

# The Role of Packaging in Influencing the Behavior of Women Living in Rural and Urban Areas when Purchasing Food Products

*Aysun Yener Ögür*

Department of Agricultural Economics, Faculty of Agriculture Selcuk University, Konya, Turkey

**Abstract.** The aim of this study was to determine the role of packaging in influencing the behavior of food product purchasing in women living in rural and urban areas. The proportional sampling method was used to determine the sample volume. According to this method, sample size was determined as 70 in *Çumra* district and 70 in Selçuklu district. The data used in the study was analyzed by t-test. 24.29% of women living in rural areas were in the 40-49 age group, while 28.57% of women living in urban areas were in the 30-39 age group. The majority of women living in rural and urban areas were primary school graduates and housewives. The average income of women living in rural areas was \$659.83 per month and 18.57% of this income was spent on foodstuffs. The average income of women living in urban areas was \$803.01 per month and 19.50% of this income was spent on foodstuffs. According to the results of the t-test analysis, a statistically significant difference was found regarding the role of packaging in influencing the food product purchasing behavior of women living in rural and urban areas. Firms should rely on practical steps in bringing their products to market and focus more on the knowledge of identifying the success or failure factors of products and on taking care to meet the consumer's desires and needs, as well as on the cornerstone, starting point and end point in any productive or promotional process.

**Keyword:** Food, Purchase, Packaging, Rural Women, Urban Women

## Introduction

Socio-demographic characteristics can determine food purchase decisions (1). For example, in developing countries, consumers' food purchasing behavior has changed significantly due to the increase in disposable income per capita, global interaction, quality of information and communication technologies, urbanization, education, change in lifestyle, family structure, and health awareness (2-4). "Family structure", one of the socio-demographic characteristics that determine product and service purchasing behavior, affects the food purchasing behavior of women and guides them in food selection (5). The most influential and traditional roles of women in the family are education, health, and nutrition of family members. In the context of nutrition, developments in food technology,

production, and marketing of new products affect the food choice and purchasing behavior of women, who are primarily responsible for adequate and balanced nutrition of family members (6). The role of food, which makes an important contribution to health, is increasing day by day and the diets of consumers are changing (7-9). While consumers evaluate food only from its appearance, they do not have information about its intrinsic qualities and qualities (ingredients, taste, and nutrition). Therefore, external characteristics such as packaging, price, and brand are important to understand the intrinsic qualities and quality of food. and packaging affects the purchasing behavior of consumers (10-16). Packaging is a common element of modern consumption, providing a wide range of functions and consumer benefits (17,18).

Today, companies use many marketing methods to influence consumers. Consumers are exposed to more than 20,000 product choices in a 30-minute shopping session (19). There are multiple and different goods in the markets. These goods are sold in different forms and with different substitutes. Firms provide the recognition of their goods with the packaging of these goods (20-22). Understanding the relative importance of product characteristics that influence food choice at the point of sale is often critical to success in today's competitive food markets (23). Although the main purpose of packaging is to protect the product (24, 25), it is also a basic food product feature perceived by consumers (23). Good packaging helps consumers to identify and differentiate products. As packaging has become the primary vehicle for communication and branding, the critical importance of packaging design is growing in such competitive market conditions (26). The package is a critical factor in the decision-making process as it communicates with consumers (23). The package standing on the shelf affects the consumer's decision process, and the packaging design should ensure that the consumer response is positive (27).

Therefore, the organization relies on its packaging strategy in distinguishing its commodities from other commodities to attract consumers' attention to a particular product. In other words, the packaging or cover may be the main reason behind the consumer's demand for a commodity, among others (28). Companies should understand what influences consumers in their purchasing processes. They should also understand what factors influence purchasing behavior and what role packaging elements play in consumers' purchasing decision processes. Market research helps companies create the "right" packaging for a product and packaging elements that can be important to consumers (24). Consumers respond to packaging based on previous knowledge, learned reactions and individual preferences (29). Therefore, packaging elements, shapes, colors, sizes and labels can influence the positive response of consumers (24). However, several conflicting trends in the consumer decision-making process have made food packaging design difficult (23). As some consumers become more concerned about health and nutritional issues, they pay more attention to la-

bel information (30). Consumer decision making can be defined as a mental orientation that characterizes a consumer's approach to making choices (31). Purchasing intention depends on how long consumers expect the product to be satisfactory while consuming it (32). How they perceive the product depends on the elements of communication that have become the key to success for many marketing strategies (23). The aim of this study is to determine the role of packaging in influencing the behavior of women living in rural and urban areas when purchasing food products.

