



Analysis of Purchasing Moderating Effect on Perfume Purchasing Propensities & Behavioral Attitudes

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Abstract

Purpose: This study looked at perfume buying patterns among 328 adolescents. **Research design, data and methodology:** The purchasing behaviors and attitudes of adolescents were divided into clusters and whether the purchasing behaviors and attitudes of each cluster had a moderating effect on purchasing behavior factors was analyzed. **Results:** Group classification according to attitude toward perfume purchasing behavior was divided into group 1, which purchases perfume according to one's own subjective opinion, and group 2, who purchases perfume according to external factors. Among the six purchasing behavior factors, the internal pleasure-seeking ($p < .001$) and fashion-seeking ($p < .001$) factors were statistically significant in both clusters 1 and 2, and in cluster 2, economic feasibility ($p < .001$) internal product. It was found to be statistically significant other than pleasure and trend-seeking, indicating that there is a difference between the two groups. **Conclusion:** Adolescents consider economic feasibility when purchasing perfume, so it is necessary to set low prices and diversify products for marketing plans for perfume products

Keywords : Perfume, purchasing pattern, Purchasing behavior & attitude, Moderation effect, Adolescent

JEL Classification Codes : F41, G14, J13, M31, M37

1. Introduction

An increase in income level brings changes to people's life styles. People have moved away from the focus on food, clothing, and shelter. In addition, as interest in appearance and health gradually expands to interest in fragrance, the fragrance market is growing (Lim & Shin, 2019). Perfume represents me while being different from others. As more and more people started looking for their own unique scents,

perfumes came to be regarded as a new medium with various meanings and functions in various fields (Kim, 2014).

Perfume used in the past has been perceived as a luxury item used only in special circumstances or exclusive to some fashion-conscious women. However, in recent years, the attitudes and behaviors of consumers toward perfumes have changed significantly, resulting in generalization and

diversification of consumer classes and objects of use (Choi & Chu, 2012).

Just as clothes change according to the season and fashion, perfume is used according to the situation, place, and purpose, and it is used to convey the image that consumers themselves seek (Lim, 2017).

Changes in people's perception of perfume consumption patterns have led to an increase in the diversity of the consumption class and the expansion of age groups, leading to an increase in men's perfume use and an increase in perfume use by teenagers, who are teenage consumers.

Adolescents are superior to other age groups in terms of embracing digital technology, and they have a comparative advantage in information retrieval and information exchange through networking. Also, unlike in the past, due to the decrease in the number of children in the household and the improvement of their status, the amount of pocket money and the opportunity to use them have increased significantly (Jang & Kim, 2014).

In addition, as the scope of purchasing behavior has expanded, it has taken on a large proportion in the goods market (Moon, 2003; Park, Byun, & Lee, 2012).

Recently, as the age at which they encounter makeup for the first time has decreased, teenagers are emerging as a major marketing target in the beauty-related industry.

Therefore, they are as much interested in perfumes as those in their 20s and 30s, who are the major consumer groups of perfumes, and show purchasing power comparable to college students, so it can be seen that they are of great value as a major layer of marketing (Kim & Kim, 2020).

Looking at perfume-related research so far, the main research subjects have been focused on people in their 20s and 30s. Most of the research contents were on the use of perfume, preferred perfume and perfume purchase behavior, (Kim, 2014; Kim & Kim, 2013; Lim, 2017; Moon, 2003; Woo, 2005) and container design.

In conclusion, there have been few studies on perfume use among teenagers. Therefore, this study was judged that the perfume consumption of teenagers would have increased unlike in the past. In other words, this study was conducted on the purchase moderation effect of perfume purchases and purchasing attitudes among middle and high school students.

Therefore, this study aims to identify the types of perfumes that adolescents actually purchase and factors that influence purchasing, and to analyze whether there are differences between groups in purchasing behavioral attitudes. The main purpose of this study is to provide basic data useful for expanding the base of the perfume market and marketing by identifying the needs of middle and high school students according to their perfume purchasing propensity.

2. Theoretical Backgrounds

2.1. Understanding Perfume

Perfume odor refers to the odor that the olfactory nerve is stimulated to feel when volatile substances are emitted and is beneficially used in human life. Fragrance is often used as the word for incense, which is derived from the Latin word 'fragrare', which means 'to smell' (Ha, 2018).

