DETERMINATION OF FACTORS AFFECTING THE PREFERENCES OF YOUTH FOR PURCHASING NEW PRODUCTS: APPLICATION OF CONFIRMATORY FACTOR ANALYSIS*

Gençlerin Yeni Ürün Satın Alma Tercihini Etkileyen Faktörlerin Belirlenmesi: Doğrulayıcı Faktör Analizi Uygulaması

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***Geliş:**.28.05.2020/ **Kabul:** 25.08.2020*
***DOI:** 10.33399/biibfad.743659*

Abstract

This study was conducted in order to identify the variables that determine the preferences of youth for buying new products. The research was conducted with a sample of 393 youth in the Bingol province of Turkey by using the convenience sampling method. Prior to the research, the exploratory factor analysis was conducted. The validity of the scale was tested, by applying the confirmatory factor analysis (CFA). As the result of the model showed good fit values. The most appropriate CFA

* "The ethics committee approval" from the Ethics Committee of University of Bingol (No: 92342550/044, Date: 13.05.2020) was obtained. The study was conducted within the set framework of the principles of the ethics committee.

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method showing the relationship between the factors was determined by applying the modification process. As a result of exploratory factor analysis; five factors were determined as "product quality and comfort", "emotional factor", "product form factor", "marketing communication factor" and "loyalty factor". It was observed that the biggest factor affecting the participants of the survey for shopping is "need". It can be stated that quality and price have a significant effect on purchasing behavior. In addition, it can be stated that an important part of the participants consists of laggards.

Keywords: New product, consumer purchasing behavior, confirmatory factor analysis.

JEL Codes: M30, M31, M37,

Öz

Bu çalışma gençlerin yeni ürün satın alma tercihini belirleyen değişkenlerin neler olduğunu belirlemek amacıyla yapılmıştır. Araştırma kolayda örneklem yöntemi ile Türkiye'nin Bingöl ilinde 393 genç ile yapılmıştır. Aştırmada önce açımlayıcı faktör analizi yapılmıştır. Doğrulayıcı faktör analizi (CFA) uygulanarak ölçeğin geçerliliği denenmiştir. CFA sonucu model iyi uyum değerleri göstermiştir. Modifikasyon işlemi uygulanarak faktörler arasındaki ilişkiyi gösteren en uygun CFA yöntemi belirlenmiştir. Açımlayıcı faktör analizi sonucunda; ürünün kalite ve konforü, duygusal faktör, ürün şekil faktörü, pazarlama iletişim faktörü ve sadakat faktörü şeklinde beş faktör belirlenmiştir. Ankete katılanları alışverişe etkileyen en büyük etkenin "ihtiyaç" olduğu gözlenmiştir. Kalite ve fiyatın satın alma davranışı üzerinde önemli bir etkisi olduğu söylenebilir. Ayrıca katılımcıların önemli bir bölümünün lagarlardan oluştuğu söylenebilir.

Anahtar Kelimeler: Yeni ürün, tüketicinin satın alma davranışı, doğrulayıcı faktör analizi.

JEL Kodları: M30; M31; M37.

1. Introduction

Predicting preferences and behaviors of consumers and preparing marketing plans accordingly is a challenging and risky endeavor for businesses. Nowadays, businesses are facing a more diverse and more preferential target group with the impact of globalization. Therefore, consumers' purchasing behaviors need to be analyzed in detail.

The modern marketing approach requires businesses to gain customer loyalty by achieving the highest level of customer satisfaction. A high level of satisfaction and a strong loyalty relationship necessitates an effective marketing research that involves a very good investigation of consumer preferences and determination of the factors that affect them (Çakır, Çakır and Usta, 2010).

The behavior that consumers demonstrate related to the products and services they buy and use throughout their lives is called purchasing behavior (Albayrak, 2000).

The gradual increasing number of conscious consumers in the society has increased the importance of the concept of consumer behavior. Consumer behaviors explain "show", "why", "how", and "when" people purchase the goods and services in order to meet their needs. The determination of consumer behaviors exactly also enables the correct determination of the direction of consumer needs and demands (Demirel and Yoldaş, 2005). Individuals' attitudes towards the risks that they undertake with regard to the benefit they perceive when purchasing and consuming foodstuff are important (Yılmaz, Oraman, and Inan, 2009).

In addition, if the products in question are new, this situation becomes an inextricable problem mess. It has been observed in the literature that although there are numerous studies on influencing the product preferences, the factors affecting new product purchasing behavior are not mentioned much. This study conducted on determining the factors affecting the preference for purchasing new products will fill this gap in the literature.

2. Literature Review

In their study, Bond, Thilmany, and Bond (2009) found that advertisements in magazines, radio spots, electronic bulletins, and booth indicators on fresh products were essential to ensure the loyalty of existing consumers. The study focused on the effect of product exhibition, advertising, and similar promotional factors on agricultural-based consumer preferences.

Al-Ghaith, Sanzogni, and Sandhu (2010) identified the factors affecting online services and revealed that the perceived complexity was the most important factor influencing the adoption of e-service. According to these authors, the quality and relative advantage of the internet also affect e-service usage and adoption of it.

While Al-Gahaifi and Světlík (2011) determined that the price, status, and purchase time of fresh fruits and vegetables had a high effect on consumers, they suggested that the exhibition and sorting of these products and the position of the seller had a moderate effect.

