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The Effect of Interpersonal Relationship for Public Value on the Makeup Behavior of the Women in Their 40s and 50s

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Abstract

Purpose: The purpose of this study is to examine and understand the effect of interpersonal relationship of the middle-aged women on the makeup behavior. The women in their 40s and 50s are the most economically productive age group, and it is considered that the study of their makeup behavior would be very important.

Method: This study distributed and collected questionnaires from women in their 40s and 50s in Seoul and Gyeonggi-do. A total of 411 copies were used for the final statistical analysis. Frequency, percentage, and average were calculated to examine and understand the demographic characteristics of the study subjects, and the Pearson's product moment-effect correlation was calculated to examine and understand the relationship between the interpersonal relationship and makeup behavior. The stepwise multiple regression analysis was also performed to determine the causal relationship between the interpersonal relationship and the makeup behavior.

Results: As a result of the effect of interpersonal relationship on the fashionableness among the makeup behaviors, it turned out that openness, understanding, and satisfaction had positively significant effects on fashionableness among the makeup behaviors. As a result of the effect of interpersonal relationship on the subjectivity among the makeup behaviors, understanding, satisfaction, and subjectivity among the makeup behaviors turned out to have positively significant effects. As a result of interpersonal relationship on subjectivity among the makeup behaviors, openness was shown to have a negatively significant effect on subjectivity among the makeup behaviors, and understanding, satisfaction, and communication had a positively significant effect on subjectivity among the makeup behaviors.

Conclusion: A study on the makeup behavior of women in their 40s and 50s, who carry out a lot of social activities and highly value interpersonal relationships, is considered to contribute largely to the direction of the beauty industry that creates public value and the makeup product manufacturing industry.

Keywords: Women, Middle Aged, Public Value, Interpersonal Relationship, Makeup Behavior

1. Introduction

It may be claimed that the women's advancement into society has increased and the public value required by society for women is great. For that reason, the women's interpersonal relationship has a significant influence on their social life, and they pay attention to their appearance for an amicable interpersonal relationship. The purpose of this study is to examine and understand the effect of the middle-aged women's interpersonal relationship on the makeup behavior, and the women in their 40s and 50s are considered to be the economically productive age group, and the study of their makeup behavior is considered to be very important.

Interpersonal relationship is the universal psychological orientation of the individuals dealing with people[1], generally, it means the relationship between two people[2], and is linked to

emotional bonding, and is divided into everyday interpersonal relationship and intimate interpersonal relationship according to intimacy[3]. The interpersonal relationship skills are intended to maintain the amicable interpersonal relationships within an organization and faithfully perform one's role, and it may be claimed to be the skills required to establish and maintain relationships with others in an individual situation, and resolve conflicts or problems[4]. Park MH & Park BJ & Park SS & Park SY & Kim MJ & Park SJ[5] claimed that interpersonal relationship has a positive effect on the communication skills and self-leadership.

People initially perceive that image is important for the interpersonal relationship[6]. Appearance operates as an important factor in determining a person's impression[7], and when humans perceive the appearance of others, they tend to determine through the visually surfaced information, and appearance is also very important for self-satisfaction and formation of interpersonal relationship[8], and human appearance has a significant impact on the first impression of a person as a form of communication that affects human relationship[9].

For people living in modern society, managing their appearance improves their personal image[10], and investment in appearance management includes hairstyles, clothes, body shape management, makeup, and accessories that reflect various social cultures according to changes in beauty, while being recognized as one of the most important elements of total fashion[11]. In the modern society, the social standards that define appearance affect the psychological part of an individual, arouse interest in various behaviors for appearance and demand management behavior accordingly[12]. Among which is the makeup behavior, and makeup is an activity in which resources such as time, money, and energy must be invested, while makeup space is a consumer's behavior seeking efficiency of time and energy[13], and makeup is an action that is repeated as in everyday life. Any woman would have felt the small joy, comfort, and pleasantness derived from the action[14].