Perfume is derived from the Latin word 'perfumum', which means 'through smoke', and refers to a substance that gives off a pleasant scent, smell, or good scent (Lim, 2017).

Fragrance not only gives a good sense to a person's emotions or feelings, but also helps to maintain and improve homeostasis. People give more positive evaluations of aromatic products that stimulate consumer's pleasure, and stay longer in the space where the fragrance is sprayed (Kim, 2014; Nam, 2007).

Also, it is formulated to 'mask' the fragrance material, which is to use the fragrance so that it does not smell bad. Since some cosmetic bases accompany the odor of raw materials, it is also important to mask them with fragrance to improve the sense of smell.

Perfume types are classified according to fragrance ratio, order of smell, and series. Perfume, which we generally mean, is divided into Perfume, Eau de Perfume, Eau de Toilette, Eau de Cologne, and Shower Cologne according to the content ratio (perfume ratio), duration, and use of the fragrance undiluted solution to alcohol as shown in Table 1.

Perfume smells differently over time after spraying. Perfumes are classified into three categories according to the order of scent: top notes, middle notes, and base notes with a long trail (Kim & Kim, 2020).

It is very difficult to accurately classify the type of perfume because several perfumes are mixed in one perfume.

Therefore, the most common and simple classification is to classify all four series, such as floral, oriental, chypre, and fougere notes as below in Fig. 1 (Ha, 2018).

Table 1: Classification According to the Concentration of Perfume

Type	Fragrance content ratio	Duration -Time	Characteristics
Perfume	15~30%	6~7h	Expensive price, Rich in flavor
Ed P	9~12%	5~6h	Lighter than perfume
Ed T	5~10%	3~4h	Refresh feeling, Weak scent
Ed C	3~5%	2~3h	Fresh effect, Use a lot of fruit flavor
SC	1(2~3%)	1h	Aroma cosmetics for the body

Note: EdP: Eau de Perfume, EdT: Eau de Toilette, EdC: Eau de Cologne, SC: Shower Cologne



Figure 1: Main and Minor Categories of Perfume

2.2. Domestic Perfume Market

Although high-end imported perfumes did not occupy a large share of the market until early 2010, around 2015, various high-end imported perfume brands have entered the market, starting with department stores. As of 2017, the domestic perfume market was worth about 460 billion Korea Won(KRW). Although this market is about one-fifth the size of the color cosmetics market, it can be seen that the growth rate is higher if you look only at high-priced brand perfumes.

As of 2019, the perfume market for the past five years has shown a high growth rate of about 6% per annum as a strategy tailored to young consumers in their 20s. In addition, the existing high-priced perfumes were introduced in smaller sizes, less than half, so that consumers, who felt burdened by the price, could easily purchase the perfume.

The retail distribution of perfumes recently moved away from the early department stores. Perfume distribution is showing various channels such as H&B stores with a large floating population, household goods and general stores, single brand stores, and internet shopping malls (Asia Economy, 2019).

2.3. Purchasing Behaviors and Attitudes

Consumers' purchasing behavior does not stop with simply purchasing a single product, but goes through a series of decision-making processes ranging from information seeking before purchase to evaluation after purchase (Hong & Seung, 2015).

In the study of Kim and Kim (2020), the purchasing behavior propensity of the high school girls group showed contradictory consumption tendencies that strongly pursue imitation and differentiation at the same time. The influence of peer groups and mass media such as TV, entertainers, and advertising media is very large, and the purchasing process tends to be impulsive and has a tendency to impulsive purchase that relies on intuitive judgment.

Since the most important psychological factor influencing consumer behavior is purchasing attitude, consumers are affected by the behavior formed by the attitude. According to the theory of balance, people feel psychological stability by maintaining consistency between their attitudes and beliefs, so their behavior can be predicted to some extent through their attitudes (Oh & Hong, 2017).

Consumers choose and consume preferred products or brands to achieve their consumption goals. Factors influencing this selective purchase include preference, satisfaction, and purchase intention and so on.

