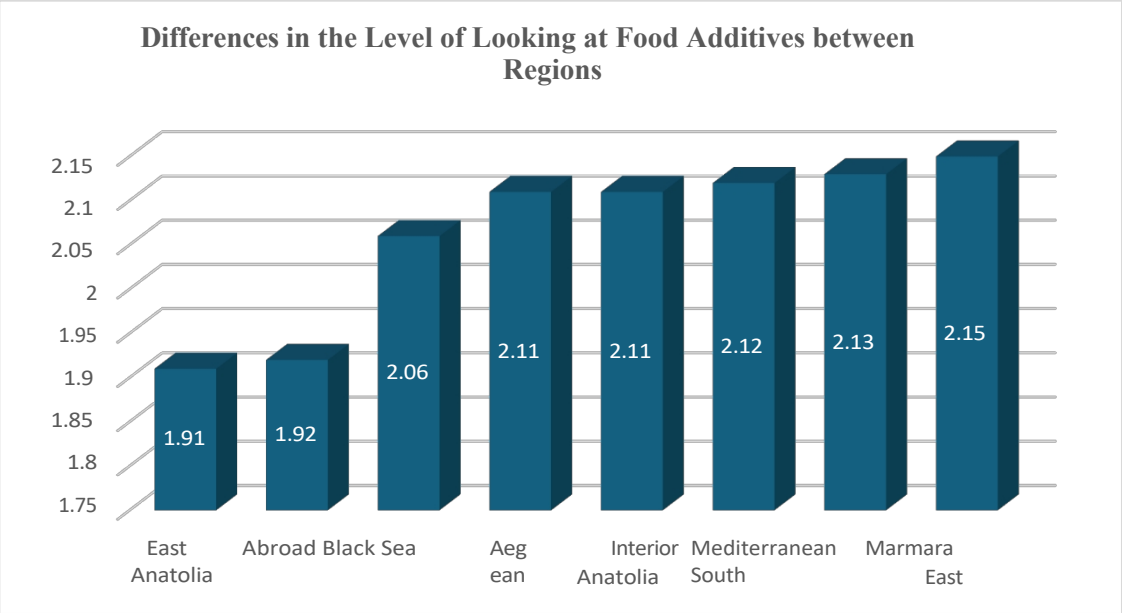
Graph 16. ***Level of Looking for Food Additives on Food Labels by Education Level***



According to the results of the Games-Howell test in Graph 16, it was found that the level of education had a significant effect on the level of looking for food additives on food labels. The average level of literate individuals (M = 1.27, SD = 1.08, p < 0.001), college level (M = 2.16, SD = 0.92, p< 0.001), undergraduate (M= 2.23, SD= 0.83, p< 0.001), and graduate (M= 2.30, SD

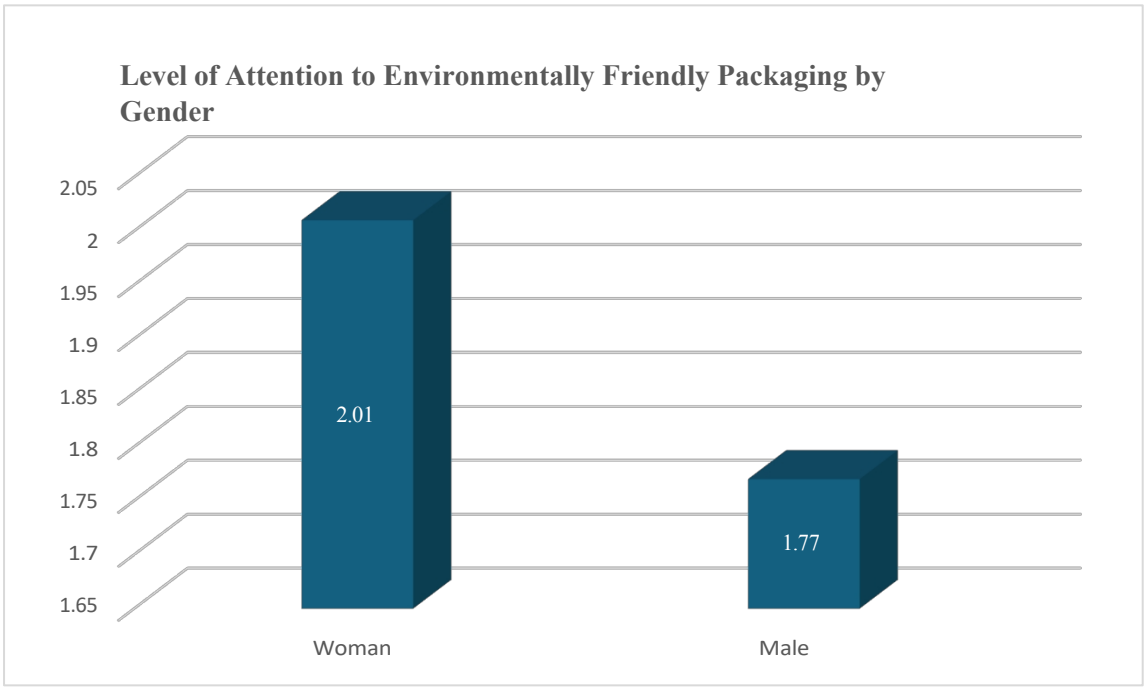
= 0.82, $p < 0.001$), which is significantly lower. Primary education level was found to be significantly lower than all other education levels except for those with literate education level. The rate of looking for food additives in secondary education level was significantly different from all other education levels. The sensitivity of individuals at higher education level to food additives was found to be unrelated to the differences in undergraduate and graduate education levels, but significantly related to those with secondary education and below. The mean values of sensitivity to food additives of individuals at the undergraduate level were found to be significantly higher than all other education levels except for the graduate and postgraduate groups. These findings indicate that the level of attention to food additives increases as the level of education increases. As the level of education increases, the level of individuals looking for food additives on food labels increases. Individuals with postgraduate education have the highest average compared to all other groups. Literate individuals have the lowest average compared to all other groups.