In her research, Tinne (2011) found that some activities such as discount offer, various diagrams, promotional activities, retail store offers, product displays, salesperson behavior, product popularity, reference-group influence, consumers' income level, and the festival had effects on purchasing.

In their study, Yakup and Jablonsk (2012) identified that while the factors affecting consumer purchasing differed from industry to industry, the density (weight) of a given factor differed between products and industries.

As a result of the study in which the factors affecting consumers' purchase demands for green personal care products were examined, Ling (2013) revealed that environmental attitudes and self-sufficiency were important factors that affected the purchase of green personal care products. He also found that the willingness of consumers to pay more for green personal care products alleviated the relationship between environmental attitudes and intention to purchase.

In a study conducted on rice producers in Indonesia, Wahyudi et al., (2019) determined that consumers' gender, age, occupation, education, and income as well as the characteristics (i.e. label and color), price and promotion of the product were effective on buyers.

The studies conducted related to the brand, on the other hand, can be summarized as follows:

Several researches are available in the literature on topics such as the preference of luxury brands (Gani, Pervez and Ali, 2016; Ünal, Deniz and Akın, 2019) and specialty brands (Bilal and Ali, 2013), brand

loyalty (Tsao and Chen, 2005; Selvi, 2007; Huang and Zhang, 2008; Kabadayı and Akgün, 2008; Devrani, 2009; Şimşek and Noyan, 2009; Özaltın Türker and Türker, 2013; Kurtoğlu and Sönmez, 2016; Baydaş and Aydın, 2017), brand dependence, and brand trust (Çiftyıldız and Sütütemiz, 2007; Eren and Erge, 2012; Gürbüz and Doğan, 2013; Önen, 2018). In this context, it can be stated that brand preferences rather than products come to the fore in these studies.

As can be seen in the literature review, there are no studies on the factors affecting the new product preference. The conducted studies are generally related to factors affecting product and brand preferences. Therefore, the objective of this study is to answer the question and fill the gap in the literature.

The main purpose of the study is to identify what variables determine the youth's preferences for purchasing new products. In order to achieve the main purpose of the research, demographic characteristics of the youths, their shopping frequency, amount of income allocated to shopping, product groups to which the budget was allocated most, the reason for shopping, situations affecting youth during shopping, the primary characteristics that were effective in preference, the reaction showed to the introduction of new products into the market, classification of customers in terms of following up innovations, the effect of environmental factors on purchasing of new products, classification of consumers in terms of purchasing behavior, payment methods, whether the brand was preferred or not, and the factors affecting new product purchasing behavior were examined.

Stratified and convenience sampling methods were used together in the research. The date was collected through the questionnaire prepared form by the face-to-face interview. By stratified sampling method, it was aimed to include young individuals in the research, and by convenience sampling method, it was aimed to maintain the research easily and quickly.

3. Material and Method

3.1. Material

The population of the study was composed of youth living in The Bingol province in Turkey. Data of the study was collected through a face-to-face survey carried out with young individuals by using the convenience sampling method. The following formula was used to determine the sample size (Sekeran, 2003; Özdamar, 2003).

$$n = \frac{N.\pi.Q.Z_{\alpha}^{2}}{(N-1).d^{2}} \quad (1)$$

where N is population size (The central population (excluding districts and villages) of Bingol in 2019 was approximately 117,500), π is the observation rate of X in the population, and Q is the non-observable ratio of X (1- π). To make the sample size maximum, it is taken that π =0.5 and Q=0.5. Z_{α} is 1.96 (for α=0.05) and d is sampling error. It is desired that the sampling error does not exceed 5%. When these values are put into their places in the formula, the calculated sample size is found as follows.

$$n = \frac{117500.(0.5).(0.5).1.96^{2}}{(117500-1).0.05^{2}} = 384 \quad (2)$$

Since the survey was applied to 393 individuals in this study, the sample size was thought to be sufficient.

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3.2. Method

The research was first handled by the literature review and a questionnaire was created. The questionnaire form was created by making use of scales of Demirel and Yoldaş (2005), Çiftyıldız & Sütütimiz (2007) and Bilal and Ali (2013). The questionnaire form is composed of 4 parts. In the first part, the demographic characteristics of the participants (5 questions), in the second part the frequency of shopping and purchasing behavior (9 questions), in the third part the

consumer types (4 questions) and in the fourth part the questions about the new products (26 questions) took place.

Exploratory factor analysis (EFA) defines the dimensionality of structures by examining the relationships between items and factors when dimensionality information is limited (Netemeyer et al., 2003). Exploratory factor analysis covers a process for finding factors and generating theories by depending on the relationships between variables (Kline, 1994; Stewens, 1996; Tabachnick and Fidell, 2007).

The process of the exploratory factor analysis begins with an initial analysis which is run to obtain eigenvalues for each factor in the data. The Kaiser-Meyer-Olkin (KMO) test is then applied to determine structure validity and verify that the data collected for an exploratory factor analysis is appropriate, and Bartlett's test of sphericity is applied in order to determine whether correlations between items are large enough for EFA. To execute an EFA, Bartlett's test of sphericity must reach a statistical significance that is less than 0.05 (Yu and Richardson, 2015). In the factor analysis applications in social research, vertical rotation is more often used. One of the methods of vertical rotation is the Varimax rotation developed by Kaiser (1958).

Factor loadings of the scale represent relationships between indicators and latent factors (Brown, 2006). The magnitude of factor loadings should be at least 0.30 (Barnes et al., 2001). The fitness of the factor structure obtained from EFA was confirmed by confirmatory factor analysis (CFA).