Preference refers to the state of attachment to and affection for a product from prior experience. Satisfaction is a state of forming a very organic relationship that affects repeat purchases and favorable word-of-mouth effects by forming a favorable attitude toward a product or brand. Purchasing intention is the driving force behind purchasing behavior as the reason that an individual purchases a specific product or service to satisfy their desires (Park & Choi, 1998).

3. Research Methodology

3.1. Purposes of the Research

First, the demographic characteristics of the survey subjects are investigated.

Second, the actual condition of perfume purchases of the survey subjects is investigated.

Third, a cluster analysis of perfume purchasing behavioral attitudes is performed to determine whether there is a difference.

Fourth, it is investigated whether the purchasing behavior attitude by cluster has a moderating effect on the purchasing behavior factors.

3.2. Research Subjects and Analytical Methods

The subject of this study is adolescents, and the survey period was conducted for one year from July 01, 2019 to July 01, 2020. The questionnaire was filled out by the subjects themselves using the NAVER form, and a total of 328 valid samples were collected and used as final analysis data.

For the collected data, the statistical program IBM SPSS 22.0 was used, and the detailed analysis contents are as follows.

First, general characteristics of subjects were analyzed for frequency.

Second, for the items on the factors influencing perfume purchasing behavior, the VARIMAX Rotation method was used by extracting factors using the principal component method for reliability verification.

When the Cronbach's α coefficient of each factor was 0.6 or higher, it was considered that there was internal consistency between the items (Nunnally, 1978).

Third, K-means clustering analysis was performed using items measured by purchasing behavior attitude. Regression analysis was performed after separating the sample into two clusters showing the differences for each of the six measurement items.

3.3. Measuring Tools of Research

This research questionnaire was reconstructed according to the characteristics of this study by referring to previous studies by Kim (2014), Nam (2007), and Park and Kim (2015).

In order to find out the general characteristics of the research subjects, it consisted of 4 questions such as gender, age, family, and pocket money.

In order to find out the general purchase patterns of perfume, the total number of purchases, the type of purchase, the route to obtain information, the cost such as the number of times per day, where to buy, the preferred fragrance, and the perfume used were all composed of 7 items.

The questions to identify the factors of purchasing behaviors for perfume consisted of 23 questions, including 6 questions regarding inner pleasure pursuit, skin safety, brand orientation, fashion pursuit, functionality, and economic feasibility, and 6 questions on purchasing behavioral attitude.

4. Result and Discussion

4.1. General Characteristics of the Survey Subjects

Table 2 shows the results of analysis on the general characteristics of the survey subjects.

In terms of gender, there were 197 women (60.1%) and 131 men (39.9%), about 20% more women. By grade, 81 students (24.7%) in the first year of middle school, 73 students in the third year of high school (22.3%), 65 students in the third year of middle school (19.8%), 58 students in the second year of high school (17.7%), 36 students in the first year of high school (11.0%) and 15 students (4.6%) in the second year of middle school, a total of 328 subjects were surveyed.

In the case of family types, there were 148 brothers/sisters of the opposite sex (45.1%), 106 brothers/sisters of the same sex (32.3%), 39 people (11.9%) of only son or daughter, and 35 (10.7%) of brothers/sisters of the same sex/opposite sex.

In the case of free monthly pocket money, 30,000 to 50,000 won 85 people (25.9%), 50,000 to 100,000 won 81 people (24.7%), 100,000 to 200,000 won 62 people (18.9%), 10,000 to 30,000 won 61 people (18.6%) and 39 people (11.9%) with more than 200,000 won appeared in that order.

Table 2: General Characteristics of the Research Subject
(N=328, %)

Variables	Items	Frequency	%	
Gender	Female	197	60.1	
	Male	131	39.9	
School/Grade	Middle school	grade 1	81	24.7
		grade 2	15	4.6
		grade 3	65	19.8
	High school	grade 1	36	11.0
		grade 2	58	17.7
		grade 3	73	22.3
Types of families	Only son or daughter	39	11.9	
	Same-sex brother, sister	106	32.3	
	Opposite-sex brother, sister	148	45.1	
	Same-sex, opposite-sex, brothers and sisters	35	10.7	
Pocket money per month (KRW)	1-3ten thousand	61	18.6	
	3-5ten thousand	85	25.9	
	5-10ten thousand	81	24.7	
	10-20ten thousand	62	18.9	
	Over 20 ten thousand	39	11.9	
Total		328	100	

4.2. Purchasing Patterns of Perfume

Table 3 shows the results of the analysis on the purchasing pattern. In terms of the number of perfume purchases in a year, 190 people (57.9%) bought perfume once or less, 100 people (30.5%) 1~3 times, 28 people (8.5%) 3~5 times, 7 people (8.5%) 5~10 times (2.1%), and 3 people (0.9%) more than 10 times.