## Materials and methods

### *The Method Used to Determine Sample Volume*

The main material of the study was created from the primary data collected through a questionnaire with women in Selçuklu and Çumra districts of Konya, which was selected as the research region. The proportional sampling method was used to determine the sample volume (33). According to this method, sample size was determined as 70 in Çumra district and 70 in Selçuklu district. This method has been used in many studies (34-36). Data was collected from randomly selected individuals by using face-to-face questionnaires. In the study, secondary data and previous studies relevant to the subject were also used.

$$n = \frac{N p (1 - p)}{(N - 1) \sigma^2_{px} + p(1 - p)} \quad (1)$$

In the formula:

n: Sample volume,

N: Total number of people in the sampling frame,

p: Number of women living in rural and urban areas (based on 50% assumption),

$\sigma^2_{px}$ : variance of the ratio (with a table value of 1.65 and 5% margin of error at 95% confidence interval to reach the maximum sample volume)

Since the characteristics of women living in rural and urban areas that make up the main mass were not known at the beginning,  $p = 0.5$  was taken to maximize the sample volume. The sample volume was determined at 95% confidence interval with 5% margin of

error. In order to reach the maximum sample volume,  $p = q = 0.5$ . According to the 2019 data, the population of **Çumra** district was 67,282 and the population of Selçuk district was 662,808. A total of 140 questionnaires were calculated, with a 5% margin of error at a 95% confidence interval in **Çumra** district (the area representing the countryside) and a 70% error margin of 10% in Selçuklu district (the area representing the city).

#### *The Method Used to Determine The Role of Packaging In Influencing Food Product Purchasing Behavior*

According to the results of the research, socio-demographic characteristics and income status of women living in rural and urban areas are given in tables. The socio-demographic characteristics of women living in rural and urban areas, their income, the places where they buy food, the points to be taken into consideration when buying food products, the importance of food packaging, and the role of packaging in influencing the behavior for buying food products were examined through the surveys. A table was made with the Excel program on the data obtained.

#### *The Method Used in Statistical Analysis*

The issues to be considered when women living in rural areas and women living in urban areas buy food products, the importance of food packaging, and the role of packaging in influencing the behavior for buying food products were analyzed with the t-test. This test is used to investigate whether there is a difference between the two sample groups in terms of means. When examining the significance levels of differences between groups in t-test analyses, it is considered that they are either one-tailed or two-tailed. A two-tailed test was used in this research. There are 3 different t-tests in the SPSS-23 program. These are independent samples t-test, paired samples t-test and one-sample t-test. The independent-samples t-test (independent two-group t-test) was used because it aimed to test the differences between women living in rural and urban areas (37). Since the sample size is  $n > 30$ , the t-test results are assumed to approach the normal distribution (38-40). However, although  $n > 30$  in the study,

whether the data showed normal distribution was analyzed with the Kolmogorov-Smirnov test. According to the Kolmogorov-Smirnov test of normality, the data show a normal distribution ( $p > 0.05$ ). The study was conducted in December 2019, when the dollar-Turkish lira exchange rate was 5.84.

#### **Research finding and discussion**

There are differences between rural and urban women regarding the effect of food packaging on consumer purchasing behavior. Tables of women living in rural and urban areas are given below for the purpose of the study. The socio-demographic characteristics of women living in rural and urban areas are given in Table 1. Age, education, occupation, and social security were analyzed from socio-demographic characteristics. The difference between the age, average of education, occupational structure and social security of women living in rural and urban areas was analyzed by t-test (Table 1).

