

# Investigating the Effect of Educational Programs of Health Care Products Manufacturers on the Impulse Buying Behavior of Consumers in Mashhad

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## Abstract

The purpose of this study was to investigate the effect of educational programs of health care products manufacturers on the impulse buying behavior of consumers. The research method is applied in terms of purpose and survey-descriptive in terms of method. The statistical population includes all users living in Mashhad and active in Instagram social networks who are members of the virtual pages of health product manufacturers, the total number of which is almost unlimited. Using the Cochran's formula, 384 were selected by simple random sampling. Hugh Jang et al. (2011) research was used for impulse buying behavior. After confirming the validity and reliability of the questionnaires, they were distributed among the sample members. The obtained data were analyzed using interpretive structural modeling using Smart PLS software. Findings of the study showed a good fit of the proposed model with the data so that the average value of 0.85 for GOF indicates a strong overall fit of the model. The results showed that the quality of implementation, compliance with ethical principles and the up-to-datedness of the content of educational programs have an effect on the impulse buying behavior of consumers in Mashhad. Meanwhile, the extent of this impact among customers of chain stores is more than customers of pharmacies and health care supply centers in Mashhad.

**Keywords:** Educational programs, Impulse buying behavior, Consumer behavior

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## Introduction

One of the primary and ongoing activities of health organizations is to improve people's knowledge andulti-

mately fight against diseases. Along with other scientific, economic, social and cultural developments in the world, gradually the philosophy, goals and methods of health education also underwent many changes (1).



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People's education is one of the most important indicators of development and is closely related to the economic, social, cultural and quality of life of people. Education can change the learner's behavior in the three dimensions of knowledge, attitude and skill (2). Considering the fact that education is an activity through which people increase their awareness or change their ways of thinking and behavior; It should be stated that health education is one of the health sciences, the subject of which is the examination and analysis of awareness, tendencies, health behaviors and the planning and implementation of educational programs in the field of their transformation based on scientific findings (3). The definition of health education includes at least the following two dimensions:

- A form of transfer of responsibility for health matters to all people
- General education program for healthy behaviors (4). Considering the new approaches, health education is directed to any combination of learning experiences, which are offered in order to facilitate the voluntary behavior leading to maintaining and improving the level of health in individuals, groups or communities. The purpose of health education is to help people to control their health through acquiring, applying and strengthening decisions and actions consistent with their values and goals (5).

Health education not only includes educational activities, but also includes organizational activities, guiding regulations and economic supports, environmental activities and programs at the community level (6). Health education changes behavior primarily through changes in knowledge, attitudes, beliefs, values, and perceptions. In health education planning, these changes should be considered. The strategy of health education should be formulated in such a way that in relation to establishing the desired behaviors, coordinating and assisting means are used. It should be noted that the best combination of educational methods based on the functioning of mass communication tools and messages in relation to a specific job group will not necessarily be suitable for another group or in other conditions (7). One aspect of behavior change is consumers' impulse buying. The main purpose of studying consumer behavior, as part of marketing, is to understand why and how consumers make purchasing decisions.

Achieving such an insight enables marketers to formulate more effective marketing strategies (8).

Today, the importance of consumer behavior in various economic, social and cultural industries and fields is not hidden from anyone. A deep understanding of consumer behavior is also unlikely without knowing the factors affecting his behavior. Therefore, in order to understand the consumer's behavioral intentions, it is necessary to know the factors that affect the intensity of the desire to perform the behavior (9). Consumer attitudes are influenced by advertising. Based on this, most companies have invested a lot in advertising. Day and night, consumers are exposed to hundreds of advertising messages that are spread through promotional activities and various media. At such a level of advertising competition, brands can hardly attract the attention of consumers and convince them to buy (10). One of the ways used by some manufacturers of health-therapeutic products is the implementation of educational programs on virtual networks (such as Instagram). In these programs, manufacturers try to provide the basis for attracting the attention of customers and making them inclined to buy their products from shopping centers by emphasizing the benefits of using their products.