In the case of purchase cost, 116 people (35.4%) had less than 10,000 won, 95 people (29.0%) had 10,000 to 30,000 won, 71 people (21.6%) had 30,000 to 50,000 won, and 34 people had 50,000 to 100,000 won (10.4%) and 12 people (3.7%) more than 100,000 won.

The results of adult purchasing costs (Nam, 2007), which were distributed in the range of 30,000 to 50,000 won, and this study showed some differences.

In terms of purchase shop, health & beauty stores such as Olive Young, Lalavla, Lohbs, etc. 197 people (48.9%), the Internet shopping mall 64 people (15.9%), other 46 people (11.4%), department store 42 people (10.4%), 35 people (8.7%) from general stores for household goods and 19 people (4.7%) from a single brand shop. This result was consistent with the result of high purchase rate at health & beauty stores in Kim & Kim (2020)'s study of high school girls.

On the other hand, Nam (2007), who studied adults, showed a difference in that department stores ranked first.

As for their preferred perfume scent, powdery (warm and soft scent) was 111 people (25.6%), fruity (sweet fruit flavor) was 93 people (21.4%), citrus (fresh and refresh scent) was 87 people (20.0%), and floral (flower scent) was 84 people (19.4%), other 31 people (7.1%), and woody (woody scent) 28 people (6.5%).

For frequently purchased products, Perfume was used by 180 people (47.2%), Shower Cologne in 69 people (18.1%), Eau de Perfume (EdP) by 61 people (16.0%), and Eau de Toilette (EdT) by 49 people (12.9%) and Eau de Cologne (EdC) followed by 22 people (5.8%). As for the route of obtaining information about perfume, 172 people (44.1%) were from the Internet, 131 people (33.6%) were acquaintances, 44 people (11.3%) were store employees, and 43 people (11.0%) were other people.

Kim & Kim (2020)'s study of high school girls showed similar results to this study as the distribution of acquaintances and the Internet shopping mall was high.

On the other hand, in the previous study of male (2007), who studied adults, advertisements and magazines ranked first, showing some differences as presented in Table 3.

Table 3: Perfume Purchasing

(N=328, %)

Variables	Items	Frequency	%
Number of purchase per year	1 time or less	190	57.9
	1~3 times	100	30.5
	3~5 times	28	8.5
	5~10 times	7	2.1
	More than 10 times	3	0.9
One-time purchase cost	less than 10,000 won	116	35.4
	10,000~30,000 won	95	29.0
	30,000~50,000 won	71	21.6
	50,000~100,000 won	34	10.4
	Over than 100,000 won	12	3.7
Place of purchase	H&B store	197	48.9
	General store	35	8.7
	Single brand store	19	4.7
	Department store	42	10.4
	Internet shopping mall	64	15.9
	Etc	46	11.4
Preferred fragrance	Floral(flower scent)	84	19.4
	Woody(woody incense)	28	6.5
	Fruity (sweet fruit scent)	93	21.4
	Citrus (fresh scent)	87	20.0
	Powder(warm & soft scent)	111	25.6
	Etc	31	7.1
Frequently purchased products	Perfume	180	47.2
	EdP	61	16.0
	EdT	49	12.9
	EdC	22	5.8
	SC	69	18.1
Information acquisition route	Friends / Family	131	33.6
	Store employee	44	11.3
	Internet shopping mall / IT usage	172	44.1
	Etc	43	11.0
Total		328	100

Note: EdP: Eau de Perfume, EdT; Eau de Toilette, EdC: Eau de Cologne, SC: Shower Cologne

4.3. Verification of Reliability of Measuring Tools

Cronbach's α coefficient is used as a method for verifying the reliability of the questionnaire tool. Generally, it is judged that reliability is greater than 0.6 (Nunnally, 1978).