According to the table, 24.29% of women living in rural areas were in the 40-49 age group, while 28.57% of women living in urban areas were in the 30-39 age group. 57.14% of rural women and 48.57% of women living in urban areas were primary school graduates. The vast majority of women living in rural and urban areas were housewives (75.71; 72.86, respectively). According to the results of the t-test, a statistically significant difference was found between the socio-demographic characteristics of women living in rural and urban areas. In other words, it determined that the educational status of women living in rural and urban areas is different according to the t-test results.

Consumers' family income is one of the most important factors determining the amount and type of food consumption (41). Consumers' food expenditures vary in direct proportion to their income. According to Table 2, while the monthly income per household of women living in rural areas is \$659.83, this amount is \$803.01 in urban areas. 18.57% of the monthly income of women living in rural areas and 19.50% of that of women living in urban areas are spent on food products.

	Rural		Urban		Total		t	p
	No.	%	No.	%	No.	%		
<b>Age</b>								
18-29	14.00	20.00	14.00	20.00	28.00	20.00	1.156	0.250
30-39	14.00	20.00	20.00	28.57	34.00	24.29		
40-49	17.00	24.29	17.00	24.29	34.00	24.29		
50-59	16.00	22.86	11.00	15.71	27.00	19.29		
60+	9.00	12.86	8.00	11.43	17.00	12.14		
Total	70.00	100.00	70.00	100.00	140.00	100.00		
<b>Education status</b>								
Illiterate	2.00	2.86	0.00	0.00	2.00	1.43	-2.514	0.00
Primary school	40.00	57.14	34.00	48.57	74.00	52.86		
Middle school	8.00	11.43	5.00	7.14	13.00	9.29		
High school	13.00	18.57	10.00	14.29	23.00	16.43		
University	7.00	10.00	16.00	22.86	23.00	16.43		
Postgraduate	0.00	0.00	5.00	7.14	5.00	3.57		
Total	70.00	100.00	70.00	100.00	140.00	100.00		
<b>Job Status</b>								
Worker	3.00	4.29	3.00	4.29	6.00	4.29	-611	0.304
Civil servant	3.00	4.29	3.00	4.29	6.00	4.29		
Retired	2.00	2.86	1.00	1.43	3.00	2.14		
Housewife	53.00	75.71	51.00	72.86	104.00	74.29		
Student	0.00	0.00	1.00	1.43	1.00	0.71		
Artisan	5.00	7.14	4.00	5.71	9.00	6.43		
Other	4.00	5.71	7.00	10.00	11.00	7.86		
Total	70.00	100.00	70.00	100.00	140.00	100.00		
<b>Social Security</b>								
Without social security	4.00	5.71	1.00	1.43	5.00	3.57	1.788	0.050
Social Security Institution	30.00	42.86	40.00	57.14	70.00	50.00		
Ba -Kur	19.00	27.14	20.00	28.57	39.00	27.86		
Pension fund	15.00	21.43	9.00	12.86	24.00	17.14		
Green card	2.00	2.86	0.00	0.00	2.00	1.43		
Total	70.00	100.00	70.00	100.00	140.00	100.00		

**Table 2.** Income and Spending Status of Women Living in Rural and Urban Areas

	Rural	Urban
Monthly income per household (US dollars)	659.83	803.01
Average monthly food spending (US dollars)	122.55	156.63
Food spending (%)	18.57	19.50

Table 3 shows where women living in rural and urban areas buy food items. According to the findings of the present research, the most popular shopping place was determined as the market in both rural and urban areas. The least popular shopping place is the food stall. In a similar study, it was found that people living in urban areas purchase 83% of food, while those living in rural areas only purchase 30% of food (42).