The Confirmatory Factor Analysis (CFA) is applied to determine whether a specific factor structure exists. In this context, CFA is a general modeling approach in which the factor structure, whose number and interpretation is given previously, is organized (Raykov and Marcoulides, 2000). In the CFA technique, a preliminary measurement model is analyzed by giving both indicators and numbers of factors (Kline, 2011; Byrne, 2013). The CFA can make estimation according to the associated variations of the dataset of latent variables; it can reduce data sizes, standardize the scale of multiple indicators, and explain correlations in the dataset (Byrne, 2013).

AVE (Average Variance Extracted) was calculated in the validity analysis. AVE value expresses the average variance that a latent structure can explain in variables that are observed to be theoretically related. AVE values should be greater than 0.50 (Farrell and Rudd, 2009).

The error and fit index values of the items in the confirmatory factor analysis and all structural equation models are given in Table 1 (Hooper et al., 2008; Hu and Bentler, 1999; Schermelleh-Engel et al., 2003).

In the model estimation phase, modification may be required to improve the fit of the model, provided that the fit indices do not give good results and the theoretical structure is adhered to. Thus, the relationship between variables can be better predicted. In modification indexes, it estimates how much the Chi-square statistics will decrease when the constrained parameters are estimated. The difference between the chi-square statistics resulting from the release of the parameter restricted in one of the two models in the other model constitutes the modification index (Işıldar, 2012; Aytaç and Öngen, 2012).

4. Findings

Table 1: Goodness of fit statistics for items

Fit statistics	Acceptable fit	Good fit
CMIN/DF	3 < CMIN/DF < 5	0 < CMIN/DF < 3
RMSEA	0.05 ≤ RMSEA ≤ 0.10	RMSEA ≤ 0.05
RMR	0.05 ≤ RMR ≤ 0.10	RMR ≤ 0.05
TLI	0.90 ≤ TLI ≤ 0.94	TLI ≥ 0.95
CFI	0.90 ≤ CFI ≤ 0.95	CFI ≥ 0.95
GFI	0.90 ≤ GFI ≤ 0.95	GFI ≥ 0.95
AGFI	0.80 ≤ AGFI ≤ 0.90	AGFI ≥ 0.95

Table 2: Social and demographic characteristics of the surveyed individuals

Education	n	*P* (%)		**Gender**	n	*P* (%)
Primary Education	5	1.3		Male	195	49.6
High school	28	7.1		Female	198	50.4
Associate Degree	81	20.6		Total	393	100.0
Undergraduate	251	63.9		**Age**	n	*P* (%)
Master/Doctorate	28	7.1		Age 30 and under	373	94.9
Total	393	100.0		31 and above	20	5.1
Monthly Income	n	*P* (%)		Total	393	100.0
Less than 2000 TL	336	85.5		**Job status**	n	*P* (%)
2001-3500 TL	27	6.9		Paid Employee Connected to a Place	31	7.9
3501 TL-5000 TL	14	3.6		Self-employed	8	2.1
5001 TL-7000 TL	11	2.8		Housewife	3	0.8
7001 TL and above	5	1.3		Student	342	87.0
Total	393	100.0		Currently Not Working	9	2.3
				Total	393	100.0

P=Proportion, n=number

The social and demographic characteristics of the individuals to whom the survey was applied are given in Table 2. 63.9% of the respondents were undergraduate graduates and they constitute the majority of the participants of the survey. This is followed by associate degrees with 20.6% and high school graduates with 7.1%, respectively. The monthly income of the respondents of the survey is very low; 85.5% of them have an income that is less than 2000 TL. 49.6% of the respondents were male and 50.4% of them were female. In other words, the numbers of males and females are very close to each other and they are evenly distributed. The vast majority of the respondents (373 individual-94.9%) are 30 years of age and under. When the job status is examined, it is seen that the majority of the participants (87%) are students.

Table 3: Frequency of shopping and proportional distribution of income allocated to shopping

Frequency of shopping	**n**	***P* (%)**		**The portion of income allocated to shopping**	**n**	***P* (%)**
Everyday	20	5.1		% 10-30	147	37.4
Once a week	27	6.9		% 30-50	136	34.6
Every 15 days	20	5.1		% 50-70	94	23.9
Monthly	20	5.1		% 70-100	16	4.1
As needed	306	77.9		Total	**393**	**100.0**
Total	393	100.0				

P=Proportion, n=number

Table 3 shows that a significant proportion (77.9%) of the young individuals who participated in the study are shopping when they are in need. Furthermore, the proportion of those who stated that they allocated 10-30% of their income to shopping is 37.4%. While the proportion of those who allocate 30-50% of their income to shopping is 34.6%, the proportion of those who allocate 50-70% of their income to shopping is 23.9%. As seen, it can be stated that a significant proportion of individuals allocate a fairly high proportion of their income for shopping.

Table 4: The products or product groups to which the most budget allocated in shopping

Products or Product Groups	n	*P* (%)
Electronics/Computer/Mobile phone	18	4.6
Clothing/Fashion/Accessories	108	27.5
Book/Film/Music	25	6.4
Eating/Drinking/Food	207	52.7
Other (Entertainment, Toys, etc.)	35	8.9
Total	393	100.0

P=Proportion, n=number

It is seen in Table 4 that respondents spend most of their budget on eating, drinking, and food when they are shopping. The second most spending is on clothing, fashion, and accessories (27.5%).