Looking at Cronbach's α coefficient of factors influencing perfume purchasing behavior, among the independent variables, inner pleasure pursuit was 0.942, skin safety 0.877, brand orientation 0.862, fashion pursuit 0.869, functionality 0.833, and economic feasibility were confirmed to be reliable.

Table 4: Reliability Analysis of Measuring Tool

Variables	Items	Cronbach's α coefficient
Inner pleasure pursuit	4	.942
Skin safety	4	.877
Brand-oriented	4	.862
Fashion pursuit	4	.869
Functionality	3	.833
Feasibility	3	.733

Note: KMO=0.895, Bartlett's test $\chi^2 = 4856.624(df=231, p=-.000)$

4.4. Group Classification according to Perfume Purchasing Behavior and Attitude

For the analysis of the perfume purchasing behavior of the survey subjects, the moderating effect was measured through the K-means clustering analysis using the items measured as the purchasing behavior attitude (Everitt, 1993).

As a result of cluster analysis, there was a difference in the clusters for each of the six measurement items ($p < 0.000$). The results of ANOVA are shown in Table 5.

In the six items measuring the attitude toward purchasing perfume, it was classified into two clusters, cluster 1 was divided into 122 items and cluster 2 was divided into 206 items.

Cluster 1 is a group that relatively purchases perfume based on their own subjective opinion when purchasing perfume, and cluster 2 is classified as a group that purchases perfume by reflecting the opinions of mass media or others when purchasing perfume.

It was identified that the score of cluster 1 was low in six purchasing behavior attitudes.

The results of the independent sample t-test between the two groups showed a statistically significant difference at the p-value of 0.001, as shown in Table 6.

Table 5: Perfume Purchasing Behavior & Attitude

Items	Cluster analysis		Error		F	p-value
	Mean Square	df	Mean Square	df		
Buy perfumes that look luxurious on the outside.	106.863	1	.782	326	136.570	*** .000
When you buy perfume, you buy the product you see in the advertisement.	167.406	1	.615	326	272.079	*** .000
Buy and use perfumes used by famous entertainers	166.056	1	.724	326	229.346	*** .000
Purchasing perfumes with the advice of store employees	75.759	1	1.116	326	67.869	*** .000
Buy perfume by referring to user reviews	120.065	1	1.022	326	117.525	*** .000
Buy a perfume that an acquaintance uses.	98.010	1	.913	326	107.310	*** .000

Note: * p<.05, ** p<.01, ***p<.001

Table 6: Perfume Purchasing Behaviors and Attitudes in Clusters 1 and 2

Items	Cluster	N	Mean	Standard Error	Standard Error Mean
Buy perfumes that look luxurious on the outside	1	122	1.770	.8699	.0788
	2	206	2.951	.8931	.0622
When you buy perfume, you buy the product you see in the advertisement.	1	122	1.566	.7271	.0658
	2	206	3.044	.8163	.0569
Buy and use perfumes used by famous entertainers	1	122	1.402	.6120	.0554
	2	206	2.874	.9645	.0672
Purchasing perfumes with the advice of store employees	1	122	2.311	1.2797	.1159
	2	206	3.306	.8991	.0626
Buy perfume by referring to user reviews	1	122	2.549	1.2338	.1117
	2	206	3.801	.8521	.0594
Buy a perfume that an acquaintance uses.	1	122	2.131	1.0676	.0967
	2	206	3.262	.8830	.0615

4.5. Purchasing Moderating Effect according to Purchasing Behavior and Attitude

After separating the samples from the two separated clusters, regression analysis was performed.

As a result of regression analysis, in cluster 1, the F value was 67.909 (p=-.000), indicating that the study model was statistically significant. The R² value, which is the explanatory power of the model, was found to be 0.768. In addition, the VIF was less than 10 and the DW was 1.955, so there was no problem in multi-collinearity and autocorrelation between variables.

Among the six variables, inner pleasure-seeking and fashion-seeking were evaluated to be statistically significant.

In cluster 2, the F value was 33.701 (p=-.000), which was statistically significant. The R² value, which is the explanatory power of the model, was found to be 0.489. In addition, the VIF was less than 10 and the DW was 1.947, so there was no problem in multi-collinearity and autocorrelation between variables.