Regardless of time, the human desire for beauty continues[15], and the desire to be beautiful is a basic need[16]. As for aesthetic expression, as women gained economic ability, the range of social advancement became more diverse, and under the influence of today's beauty standards, efforts are made to highlight beauty to make oneself beautiful, such as makeup and plastic surgery[17]. Furthermore, the potential of the semi-permanent makeup market is increasing to give confidence and convenience[18].

Makeup is a repetitive act as in everyday life[19], and women could feel changes in their appearance through makeup, and can face a confident and dignified appearance in social life with an active attitude[20].

Lee CY & Lee JB & Na EY[21] claimed that appearance satisfaction has an important mediating effect between the perception and happiness.

The appearance expressed through beauty management internally affects one's self-esteem and externally affects interpersonal relationship by having a halo effect and divergence effect of appearance through beauty[22].

Korea's beauty industry is grabbing the attention globally[23], and beauty is an essential element for women, and has a public role in realizing changes in the consumer market[24].

In this study, questionnaires were distributed and collected from women in their 40s and 50s, and the questionnaire questions for the scale development of this study were composed of interpersonal relationship, makeup behavior, and demographic variables, and the purpose of is to examine and understand the effect of the interpersonal relationship for public value on the makeup behavior of the   women in their 40s and 50s.

The interpersonal relationship is expected to affect the makeup behavior, and based on which, the interpersonal relationship and makeup behavior of women in their 40s and 50s are intended to be examined.

Makeup products are the makeup product brands for the women in their 40s and 50s who are socially active and economically affluent, as they have a habit of continuously using the same brand once they have used it once and are satisfied with their skin and preferences[25]. Hence, it is considered that the studies on their preference and makeup behavior will be well used for marketing research and data on makeup products, and it is expected that it will be well used for the development of the beauty industry, women's consumption behavior patterns, and the makeup product distribution market.

2. Research Method and Procedures

2.1. Sample selection and data collection

This study distributed and collected questionnaires from the women in their 40s and 50s in Seoul and Gyeonggi-do from March 2, 2022 to March 25, 2022. Out of a total of 450 copies distributed, 435 copies were collected, and a total of 411 copies were used for the final statistical analysis, excluding 24 copies of insincere and incomplete responses. The questionnaire questions for the scale development in this study were used for the women aged 40-50 years for empirical research. The composition of the questionnaire consisted of interpersonal relationship, makeup behavior, and demographic variables, and the total number of questions was 40.

For the interpersonal relationship, as a factor used in the studies of Kim YH et al.[26], Kim HK & Kim HK[27], Lee SE & Jang JM[28], as a result of factor analysis, openness, trust, understanding satisfaction, communication trust, openness, understanding, and satisfaction appeared as 5 factors with 24 questions, and for the makeup behavior, as a factor used in the studies of Lee MJ& Choi E[29], Choi SK & Kang KJ[30], as a result of the analysis, 10 questions of 3 factors of fashionableness, instrumentality, and subjectivity were used in the final analysis, and a 5-point Likert scale was used.

For the data analysis in this study, SPSS WIN 28.0 program was used. Frequency, percentage, and average were calculated to examine and understand the demographic characteristics of the study subjects, and Pearson's product moment-effect correlation was calculated to examine and understand the relationship between interpersonal relationship and makeup behavior. The stepwise multiple regression analysis was performed to determine the relationship between the interpersonal relationship and makeup behavior. The significance level of all analyses is $\alpha=.05$.

2.2. Research questions

This study intends to investigate the relationship between the interpersonal relationship and makeup behavior. The specific research questions towards this end are as follows.

Research question 1. Examine and understand the demographic characteristics of the study subject.

Research question 2. Examine and understand the correlation between interpersonal relationship and makeup behavior.

Research question 3. Examine the effect of interpersonal relationships on the makeup behavior.