Table 5: The most important factor in shopping and the distribution of the factors affecting individuals while a product is purchased

The most important factor in shopping	n	*P* (%)	**Factors affecting individuals while a product is purchased**	n	*P* (%)
Need	314	79.9	My own experiences about the product	194	49.4
Pursuing innovation	15	3.8	The advice of my immediate circle	48	12.2
Enjoying shopping	23	5.9	Salespeople's advice	9	2.3
Snap decisions	31	7.9	Seeing it in someone else	24	6.1
Shopping due to being bored	10	2.5	Information obtained from advertisements	12	3.1
Total	393	100.0	Wandering shops	106	27.0
			Total	393	100.0

P=Proportion, n=number

It was observed in Table 5 that the biggest factor affecting respondents to go for shopping was "need" (%79.9). While 49.4% of respondents said that their own experience was effective when buying a product, others respectively stated that wandering around stores (27%), the advice of their immediate circles (12.2%), seeing it in someone else (6.1%), advertisements (3.1%), and the advice of salesmen (2.3%) were effective.

Table 6: Primary factors affecting the preference when purchasing a product

Factors	n	*P* (%)
Price	145	36.9
Quality	180	45.8
Brand image	8	2.0
Current discount status	34	8.7
Payment condition (Installments, etc.)	4	1.0
Warranty and service prevalence	2	0.5
Functionality of the product	16	4.1
Social media news about the product	4	1.0
Total	393	100.0

P=Proportion, n=number

As can be seen in Table 6, participants of the study stated that the most important factors that are effective on their purchasing preference were quality (45.8%) and price (36.9%). Thus, it can be stated that quality and price have a significant effect on purchasing behavior.

Table 7: Reaction when a new product is introduced into the market

Reaction	n	*P* (%)
I would buy it as soon as I could	21	5.3
I would pay attention to the manufacturer of the product	15	3.8
I would look at the effectiveness of the advertisement	10	2.5
I would decide according to the price.	52	13.2
I would look at whether it meets my needs.	229	58.3
I would decide based on users' reactions	66	16.8
Total	393	100.0

P=Proportion, n=number

Table 7 shows that when a new product is launched, the most important factors affecting participants' reactions are, respectively, whether the product meets the need (58.3%), users' response (16.8%), and price (13.2%). Therefore, it can be stated that new products are purchased in the later periods after they are launched.

Table 8: Distributions of the categories related to adopting innovations

	n	*P* (%)
I want to buy first	15	3.8
I follow the innovations	110	28.0
I'm usually an early adopter.	45	11.5
I don't usually lean towards innovations.	43	10.9
I adopt innovations after the benefit of them emerges in the society	180	45.8
Total	393	100.0

P=Proportion, n=number

As understood from Table 8, the young participants described the innovativeness type, which they were in, as procrastinators in general. The distribution ratio for those who followed innovations was 28%, and it was 11.5% for early majorities, 10.9% for lagged majorities, and 3.8% for innovators. Thus, it can be stated that a significant portion of the participants consists of laggards.

Table 9: Effect of environmental factors when buying a new product

	n	*P* (%)
It is important; I usually take advice	217	55.2
It doesn't matter much. I don't care	136	34.6
It is very important; I don't shop without consulting my surroundings	40	10.2
Total	393	100.0

P=Proportion, n=number

Looking at Table 9, it is seen that whereas the proportion of those who say environmental factors is "very important and important" is 65.4%, the proportion of those who say "it is not very important" is 34.6%. Therefore, it can be stated that when purchasing a new product, the impact of environmental factors is high.

Table 10: Distribution of consumer types

	n	*P* (%)
I know what to buy in advance (I do my shopping in a planned way)	286	72.8
I have a shopping understanding of "buy first. think after" (I do my shopping without planning)	63	16.0
I usually have the desire to buy everything I see (sometimes I regret by thinking that some of the things I have bought are unnecessary)	44	11.2
Total	393	100.0

P=Proportion, n=number

As shown in Table 10, a significant number of respondents (72.8%) stated that they planned their purchases. On the other hand, the proportion of those shopping without planning is 16%.

Table 11: The most used mode of payment for purchases

	n	*P* (%)
Cash	248	63.1
Cash advance payment by credit card	122	31.0
Installment payment by credit card	23	5.9
Total	393	100.0

In Table 11, it is seen that participants mostly prefer cash in shopping and that credit in shopping is also important.

Table 12: Whether or not something is necessarily bought at shopping and whether or not there is a consistently preferred brand

Whether or not something is necessarily bought at every shopping	n	*P* (%)	**Whether there is a consistently preferred brand**	n	*P* (%)
Yes	128	32.6	Yes	123	31.3
No	265	67.4	No	270	68.7
Total	393	100.0	Total	393	100.0

P=Proportion, n=number

Looking at Table 12, it can be stated that "something does not necessarily need to be bought in every shopping" (67.4%) and that there is no consistently preferred brand (68.7%).

The Kaiser-Meyer-Olkin (KMO) criteria was calculated to test whether the sample size was sufficient for the exploratory factor analysis application and the obtained results are given in Table 3.

Table 13: KMO and Bartlett's Globality Test

Kaiser-Meyer-Olkin Test		0.917
Bartlett's Test of Sphericity	Approximate Chi-Square	5599.519
	Degree of freedom	325
	Level of significance	0.001

As seen in Table 13, the KMO result (0.917) showed that the sample size of the study was sufficient. Furthermore, the approximate Chi-square value according to the Bartlett's Test of Sphericity was 5599.519 ($p<0.001$) and it was observed that the data has a multivariate normal distribution.