Among the six variables, inner pleasure-seeking, fashion-seeking, and economic feasibility were evaluated to be statistically significant as demonstrated in Table 7.

As a result of the control effect analysis performed by dividing the clusters 1 and 2, there was a difference from the regression analysis described above, which was analyzed as one without classifying the clusters. In cluster 1 and cluster 2, both inner pleasure-seeking and fashion-seeking were found to be statistically significant(p.<001).

However, in cluster 2, economic feasibility was found to be statistically significant in addition to pleasure-seeking and fashion-seeking(p.<001), and it was concluded that there was a difference between the two clusters.

Therefore, when purchasing perfume, cluster 1 is judged to be purchasing perfume based on one's own subjectivity, focusing on the fragrance and design preferred by the person rather than the opinions of others.

Group 2 is judged to have a significant impact on economic feasibility as it thoroughly researches product information and price before purchasing perfume and purchases it by reflecting the opinions of the mass media and others.

Table 7: Analysis of the Moderating Effect of Clusters 1 and 2

Variables		Non standardized coefficient		Standardized coefficient	t	p-value
		B	Standard Error	β		
Cluster 1	Constant	.105	.188		.559	.577
	Skin safety	-.059	.050	-.056	-1.169	.245
	Functionality	.082	.059	.081	1.393	.166
	Inner pleasure pursuit	.475	.064	.541	7.465	.000***
	Fashion pursuit	.365	.072	.291	5.101	.000***
	Brand-oriented	.129	.073	.097	1.763	.081
	Feasibility	.043	.061	.040	.704	.483
Cluster 2	Constant	.390	.254		1.534	.127
	Skin safety	-.026	.036	-.037	-.708	.480
	Functionality	.050	.056	.052	.884	.377
	Inner pleasure pursuit	.430	.060	.442	7.163	.000***
	Fashion pursuit	.231	.054	.267	4.263	.000***
	Brand-oriented	.052	.055	.058	.947	.345
	Feasibility	.146	.062	.138	2.349	.020*

Note: * p<.05, ** p<.01, ***p<.001

5. Conclusions

This study investigated the types of perfumes that adolescents actually purchase and identified factors that influence their purchasing behavior.

In addition, it was analyzed whether the effects of purchasing behavioral attitudes among adolescents on the effect of purchasing perfume between groups were affected. The purpose of this study is to provide basic data useful for expanding the base of the perfume market and marketing by identifying the needs of middle and high school students according to their perfume purchasing propensity.

Teenagers who are interested in appearance and fashion had lower purchasing power of perfume than college students and adult perfume users, but purchased perfume with high durability and fragrance, and preferred scents were powdery and citrus.

The purchase shop was mainly bought from health and beauty stores such as Olive Young, Lalavla, and Lohbs, which are easy for middle and high school students to access when commuting to and from school.

The factors influencing the purchasing behavior of adolescents were ‘inner pleasure’, ‘skin safety’, ‘brand orientation’, ‘fashion-seeking’, ‘functionality’, and ‘economic feasibility’ were confirmed to be at a reliable level.

The cluster classification by purchasing behavior attitude was classified into cluster 1, which purchases perfume according to one's own subjectivity, and cluster 2, which purchases perfume according to external factors.

In cluster 1, among the factors of purchasing behavior, the pursuit of inner pleasure and the pursuit of fashion were statistically significant(p.<001). In cluster 2, there was a

difference between the two clusters, showing that inner pleasure seeking, fashion pursuit, and economic feasibility were statistically significant(p.<001).

Cluster 1 is a group that purchases perfume according to their subjective opinion relatively when purchasing perfume, and is considered to be a group with a clear taste. However, group 2 is considered to be a group that values economic feasibility by thoroughly researching perfume information before purchasing a product and purchasing it by reflecting the opinions of the mass media and others.

Adolescents are active in using perfume, but consider economics when purchasing. Therefore, there is a need to set a low price for perfume products, but to diversify products by scent preferred by teenagers. In addition, the market share of imported brands is still higher than that of domestic perfume brands.

If we create a perfume brand for middle and high school students along with the development of domestic perfume products, we can expect to revitalize the beauty industry through continuous purchasing effect and expansion of the perfume consumer base.

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