Instant purchase is one of the important and favorite variables of manufacturers, retailers and chain stores; Since the 1990s, the study of the role of the point of sale and its influencing factors in consumer decision-making has attracted the attention of marketing researchers, because considering that a significant amount of purchases are made at the store and point of sale. Therefore, the opinion that by stimulating the consumer at the points of sale, his decisions can be pushed towards buying more profitable products or product classes; It can change retailers' strategies (11). Retailers, to a large extent, are aware of the power of instant purchases in the development of their sales, so they stimulate the positive feelings of consumers through strategies such as store layout, product design and packaging, and other factors. The field of shopping, especially instant shopping, is one of the topics that is attractive and exciting for many retailers and marketers (12). In the last two decades, manufacturers and retailers have gradually changed their strategic focus from traditional marketing levers to using in-store

marketing levers (such as sales promotions) and creating awareness while shopping. And they hope to influence the purchase decision of customers at the point of sale and in the store environment, and this is not possible except by studying the different dimensions of consumers' impulse buying pattern (11). Impulse shopping refers to making sudden and unplanned purchases. Impulse buying behavior is often based on the presence of a motivating factor and is associated with a feeling of excitement and pleasure or an urgent need to buy. As with other forms of indulgence behavior, impulse buying at low to moderate levels can be a pleasurable pastime in the pursuit of sensory goals. But high levels of these behaviors can be harmful and potentially self-destructive. These behaviors may be manifested by avoiding negative psychological states such as low self-confidence or negative attitudinal feelings (13). The concepts related to sudden behaviors are complex and can be examined through different perspectives (14). Among these behaviors, we can mention the behavior of immediate purchase. Cultivating instant purchases among potential consumers in today's highly competitive business environment can be considered as an effective strategy to earn money in retail and online businesses (15). Undoubtedly, increasing the level of health awareness of those involved in the preparation, production, distribution and supply of health-therapeutic products can have a direct effect on the behavior of consumers of these products and their immediate purchase. However, little research has investigated the role of educational programs of manufacturers of health care products on the instant buying behavior of customers.

Researchers (16) in a research entitled "immediate purchase in the retail environment within the framework

of the SOR model (case study: cosmetics stores in Tehran)" studied the female consumers of cosmetics stores in Tehran. For this purpose, the sample size was estimated to be 192 people; The questionnaire was distributed among them. Data analysis was done using spss and smart-pls software and the results showed that there is a positive relationship between the consumer's perception of the characteristics of the retail environment and the positive emotional reaction to these characteristics. Also, there is a positive relationship between positive emotional reactions to the characteristics of the retail environment and impulse buying behavior.

The assumptions of the current research are as follows:

1. The quality of the implementation of educational programs of manufacturers of healthcare products has a positive and significant effect on the instant buying behavior of consumers in Mashhad.
2. Compliance with ethical principles in educational programs of health care product manufacturers has a positive and significant effect on the instant buying behavior of consumers in Mashhad.
3. The up-to-dateness of educational programs of manufacturers of healthcare products has a positive and significant effect on the instant buying behavior of consumers in Mashhad.
4. The impact of educational programs of manufacturers of health care products on the immediate purchase behavior of customers of chain stores in Mashhad is greater than the impact of the aforementioned programs on the immediate purchase behavior of customers of pharmacies and health care product supply centers in Mashhad.

its purpose, "survey" in terms of how to collect information, and "descriptive-causal" in terms of its type. In the conceptual model, the variable of training programs of manufacturers of health-therapeutic products as an independent variable; and the variable of instant buying behavior is considered as dependent variable. In order to collect information about the variable of educational programs of manufacturers of health-therapeutic products, a researcher-made questionnaire was used, which is organized in the form of 7 questions with a 5-

point Likert scale (very high, high, medium, low, very low). In order to measure impulse buying behavior, the research of Hyo Jang et al. (2011) was used, which includes 3 questions about impulse buying behavior. It should be noted that these questions are set on a 5-option scale (completely disagree, somewhat disagree, somewhat agree, completely agree). After designing the questions, the questionnaire was given to the experts and from their point of view, it was recognized as valid in terms of content. Also, in this research, in addition to face validity, the construct validity method using

confirmatory factor analysis was used for more confidence. The results of the construct validity check are shown in Table 1. It should be mentioned that in order to analyze the data obtained from the collection of questionnaires, SPSS version 25 statistical analysis software was used, and descriptive statistical tests were used and Smart-PLS software was used to check the fit of the model.