2.3. Demographic characteristics of the study subjects

<Table 1> illustrates the results of the frequency analysis to examine and understand the demographic characteristics of the study subjects. First, by age group, 213 people(52.0%) were in their 40s while 197 people(48.0%) were in their 50s. For their current marital status, 358 people(87.3%) were married, accounting for the majority, and single/others were surveyed to be 52 people(12.7%). As for the final level of education, 191 students(46.6%) graduated from high school or less, 167 students(40.7%) graduated from university, and 52 students(12.7%) graduated from graduate school or higher. As a result of examining occupations, 119 people(29.0%) were salaried workers/public officials, followed by 98 people(23.9%) unemployed/housewives/others, 76 people(18.5%) professional people, 65 people(15.9%) service providers, and self-employed were surveyed to be 52 people(12.7%) in their respective order.

As a result of examining the average monthly income, 99 people(24.1%) received between 2 million won and 2.5 million won, 86 people(21.0%) between 2.5 million won and less than 3 million won, 78 people(19.0%) over 4 million won, 63 people(15.4%) 3 million-3.5 million won, 49 people(12.0%) 1.5 million-less than 2 million won, and 35 people(8.5%) less than 1.5 million won in their respective order. As a result of examining the average makeup purchase cost per month, 154 people(37.6%) were the most with 100,000 to less than 150,000 won, 129 people(31.5%) less than 100,000 won, and 75 people(18.3%) 200,000 to 300,000 won, and 52 people(12.79%) more than 300,000 won in their respective order.

Table 1. Demographic characteristics of the study subjects.

Classification		Frequency(N)	Percent(%)
Age group	40s	213	52.0
	50s	197	48.0
Marital status	Married	358	87.3
	Unmarried/others	52	12.7
Final educational background	High school graduation or less	191	46.6
	University graduation	167	40.7
	Graduate school graduate or higher	52	12.7
Occupation	Service provider	65	15.9
	Salaried worker/public official	119	29.0
	Professional	76	18.5
	Self-employed	52	12.7
	Unemployed/housewife/others	98	23.9
Average monthly income	Less than 1.5 million won	35	8.5
	1.5 to less than 2 million won	49	12.0
	2 million to less than 2.5 million won	99	24.1
	2.5 to less than 3 million won	86	21.0
	3 million to less than 3.5 million won	63	15.4
	4 million won or more	78	19.0
Average makeup purchase cost per month	Less than 100,000 won	129	31.5
	100,000 won to less than 200,000 won	154	37.6
	200,000 won to less than 300,000 won	75	18.3
	300,000 won or more	52	12.7
Total		410	100.0

3. Research Results

3.1. Verification of the validity and reliability of measurement tools

The exploratory factor analysis was performed to verify the validity of the questions used in this study, and to find common factors and use them as variables. Some of the measured variables were removed based on the reliability analysis and scale refinement. For all measured variables, the principal component analysis was performed to extract component factors, and the orthogonal rotation method(varimax) was adopted to simplify the factor loading. The factor loadings of 0.5 or more were determined to be significant. As a result of factor analysis, both independent and dependent variables were grouped as the factors with eigenvalues greater than 1.

As a result of the factor analysis on the interpersonal relationship, the cumulative explanatory rate was 61.952%. The overall reliability coefficient was 0.902, and the reliability coefficient for each factor was 0.693 or higher. For the independent variables of interpersonal relationship, the 'openness(17.512%)', 'trust(13.714%)', 'understanding(11.791%)', 'satisfaction(11.573%)', and 'communication(7.361%)' variables were extracted. As shown in the following <Table 2>.

Table 2. Factor analysis results for the interpersonal relationship measurement variables.

Questions	Name of factor					Commonality
	Openness	Trust	Understanding	Satisfaction	Communication	
I like to share my personal interests with others.	.803	.115	.108	-.036	-.030	.671
For others, I tend to express myself easily and live openly.	.773	-.041	.053	.100	.085	.618
I can express positive feelings towards others.	.769	.242	-.052	.049	.145	.676
I am good with expressing bad feelings about others in a way that doesn't make them feel bad.	.767	.164	.097	-.019	.251	.687
I have a lot of confidence in interpersonal relationship.	.659	.021	.087	.153	.423	.644
I often identify and realize the needs and wants of others.	.623	.152	.179	.359	-.037	.574
I am good with listening to other people's stories.	.505	.480	.043	.140	.052	.509
I am able to deal with the negative feelings that others express about me in a developmental direction.	.263	.755	.021	-.006	.323	.744
I tend to trust and accept the positive feelings others express about me.	.292	.737	-.007	-.038	.153	.654
I tend to feel close to others.	-.089	.672	.312	.276	.087	.640
I trust others.	.225	.664	.169	.184	-.037	.555
For others, I tend to give a lot of attention and warm affection.	-.072	.547	.462	.292	-.009	.603
I understand other people's feelings very well.	.084	.209	.805	.124	-.099	.724