The points to be considered when purchasing food products are given in Table 4. According to the Likert

**Table 3.** Distribution of Female Consumers according to where they Buy Food Items

	Rural		Urban		Total	
	Number	%	Number	%	Number	%
Producer	32.00	13.56	4.00	1.99	36.00	8.24
Costermonger	3.00	1.27	2.00	1.00	5.00	1.14
District market	68.00	28.81	65.00	32.34	133.00	30.43
Greengrocer	29.00	12.29	37.00	18.41	66.00	15.10
Market	70.00	29.66	70.00	34.83	140.00	32.04
Grocer	34.00	14.41	23.00	11.44	57.00	13.04
Total *	236.00	100.00	201.00	100.00	437.00	100.00

\* Multiple preference options are provided.

**Table 4.** Considerations When Buying Food Products

	Rural	Urban	t	p
Price	4.01	3.79	1.152	0.251
Quality	4.57	5.00	-0.788	0.432
Brand	3.27	3.56	-1.555	0.122
Packaging	3.64	3.71	-0.438	0.662
Advertisement	2.40	2.53	-0.964	0.337
Hygiene	4.70	4.60	0.988	0.325
Freshness	4.59	4.66	-0.797	0.427
Seller's characteristics	3.71	4.16	-2.484	0.014
Product characteristics	4.30	4.50	-1.924	0.056

5: Strongly agree 4: Agree 3: Undecided 2: Disagree 1: Strongly Disagree

results, it was determined that women living in rural areas pay attention to hygiene, freshness and quality, respectively. It was determined that women living in urban areas pay attention to quality, freshness, hygiene and product characteristics, respectively. In the study, the issues (price, quality, brand, packaging, advertisement, hygiene, freshness, seller's characteristics, prod-

uct characteristics) that women living in rural and urban areas pay attention to when buying food products were analyzed with the t test.

According to the results of the analysis, a statistically significant difference was found between women living in rural and urban areas regarding the characteristics of both the seller and the product. This situation was found to be consistent with the Likert results. A similar study found that while many food options exhibit habitual purchases, new food products prevent habitual repeat purchases. Nevertheless, time pressure can reduce the role of process features in the purchasing process of new food products by facilitating habitual purchasing decisions. There is a complex array of in-store alerts, including products and advertising, as well as a growing feature of information regarding the environmental impact of products and services (43-45).

The importance of food packaging is given in Table 5. According to the Likert results, it was determined that women living in rural areas consider that packaging must have a recycling feature, and that

**Table 5.** Importance of Food Packaging

	Rural	Urban	t	p
I choose the most strikingly packaged product from the same type of product.	3.61	3.71	0.721	0.472
Packaging must have a recycling feature.	4.11	4.17	0.691	0.491
There are brands I know from the packaging	3.70	3.94	1.755	0.081
I don't buy unpackaged products	2.41	2.60	1.151	0.252
I find packaged products safe, healthy and high quality	3.36	3.53	1.160	0.248
Information on the packaging is useful and should be read	4.09	4.41	-3.889	0.000
The quality of the packaging of the products increases the price	3.86	3.86	0.000	1.000
A packaged product is more attractive and important for selling the product	3.91	3.77	-1.243	0.216

5: Strongly agree 4: Agree 3: Undecided 2: Disagree 1: Strongly Disagree

women living in urban areas consider that the information on the packaging is useful and should be read. While some time-pressured food purchasing decisions can also be attributed to unreasonable and unconscious information processing, consumers are likely to simplify choices by using heuristics or reverting to habits (43, 46-49). In addition, the importance of food packaging for women living in rural and urban areas was analyzed by t-test. According to the results of the analysis, a statistically significant difference was found between women living in rural and urban areas regarding the belief that information on the packaging is useful and should be read. This situation was found to be consistent with the Likert results.

The role of packaging in buying food products is given in Table 6. According to the Likert results, for women living in rural areas, usage information on the packaging, legible text on the packaging, good preservation of the product against external effects, the material and quality of the packaging, its durability, and its

reclosing after opening are effective. For women living in urban areas, the fact that the production and expiry date information can be seen easily and that the text on the packaging is readable are definitely effective. It was determined that consumers mostly pay attention to the expiration date when making food choices (50). In addition, the effect of food packaging on consumer purchasing behavior of women living in rural and urban areas was analyzed by t-test. The role of packaging in influencing food purchasing behavior data consists of 20 Likert data. The t test was performed with the average of 20 Likert data. According to the results of the analysis, a statistically significant difference was found regarding the role of packaging in influencing the food product purchasing behavior of women living in rural and urban areas. This situation was found to be consistent with the Likert results. In a similar study, it was determined that 54.9% of consumers paid attention to the durability of food packaging and 46% to the production/expiry date (51).