**Table 1- The results of confirmatory factor analysis of research variables**

No. questions	Variables	Fatorial load	t-value
1	Quality of implementation of educational programs	0.859	23.756
2		0.939	45.089
3		0.882	22.153
4	Compliance with ethical principles in educational programs	0.874	13.500
5		0.943	49.073
6	Up-to-date content of educational programs	0.968	130.991
7		0.959	77.446
8	Impulse buying behavior	0.904	24.185
9		0.984	299.393
10		0.955	98.065

As can be seen in Table 1, the factor loadings are close to one in most cases and are greater than 0.4, and the t-statistics for all factor loadings are greater than 1.96. Therefore, it can be concluded that the selected questions provide appropriate factor structures to measure the variables and dimensions studied in the research model.

**Table 2- Convergence validity results**

Variables	AVE
Quality of implementation of educational programs	0.799
Compliance with ethical principles in educational programs	0.827
Up-to-date content of educational programs	0.929
Impulse buying behavior	0.899

According to this table 2, the AVE criterion in all variables is higher than 0.5 and it can be concluded that the indicators of each structure are highly correlated with each other.

Cronbach's alpha method was used to determine the reliability of the questionnaire. This value was obtained for the variable of the quality of the implementation of educational programs 0.875, compliance with

In addition to construct validity, the convergent validity index is also used to confirm the validity of the measurement tool. AVE criterion is used for convergence validity, the value of this coefficient varies from 0 to 1, and values higher than 0.5 are accepted. The results of convergent validity are shown in Table 2.

ethical principles in educational programs 0.798, the update of the content of the programs 0.923 and for the behavior of immediate purchase 0.944, which indicates the acceptable reliability coefficient of the mentioned questionnaires.

In the continuation of the test, while using the Kolmogorov-Smirnov test to check the normality of the

data, the hypotheses of the research have been analyzed by modeling structural equations with the help of SmartPLS software.

## Findings

The findings of this research are divided into two general categories: descriptive findings and analytical findings. In this study, firstly, the opinions of 384 users living in Mashhad city and active in Instagram social networks who are members in the virtual pages of manufacturers of health and medical products were examined. According to the results of descriptive statistics, 87% of the respondents are women, and 13% of them are men. Also, 6.8% of the respondents are in the age group of 20 to 30 years, 39.1% in the age

**Table 3: Kolmogorov-Smirnov test results**

Variables	Z value	Sig.	Result
Quality of implementation of educational programs	1.587	0.054	Normal
Compliance with ethical principles in educational programs	1.163	0.134	Normal
Up-to-date content of educational programs	1.123	0.161	Normal
Impulse buying behavior	1.306	0.066	Normal

**Table 1: Calculation of SK for each row of the pairwise comparison matrix**

Fuzzy sum of each row	SK
19.2296	S1
17.6360	S2
15.6072	S3
13.6252	S4
11.9823	S5
11.2606	S6
10.0862	S7
9.5190	S8
7.8019	S9
116.7479	Total
0.0086	

According to Table 3, the significance level of the variables is more than 0.05. Therefore, the research variables have a normal distribution.

One of the techniques used in structural equation modeling is the partial least squares method, which focuses on the variance between constructs.

In order to measure the model and its suitability, the model suitability indices are examined. The primary goal of using structural equation modeling is to find a

group of 31 to 40 years, 31.8% in the age group of 41 to 50 years, and 22.4% in the age group of over 51 years. 32.3% of respondents were single, and 67.7% were married. It should be noted that 62% of the respondents purchased health care products from pharmacies and health care product supply centers and 38% of the respondents purchased these products from chain stores in Mashhad.