The factor loading values of all items used in the study were at good levels. It was decided that factor analysis was appropriate to determine the factor pattern of the youth's new product purchasing preference scale and that the Varimax method, one of the vertical rotation methods, was appropriate as a rotation method.

As a result of the factor analysis, it was seen that for the 26 items addressed, there were 5 components with an eigenvalue greater than 1. For the first, second, third, fourth, and fifth factors, the variance amounts explained by the eigenvalues of the factors are %33.17, %16.73, %5.55, %4.37, and 3.91%, respectively. The total variance rate explained by 5 significant factors is 63.73% (Table 14). In social research, it is accepted that this ratio is sufficient (Vieira, 2011).

Table 14. Explained Variance Table of the Factor Analysis

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.625	33.171	33.171	5.467	21.026	21.026
2	4.350	16.732	49.904	4.423	17.013	38.039
3	1.444	5.554	55.458	3.455	13.290	51.329
4	1.136	4.369	59.827	1.691	6.502	57.831
5	1.016	3.906	63.733	1.535	5.902	63.733

P=Proportion, n=number

The results related to factor structure, factor loading values of items and common factor variances are given in Table 15. AVE values are between 0.612 and 0.703. These values show that model validity is provided. These values are above an acceptable threshold value of 0.50. VIF (Variance inflation factor) values were calculated to detect multicollinearity problem in the model and the highest VIF value was found as 3.139. Since VIF <10, it turned out that there was no multicollinearity problem.

Table 15. Rotation-(Varimax) and Item Analysis

Items		Component Factor Loading	Common Factor Variance (h^2)	AVE	VIF
F1	**Product quality and comfort factor**			0.663	
v34	The quality of the product affects the purchase.	0.810	0.749		2.917
v31	The robustness of the product affects my purchase.	0.796	0.730		3.139
v44	I care about comfort in the products I buy	0.796	0.662		2.274
v35	The product warranty affects my purchase.	0.781	0.671		2.256
v30	The comfort of the product increases my purchase.	0.714	0.665		2.378
v43	I usually buy the products I need by deciding in advance.	0.707	0.564		1.731
v26	Affordable prices increase my purchase.	0.593	0.676		1.912
v21	Product promotion is important in my purchase.	0.491	0.536		1.573
v42	I consult to expert's opinion.	0.469	0.441		1.267

F2	**Emotional Factor**			0.612	
v39	I do the shopping to get out of boredom.	0.834	0.723		2.456
v38	I buy a new product because I'm curious.	0.819	0.701		2.403
v37	I do the shopping to be different	0.771	0.659		2.314
v36	I do the shopping as a hobby.	0.758	0.658		2.037
v41	I trust TV commercials	0.736	0.627		1.958
v45	I do the shopping as unplanned	0.641	0.516		1.480
v47	I don't like change in my life	0.496	0.518		1.472
v40	I like taking risks	0.458	0.494		1.276
F3	**Product Shape Factor**			0.662	
v27	The view of the product increases my purchase.	0.788	0.730		2.210
v28	The style of the product increases my purchase.	0.787	0.742		2.461
v29	The color of the product increases my sales.	0.752	0.666		1.878
v32	The image of the product affects my purchase.	0.657	0.579		1.763
v33	The distinctness of the product affects my purchase	0.553	0.591		1.623
F4	**Marketing Communication Factor**			0.703	
v24	Campaigns increase my purchase.	0.707	0.701		1.640
v23	Discounts speed up and increase my purchase	0.626	0.704		1.640
F5	**Loyalty Factor**			0.634	
v46	I'd rather buy the same brands all the time	0.772	0.707		1.174
v22	Well-known brand is important in my purchase.	0.508	0.560		1.174

The variables belonging to 5 factors that are important in the preference of purchasing new products are explained as follows.

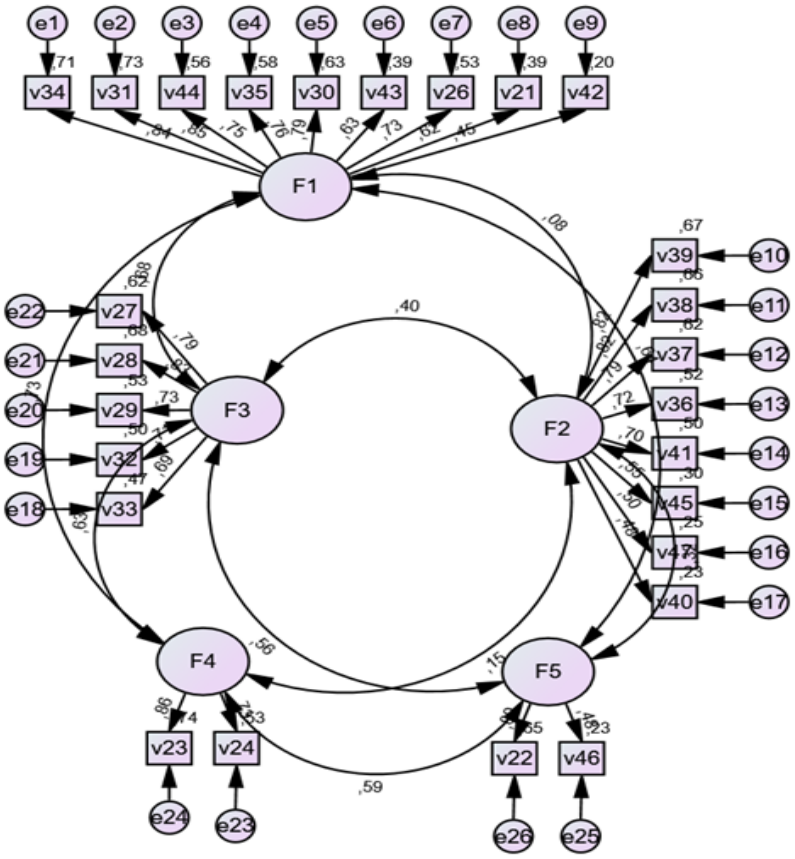
1. Factor (F1): product quality, product comfort, product robustness, product guarantee, need for the product, product comfort, product price, product presentation and expert opinion. In short, it can be called as *the quality and comfort factor of the product*. There are 9 items here.