**Table 6.** The Role of Packaging in Influencing Food Purchasing Behavior

	Rural	Urban
Packaging material and quality	4.03	4.13
Produced from recycled material	3.81	4.13
The packaging is not produced from substances harmful to health	4.03	4.37
Preserving the product against external effects	4.04	4.31
Compliance of the package with the features of the product it contains	3.84	4.23
Durability	4.01	4.20
Size	3.34	3.71
Does not take up much space	3.46	3.86
Providing ease of use	3.84	4.01
Reclosing after opening the package	4.00	4.19
Easy to open	3.83	4.00
Easy to carry	3.67	3.99
Color, shape, design	3.44	3.89
The position of the product on the market shelf	3.14	3.57
Packaging is interesting	3.59	3.81
Having usage information on it	4.13	4.46
Easy visibility of production and expiry date information	4.39	4.69
Including the manufacturer's information and origin on the packaging	3.94	4.10
Legible text on the packaging	4.10	4.51
The packaging can be used for other purposes after the product is finished.	3.64	4.21

t=6.434 p<0.05

5: Strongly agree 4: Agree 3: Undecided 2: Disagree 1: Strongly Disagree

In a study conducted in Spain, it was found that for consumers in Extremadura, the most sought after features of food packaging for cheeses were safe material, ease of opening / resealing in general applications (24%), and packaging transparency (16%) and size (12%) (52). These results also show that consumers generally do not have a holistic packaging perspective, but rather spontaneously mention and consider aspects that are attractive to them and close to them in their daily lives (53). It was determined that the effect of the packaging on the natural environment is not paid attention to. Similar results were obtained in the current study (3.81; 4.13, respectively) (50).

### Conclusion and recommendations

It has been determined in many studies that socio-demographic characteristics and income status affect the purchasing behavior of consumers (1,41,50). In the study, a statistically significant difference was found between the education and social security structures of women living in rural and urban areas, one of the socio-demographic characteristics. Packaging is a marketing and advertising tool that attracts the attention of consumers, communicates with consumers, gives consumers confidence and at the same time has functions such as protecting food products.

The increase in the number of conscious consumers in rural and urban areas has further increased the importance of packaging. Packaging is a factor that differentiates a product from its competitors, increases the reliability of the brand and provides the consumer with the opportunity to easily recognize that brand. According to the Likert results used in the effect of food packaging on consumer purchasing behavior, women living in rural areas consider that usage information on the packaging, a readable text on the packaging, good preservation of the product against external effects, the material and quality of the packaging, its durability and its closing after opening are effective. For women living in urban areas, the fact that the production and expiry date information can be seen easily and that the text on the packaging is readable are definitely effective. In this case, while the safety of the

product is taken into account in the food purchasing behavior of women living in urban areas, the physical characteristics of the packaging are more important for women living in rural areas.

Considering that consumer demands and expectations are guiding in the market, it can enhance sales if the products of the enterprises have packaging that will make a difference, attract attention and create appeal. It is necessary to set the packaging standards and to implement strategy accordingly for better protection and promotion of a product. Firms should rely on practical steps in bringing their products to market and focus more on the knowledge of identifying the success or failure factors of products and on taking care to meet the consumer's desires and needs, as well as on the cornerstone, starting point and end point in any productive or promotional process.

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**Correspondence**

Department of Agricultural Economics, Faculty of Agriculture  
Selcuk University  
42130, Konya, Turkey  
Telephone: +905305661666  
E mail: aysunyener@selcuk.edu.tr  
ORC D: [0000-0002-2764-0759](https://orcid.org/0000-0002-2764-0759)