After determining the descriptive statistics; Using the Kolmogorov-Smirnov test, the normality of the research variables is investigated. In this test, if the significance level (sig) of the research variables is greater than 0.05, the claim that the distribution of the research variables is normal is accepted. Table 3 shows the results of the Kolmogorov-Smirnov test

theoretical model that is statistically significant. The general criterion considered for the partial least squares method is the goodness of fit index. This standard is divided into four indicators: absolute, relative, internal model and external model. The internal model is actually the relationships between the variables or the path coefficients, and the external model is actually the estimation of factor loadings and factor analysis. Relative and absolute goodness of fit indices

are both descriptive indices. If these indices are greater than or equal to 0.5, the model is suitable. In Table 4, the amount of goodness of fit indices related to the model has been specified, and considering that

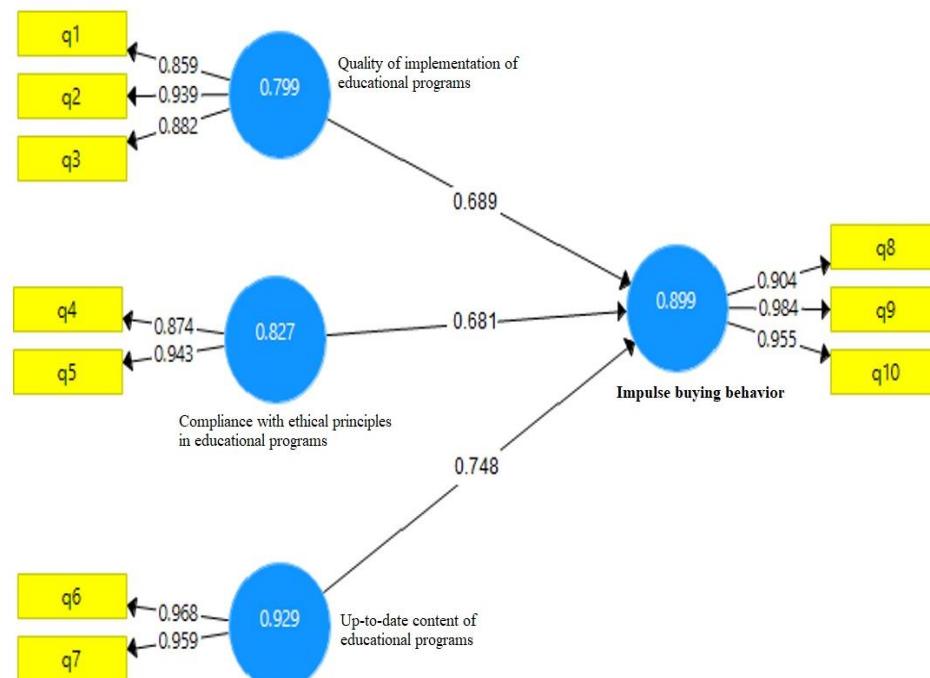
they are greater than 0.5, it indicates the appropriateness of the model.

**Table 4- The goodness of fit index of the structural equation model**

GOF	
Absolute index	0.7865
Relative index	0.8662
Outer model	0.9015
Inner model	0.8471

Another criterion used in SmartPLS software is the coefficient of determination. The value of this coefficient also varies from 0 to 1, with larger values being more favorable. The value of the coefficient of determination of the dependent variable of instant buying behavior is 0.962, which can be said to be significant.

In the following, the model related to the test of hypotheses 1 to 3 of the research is examined using the fit of the structural equation model. Figures 1 and 2 are, respectively, the graph of path coefficients and t-statistic values related to the test model of hypotheses 1 to 3 of the research.