I understand my own feelings very well.	.173	.110	.738	.177	-.020	.619
I have no difficulty with understanding other people's feelings.	.121	.085	.613	.109	.352	.533
As a human, I am satisfied with others.	.107	-.136	.544	.417	.296	.588
I have a good understanding of the relationships I want to have with others in the future.	-.006	.280	.507	-.071	.504	.594
Other people seem to take me as a happy person.	.037	.025	.254	.737	-.159	.635
I am satisfied with myself as a human.	.131	.014	.255	.737	.120	.639
There is no difficulty in communicating with others.	.192	.214	-.091	.604	.211	.500
I tend to react fast to other people's characteristics.	.165	.402	.059	.568	.185	.548
My relationships with other people are good.	-.176	.428	.344	.550	.170	.663
I do not find it difficult to communicate with others.	.345	.203	-.002	.237	.667	.661
When I disagree with others, I can resolve them wisely.	.437	.201	.201	.165	.537	.588
Eigenvalue	4.203	3.291	2.830	2.778	1.767	
% dispersion	17.512	13.714	11.791	11.573	7.361	
Cumulative %	17.512	31.227	43.018	54.591	61.952	
Individual reliability	.869	.800	.766	.767	.693	
Overall reliability			.902			

Kaiser-Meyer-Olkin measure of sampling adequacy		.874	
Bartlett's sphericity test	Approximate chi-square	4,585.800	
	Degree of freedom	276	
	Significance probability	0.000	

As a result of the factor analysis on the makeup behavior, the cumulative explanation rate turned out to be 67.496%. The overall reliability coefficient was 0.839, and the reliability coefficient by factor turned out to be 0.632 or more. As for the makeup behavior, which is an independent variable, 'fashionableness(25.879%)', 'instrumentality(24.004%)', and 'subjectivity(17.613%)' variables were extracted. As shown in the following <Table 3>.

Table 3. Factor analysis results for the interpersonal relationship measurement variables.

Questions	Name of factor			Commonality
	Fashionableness	Instrumentality	Subjectivity	
I really want to try out the trendy lipstick.	.816	.137	.093	.693
When I put on makeup, I follow the currently popular makeup method.	.792	.210	-.075	.678
I want to put on makeup for models in TV commercials or magazines.	.758	.061	.267	.650
Looking at popular celebrities' makeup, I want to do that too.	.639	.223	.236	.514
I also change my makeup method to change my image.	.364	.802	-.102	.785
There are times when you want to change things with makeup skills.	.340	.782	.110	.739
I think makeup is essential for interpersonal orientation and social life.	.043	.699	.445	.689
I think putting on makeup is being courteous to the other person.	.007	.691	.412	.648
I think makeup that suits me is better than fashion.	.109	.089	.823	.697
Classy makeup is helpful for dating high-ranking people.	.223	.234	.743	.657
Eigenvalue	2.588	2.400	1.761	
% dispersion	25.879	24.004	17.613	
Cumulative %	25.879	49.883	67.496	
Individual reliability	.791	.807	.632	
Overall reliability		.839		
Kaiser-Meyer-Olkin measure of sampling adequacy		.795		
Bartlett's sphericity test	Approximate chi-square	1,564.215		
	Degree of freedom	45		
	Significance probability	0.000		