Graph 17. ***Differences in the Level of Looking at Food Additives between Regions***



According to the results of the Games-Howell test in Graph 17, it was found that the region of residence had a significant effect on the level of looking for food additives on food labels. The sensitivity of individuals living in the Mediterranean region to food additives (M = 2.12, SD = 0.93, p < 0.001) is significantly higher than individuals living in the Eastern Anatolia region (M = 1.90, SD= 1.09, p <0.001). The sensitivity to food additives of individuals living in the Aegean region (M= 2.10, SD = 0.94, $p<0$.001) was significantly higher than that of individuals living in the Eastern Anatolia region (M= 1.90, SD= 1.09, p<0.001). The sensitivity to food additives of individuals living in Anatolia (M= 2.10SD= 0.92p <0.001was significantly higher than that of individuals living in Eastern Anatolia (M = 1.90, SD = 1.09, p <0.001). Similarly, the additive sensitivity of individuals living in the Black Sea region (M = 2.06, SD = 0.95, p < 0.001) was significantly higher than that of individuals living in the Eastern Anatolia region (M = 1.90, SD = 1.09, p < 0.001). The additive sensitivity of individuals in the Marmara region (M= 2.13, SD= 0.90, p < 0.001) was significantly higher than the additive sensitivity of individuals in the Eastern Anatolia region (M= 1.90, SD= 1.09, p < 0.001). (f= 6.71, p < 0.001).

Graph 18. ***Level of Attention to Environmentally Friendly Packaging by Gender***



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According to the data in Graph 18, the level of individuals' attention environmentally friendly packaging according to gender is shown. According to the results of the independent sample t-test, the level of women's attention to environmentally friendly packaging (M= 2.01, SD= 0.817) was significantly higher than that of men (M= 1.77, SD= 0.931), (t(9065.985) = -13.128, $p < 0.001$),These results show that women attach more importance to environmentally friendly packaging than men.

Table 2. ***Correlational relationships between the frequency of label reading when purchasing food and other food habits***

Variables	1	2	3	4	5	6	7	8	9
1. Label Reading Frequency	-								
2. Storage Conditions	.45**	-							
3. Symbols on the label	.40**	-							
4. Trans Fat	.39**	-	-						
5. Saturated Fat	.38**	-	-	-					
6. Total Fat	.37**	-	-	-	-				
7. Protein	.37**	-	-	-	-	-			
8. Easy Preparation	.13*	-	-	-	-	-	-		
9. Cheapness of Food	-0.03	-	-	-	-	-	-	-	

Note. $p < .05$ (*), $p < .01$ (**).

According to the data in Table 2, when the correlations between the frequency of reading labels when purchasing food and other food habits are examined correlationally, is seen that the highest correlation is between the frequency of reading labels when purchasing food and "taking into account the storage conditions" with **0.45**. This is followed by the variable "symbols on the label" with **0.40**. The variables "trans fat" (**0.39**) and "saturated fat" (**0.38**) were also highly correlated. These are followed "total fat" and "protein" with a correlation of **0.37**. On the other hand, a weak negative correlation of -0**.03** was found between the frequency of label reading and "cheapness of food". Also, the variable "easy to prepare" showed the lowest positive correlation with **0.13**. Table 2 shows these data.