**Figure 1: Factor coefficients and path coefficients of the research conceptual model**

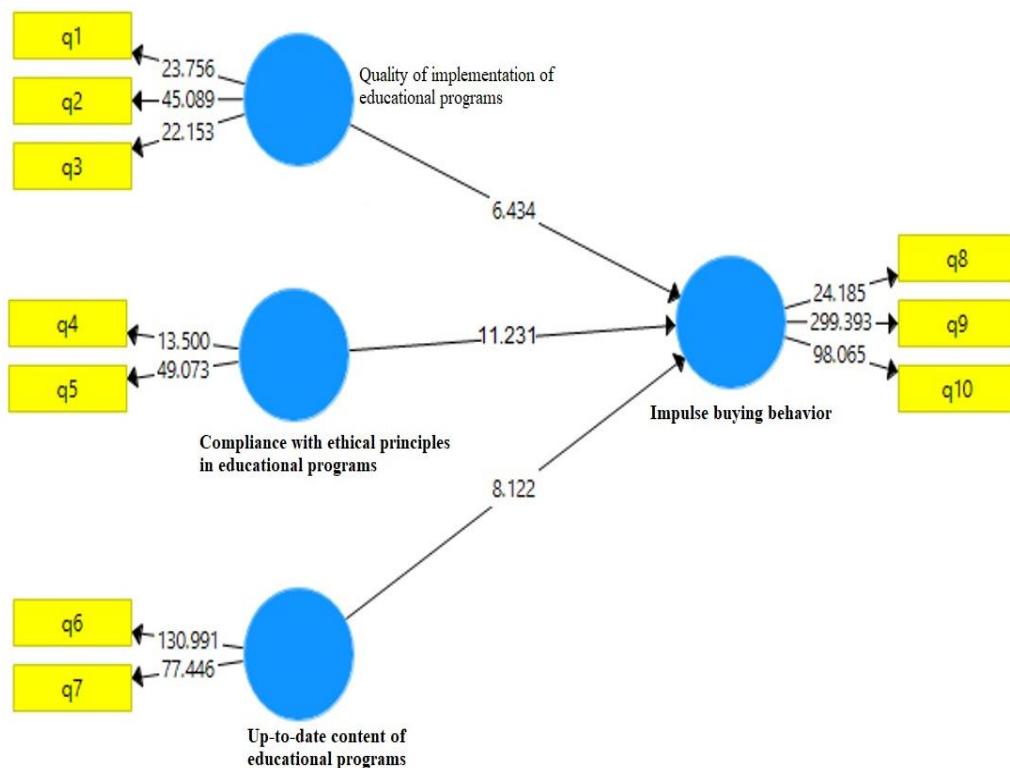


Figure 2: T-statistics of the conceptual model of the research

According to figures 1 and 2, the summary of the results obtained from the fitting of the research model

is shown in table 5, which is used to test hypotheses 1 to 3 of the research using the results of this table.

Table 5: Significant investigation of the path to test hypotheses 1 to 3 of the research

Hypothesis	Path	Path coefficient	t-value	Result
1	The quality of implementation of educational programs → consumers' impulse buying behavior	0.689	6.434	Significant
2	Compliance with ethical principles in educational programs → consumers' impulse buying behavior	0.681	11.231	Significant
3	Up-to-dateness of the content of educational programs → Consumers' impulse buying behavior	0.748	8.122	Significant

According to table 5, hypotheses 1 to 3 of the research were confirmed.

Next, in order to investigate the fourth hypothesis of the research, two simple regression analysis tests

were performed separately and finally the results of the two tests were compared with each other. Table 6 shows the results of this test.