2. Factor (F2): relief from boredom, wondering, shopping hobby, the purpose of being different, reliance on advertising, unplanned shopping, and liking to take risks. In short, it can be called as *the emotional factor*. It consists of 8 items.
3. Factor (F3): the style, view, color, image, and distinctness of the product. In short, it can be called as *the product shape factor*. This factor has 5 items.
4. Factor (F4): discount and campaign. It is *the marketing communication factor* and consists of 2 items.
5. Factor (F5): Buying the same brand and type of products. It is *the loyalty factor* and consists of 2 items.

As seen in Table 16, the items have been collected under their own factors. Factor loading values at the subscale level varies between 0.469 and 0.810 for product quality and comfort (F1) subscale, between 0.458 and 0.834 for the emotional (F2) subscale, between 0.553 and 0.788 for the product shape (F3) subscale, between 0.626 and 0.707 for the marketing communication (F4) subscale, and between 0.508 and 0.772 for the loyalty (F5) subscale. When the factor loading values of the subscales were examined according to size, it was described that 16 items including v34, v31, v44, v35, v30, v43, v39, v38, v37, v36, v41, v27, v28, v29, v24 and v46 were "excellent", 3 items including v45, v32 and v23 were "very good", 2 items including v26 and v33 were "good", and 5 items including v21, v42, v47, v40 and v22 were "adequate" (Tabachnick and Fidel, 2007). In the next phase, on the other hand, the confirmatory factor analysis (CFA) was applied.

By using the AMOS v.26 software, the factors affecting the purchasing of new products were investigated with CFA, one of the structural equation models. Error and goodness of fit indices of scale items were calculated and it was found that CMIN/DF=3.28, RMR=0.11, GFI=0.84, AGFI=0.81, TLI=0.86, CFI=0.88, and RMSEA=0.08. Based on this information, it was determined that the model did not show a good fit in terms of RMR, TLI, CFI, and GFI. The graphical representation obtained at the end of the analyses is given in Figure 1.

Figure 1. Primary structural model diagram



In Figure 1, highly correlated relationships were observed between some variables. By applying covariance between e7 and F4, which have the highest modification index value, the chi-square value is expected to drop. In the new model obtained through applying covariance to these two variables by making modification, it was determined that CMIN/DF=3.10, RMR=0.11, GFI=0.85, AGFI=0.82, TLI=0.87, CFI=0.89 and RMSEA = 0.07. Although there was some improvement in the goodness of fit values as a result of the first modification compared to the previous model, the model did not reach acceptable adequacy. It was needed to re-modify it. As a result of the confirmatory factor analysis, it was observed that the model fit values of the items in the scale were not at an acceptable level. Accordingly, the necessary

modifications were made. When covariance was applied between e9-F2, e8-F5, e8-e26 and e25-F2, which had the highest covariance value, in the obtained new model, it was calculated that CMIN/DF=2.73, RMR=0.09, GFI=0.87, AGFI=0.84, TLI=0.90, CFI=0.91 and RMSEA=0.07. In this case, a decrease was observed in the Chi-Square value, but the CFI and TLI values were not as high as the desired value. Hence, the modification was made again. In the new modification process, covariance was made between e16-e25, e3-e6, and e13-e16. In the new model occurring as a result of this, it was calculated that CMIN/DF=2.48, RMR=0.09, GFI=0.88, AGFI=0.85, TLI=0.91, CFI=0.92, and RMSEA = 0.06. Here, the Chi-Square value decreased, but CFI and TLI values were not sufficient. When it was modified again by applying covariance between e6-e15 and e7-e22, it was found in the new model that CMIN/DF=2.37, RMR=0.09, GFI=0.89, AGFI=0.86, TLI=0.92, CFI=0.93, and RMSEA=0.06. The modification process was continued and covariance was applied between e13-e14, which had the highest covariance value. In the next model, it was found that CMIN/DF=2.31, RMR=0.09, GFI=0.89, AGFI=0.86, TLI=0.92, CFI=0.93 and RMSEA=0.06. Thus, when all the calculated modification index values are examined, some items (e9-F2, e8-F5, e8-e26, e25-F2, e16-e25, e3-e6, e13-e16, e6-e15, e7-e22, e13-e14), it has been found that there is a significant relationship between error covariances. The model was tested by adding the high error correlations observed between the items to the model. According to these results, the goodness of fit values were found sufficient to explain the model and the modification process was terminated. Error and goodness of fit indices for scale items are given in Table 16.