**Table 6: The results of comparison of the impact of educational programs of manufacturers of health care products on the immediate purchase behavior of consumers in chain stores and pharmacies and supply centers of health care products**

Sample	R	R <sup>2</sup>	F	β	Partial correlation	t-value	Sig.
Mashhad chain stores	0.908	0.823	1785.938	1.021		9.081	0.000
				0.819	0.908	42.260	
Pharmacies and health product supply centers	0.789	0.622	630.110	1.133		6.184	0.000
				0.796	0.789	25.102	

According to the results of Table 6, the partial correlation coefficient of the effect of educational programs of health care product manufacturers on consumers' impulse buying behavior in Mashhad chain stores is 0.91. Which indicates that 91% of the share of the dependent variable (immediate purchase behavior of consumers) is explained by the independent variable of educational programs of healthcare product manufacturers. On the other hand, the significance level of t statistic for constant value and independent variable is less than 0.01. As a result, based on the above table, the educational programs of health care product manufacturers have an effect on the instant buying behavior of consumers in the chain stores of Mashhad.

Also, according to the results of Table 6, the partial correlation coefficient of the effect of educational programs of health care product manufacturers on consumers' immediate purchase behavior in pharmacies and health care product supply centers in Mashhad is 0.79. Which indicates that 79% of the share of the dependent variable (immediate buying behavior of consumers) is explained by the independent variable of educational programs of healthcare product manufacturers. On the other hand, the significance level of t statistic for constant value and independent variable is less than 0.01. As a result, based on the above table, educational programs of health care product manufacturers have an effect on consumers' immediate purchase behavior in pharmacies and health care product supply centers in Mashhad.

As it is known, the impact of educational programs of manufacturers of health care products on the immediate purchase behavior of customers of chain stores in Mashhad (0.91) is more than the impact of the aforementioned programs on the immediate purchase behavior of customers of pharmacies and health care product supply centers in Mashhad (0.79). Therefore, the fourth hypothesis of the research is confirmed

## Discussion

This research has sought to investigate the impact of educational programs of manufacturers of healthcare products on the instant buying behavior of consumers in Mashhad. In this way, the hypotheses of the research were proposed based on the above goal and inspired by the conceptual model. Considering all the relationships between the variables, it was found that based on various indicators, the mentioned model has a good fit and all the direct relationships between the variables are significant at the 5% level.

According to the obtained results, the quality of implementation of educational programs has an effect on the instant buying behavior of Mashhad consumers (first hypothesis); which is consistent with the results of other studies (17 and 18). Based on this result, the use of high-quality images, the use of comprehensive and complete content, and the observance of quality in the implementation of the content of educational programs of manufacturers of health care products, increase the occurrence of immediate purchase behavior by consumers of health care products. Because the quality of these educational services is a

judgment on the part of the customer, between his expectations and what he receives. Therefore, the implementation of higher quality programs leads to greater customer satisfaction, which increases the probability of immediate purchase behavior.

The analyzes carried out indicate that the observance of ethical principles in educational programs has an effect on the instant buying behavior of Mashhad consumers (second hypothesis); which is consistent with the results of other studies (19-21). Based on this result, developing educational programs according to ethical and cultural principles can help to increase the incidence of immediate purchase behavior by consumers of healthcare products. It should be noted that although unethical activities may improve the company's performance temporarily, they will have unfavorable consequences in the long run. The emergence of unethical actions of an organization, if it does not destroy that organization, will at least bring shame to it. On the other hand, based on the results, the content of educational programs has an effect on the instant buying behavior of Mashhad consumers (third hypothesis); which is consistent with the results of other studies (22-24). Based on this, it can be stated that the use of current content and paying attention to the opinions and suggestions of consumers can increase the occurrence of instant buying behavior by consumers of healthcare products. Due to the daily progress of technology and the existence of competitors, which has led to changes in the demands and tastes of consumers and customers, not only the growth and development, but also the survival and survival of any company depends on the innovation and updating of its activities.

## Conclusion

the results showed that the impact of training programs of health care product manufacturers on the impulse buying behavior of chain store customers in Mashhad is greater than the impact of the aforementioned programs on the impulse buying behavior of customers of pharmacies and health care product supply centers in Mashhad. (The fourth hypothesis). The reason for this can be described as that in a chain store, it is possible to arrange and design shelves and products in more diverse ways. Therefore, the cus-

tomers of these stores make more immediate purchases than pharmacies and health care product supply centers.

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