Table 16. Error and goodness of fit indices values of items

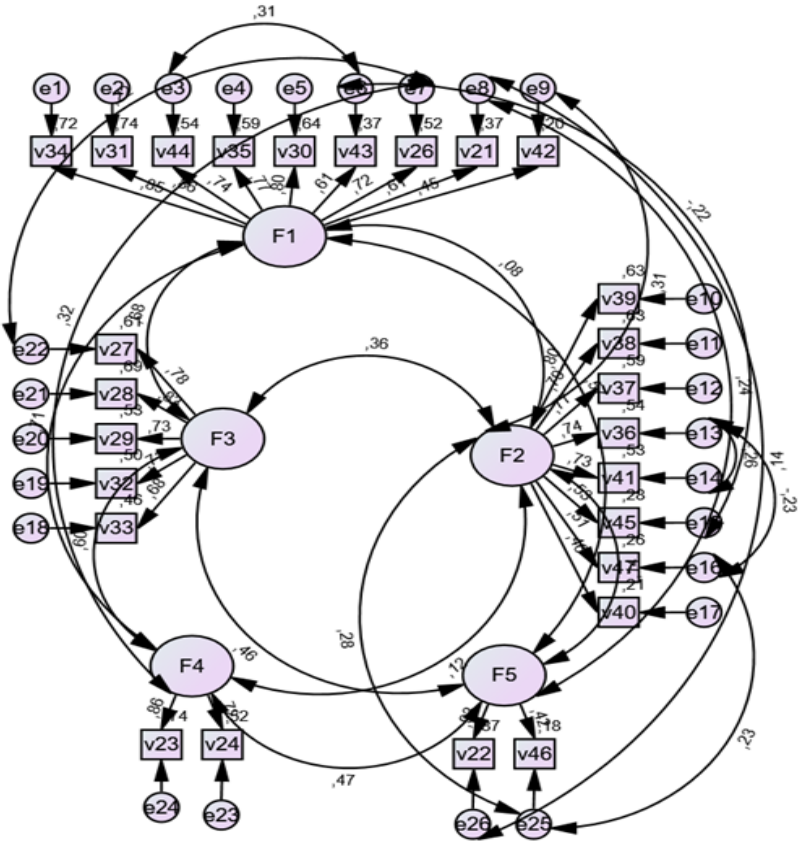
Fit statistics	Values after modification	Result
CMIN/DF	2.31	Good fit
RMSEA	0.06	Acceptable
RMR	0.09	Acceptable
TLI	0.92	Acceptable
CFI	0.93	Acceptable
GFI	0.89	Acceptable
AGFI	0.86	Acceptable

The model was found to be significant as a result of the performed confirmatory factor analysis ($p<0.001$). As shown in the diagram presented in Figure 2, many covariance lines were added to the model by examining the modification index values among variables in order to draw the goodness of fit coefficients to the appropriate levels. The regression coefficients calculated for the factors that are effective in the preference for purchasing new products are presented in Table 17.

Table 17. Regression and standardized regression coefficients of the model

			Estimate	S.E.	C.R.	P	Standardized Estimate
v34	<---	F1	1				0.847
v31	<---	F1	0.985	0.046	21.518	***	0.86
v44	<---	F1	0.83	0.049	16.891	***	0.736
v35	<---	F1	0.907	0.051	17.929	***	0.766
v30	<---	F1	0.927	0.048	19.157	***	0.80
v43	<---	F1	0.746	0.056	13.302	***	0.609
v26	<---	F1	0.852	0.052	16.454	***	0.719
v21	<---	F1	0.745	0.057	13.089	***	0.609
v42	<---	F1	0.595	0.065	9.154	***	0.451
v39	<---	F2	1				0.795
v38	<---	F2	0.995	0.058	17.024	***	0.793
v37	<---	F2	1.007	0.062	16.346	***	0.768
v36	<---	F2	0.959	0.063	15.169	***	0.737
v41	<---	F2	0.889	0.06	14.938	***	0.726
v45	<---	F2	0.723	0.067	10.846	***	0.533
v47	<---	F2	0.637	0.064	9.99	***	0.509
v40	<---	F2	0.622	0.068	9.098	***	0.463
v33	<---	F3	1				0.681
v32	<---	F3	1.019	0.081	12.544	***	0.709
v29	<---	F3	1.162	0.09	12.864	***	0.729
v28	<---	F3	1.248	0.087	14.31	***	0.828
v27	<---	F3	1.144	0.084	13.699	***	0.782
v24	<---	F4	1				0.722
v23	<---	F4	1.192	0.086	13.886	***	0.862
v46	<---	F5	1				0.424
v22	<---	F5	2.12	0.403	5.262	***	0.931

Figure 2. Final structural model diagram



After this stage, by the interpretation of the parameters of the model, the validity of the factor structure was decided.

The factors related to the items and their correlation coefficients are given in Figure 2. Standardized factor loadings represent the correlation between observed variables and the factors (latent) to which they belong (Albright and Park, 2009). When the standardized factor loadings were examined, it was seen that the standardized factor loadings of items in the dimension of "product quality and comfort factor (F1)" were between 0.45 and 0.86. The factor loadings of items in the" emotional factor (F2)" dimension was between 0.46 and 0.80. The factor loadings of items in" the product shape (F3)" dimension ranged from 0.68 to 0.83. While the factor loadings of the items in the

"marketing communication (F4)" dimension were 0.72 and 0.86, the factor loadings of the items in "the loyalty (F5)" dimension were 0.42 and 0.93.

In this model, it was seen that standardized regression coefficients were high (between 0.42 and 0.93) and all the factor loadings and T-values were statistically significant ($p<0.001$). According to these results, it can be stated that each observed variable (the scale item) well represents the latent variable (the factor) to which it depends.

5. Discussion

This study aims to determine the preferences of young people to purchase new products. When national and international literature is examined, it is seen that there are very few studies on new product purchasing preferences. We can generally encounter studies about purchasing behavior and brand preference in the literature. The following assumptions can be made using these studies.

Öztürk and Karakaş (2016) found the KMO value of 0.808 and four factors in their study in which they determined the factors affecting mobile phone purchasing behavior such as mobile phone, service, brand, and price. However, in our study, the KMO value has a higher value at 0.917, and by using five factors. The service (loyalty) that stands out in the study coincides with our quality and brand work. Correlations between the scales in this study were higher. In another study, some goodness of fit criteria were tried through simulation and it was determined that model performance became better as sample size increased (50-1000).

Yüksel (2016) found that watching videos related to products on YouTube significantly affects the purchase intention of consumers. Therefore, it can be said that the image is important in purchasing behavior.

Findings show that while status consumption and creative choice (one dimension of the uniqueness) do influence social consumption motives, self-concept clarity, unpopular choice and avoidance of similarity do not influence social consumption motives and purchasing intentions. Peer pressure has a moderating effect on the

relationship between selfconcept clarity and social consumption motives. Positive attitudes increase the intention to purchase luxury brands while social consumption motivations affect the attitude toward a luxury brand (Ünal, Deniz and Akın, 2019).

The findings of the study show that Quality, brand image and recommendations by family and friends are the key variables that influence the brand choice of youths for mobile handset purchase in Peshawar Pakistan (Khan and Rohi, 2013).

It has been revealed that there is a significant relationship between consumer purchasing behavior of green products and demographic factors such as gender, income, age and marital status (Onurlubaş et al., 2017).

It is not enough to sell new products; it is also necessary to bring innovation in the organization (Bucatarıu, Nicolescu, and Taşnadı, 2017).

Aytop and Akbay (2018) conducted a survey with 156 Kahramanmaraş-pepper producers and investigated "Kahramanmaraş-pepper production satisfaction" with the confirmatory factor analysis. It was found in the study that the factors affecting satisfaction were economic factors (0.64), production forecasting (0.32), and marketing factors (0.20). Factors affecting production forecasting, on the other hand, were economic (0.24) and personal (0.30) factors.

Yılmaz (2019) evaluated the item analysis of the Turkish version of the vindictiveness scale and found that the factor loadings of the vindictiveness scale, which were consisted of a single factor, were between 0.570-0.728 (good). The identified single-factor scale was able to explain 40% of the total variance.

In another study that examined the factors affecting service quality and taxpayers' satisfaction levels in accounting transactions, effects of physical appearance, safety, eagerness, assurance, empathy, and customer satisfaction on perceived quality (their standardized regression coefficients) were found to be 0.687, 0.414, 0.446, 0.941, 0.405, and 0.965, respectively (Yayla and Cengiz, 2006).

Yücel (2010) stated out that the effect of factors such as experience, awareness, risk, quality, purchasing, value, and external in the choice of the new product was examined. When the results of his study are compared with our study, some similarities were observed in some results. A statistically significant relationship was found between the experience gained regarding store-branded products and awareness of store-branded products. It has been observed that the awareness of consumers who have experience with store-branded products is quite high.

6. Conclusion

In this study, a scale on factors affecting the preference for new product purchasing was developed for a survey applied to 393 individuals. First, the factors were determined by applying the exploratory factor analysis; then, the confirmatory factor analysis was applied to the found factors. According to the rotational factor loadings obtained from the exploratory factor analysis, the scale was composed of 5 factors covering 26 questions (items). Based on the meaning carried by the items in the factors, proper names were given to the factors. According to the model fit values obtained by confirmatory factor analysis, it was determined that the model fits well with the data. Thus, the validity of "the new product purchasing preference scale" found by exploratory factor analysis was also confirmed by confirmatory factor analysis, and it was seen that the found scale could be used to measure the preference for new product purchasing.

Other important results in the research can be summarized as follows:

Individuals participated in the research are mostly undergraduate and graduate education. Most of the individuals have low income, and the proportion of the participants by gender is close to each other as men and women.

A considerable part of the individuals spend a high amount of their income on shopping. In addition, consumers have allocated a significant part of their budgets to eating, drinking and food.

Participants shop more when they are in need. Quality and price affect the purchasing behavior towards the new products.

When a new product is launched, the most important responses respectively are the need, the users' reaction and the price. Therefore, it can be stated that new products are purchased later after launching in the market. The young participants defined the type of innovativeness they are in as generally followers. Other consumers are listed as innovators, early majority, delayed majority and innovators.

It can be stated that the impact of environmental factors is high when purchasing a new product. A significant number of respondents stated that they made their shopping planned. It is seen that the participants preferred payment in cash rather than by credit.

It can be stated that there was no need to purchase something if there was no preferred brand.

As a result of factor analysis; five (5) factors that affect the preference of purchasing new products have been identified. These factors are; the quality and comfort of the product are listed as emotional factor, product shape factor, marketing communication factor and loyalty factor. These factors are; quality and comfort of the product factor, emotional factor, product shape factor, marketing communication factor and it is listed as a loyalty factor.

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