3.2. Correlation between the interpersonal relationships and makeup behavior

As a result of the descriptive statistics analysis, the average of independence, an independent variable, turned out to be 3.38 and the standard deviation was 0.640. It turned out that the average of trust(M = 3.55, SD = 0.606), understanding(M = 3.72, SD = 0.514), satisfaction(M = 3.66, SD = 0.533), communication(M = 3.53, SD = 0.592) and the dependent variable of fashion-ableness(M = 3.24, SD = 0.694), instrumentality(M = 4.01, SD = 0.720), and subjectivity(M = 3.98, SD = 0.780) was all above 3 points. As a result of the correlation analysis, it turned out that there was no significant correlation between independence as an independent variable and in-strumentality and subjectivity as dependent variables, yet there was a significant positive cor-relation between the remaining independent variables and dependent variables. As shown in the following <Table 4>.

Table 4. Results of correlation analysis between interpersonal relationship and makeup behavior.

Classification	Interpersonal relationship							Makeup behavior		
	Average	Standard deviation	Inde-pendence	Trust	Under-standing	Satisfac-tion	Commu-nication	Fashiona-bleness	Instru-mentality	Subjectiv-ity
Independent independence	3.38	.640	1							
Independent trust	3.55	.606	.417***	1						
Independent understanding	3.72	.514	.315***	.459***	1					
Independent satisfaction	3.66	.533	.322***	.522***	.500***	1				
Independent communication	3.53	.592	.604***	.442***	.407***	.400***	1			
Dependent fashionableness	3.24	.694	.167**	.107*	.164**	.161**	.116*	1		
Dependent instrumentality	4.01	.720	.018	.190***	.320***	.199***	.175***	.472***	1	
Dependent subjectivity	3.98	.780	-.018	.112*	.335***	.222***	.139**	.349***	.445***	1

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

3.3. Effect of the interpersonal relationship on the makeup behavior

In this study, the multiple linear regression analysis was performed to test the hypothesis.

The multiple regression analysis was performed to investigate the effect of interpersonal relationships on fashionableness among the makeup behaviors, and the analysis results are as presented in <Table 5>. As a result of the analysis, openness(B=0.215, β=.223, t=3.039, p<.01) and understanding(B=0.346, β=.393, t=4.420, p<.001) and satisfaction(B=0.286, β=.320, t=3.540, p<.001) turned out to have a positive significant effect on fashionableness among the makeup behaviors, yet trust and communication among interpersonal relationships demonstrated no statistically significant effect on fashionableness among the makeup behaviors. Hence, hypothesis 1-1, which stated that the better the interpersonal relationship, the more positive the fashionableness of makeup behavior, was partially adopted.

The multiple regression analysis was performed to investigate the effect of interpersonal relationship on subjectivity among makeup behaviors. As a result, understanding(B=0.625, β=.577, t=7.924, p<.001) and satisfaction(B=0.222, β=. 202, t=2.731, p<.01) and communication(B=0.247, β=.217, t=3.079, p<.01) had a positive significant effect on subjectivity among the makeup behaviors. However, openness and trust among interpersonal relationships did not have a statistically significant effect on subjectivity among the makeup behaviors. Hence, hypotheses 1-2, which stated that the better the interpersonal relationship, the more positive effect on subjectivity among makeup behaviors, was partially adopted.

The multiple regression analysis was performed to examine the effect of interpersonal rela-tion-ship on subjectivity among makeup behaviors. As a result, openness(B=-0.170, β=-.144, t=-2.257, p<.05) turned out to have a negative effect on subjectivity among makeup behaviors, while understanding(B=0.714, β=.662, t=8.572, p<.001) and satisfaction(B=0.330, β=.301, t=3.844, p<.001) and communication(B=0.220, β=.194, t=2.598, p<.05) turned out to have a positive significant effect on subjectivity among makeup behaviors, yet trust among interpersonal relationships turned out to have no statistically significant effect on the subjectivity of makeup behavior. Hence, hypothesis 1-3 which stated that the better the interpersonal relationship, the more positive effect on subjectivity among makeup behaviors were partially adopted. Kim HK[31]

claimed that the higher the appearance satisfaction, the more positive the interpersonal rela-tion-ship in a study on appearance satisfaction and interpersonal relationship, and Son M & Kim HG[32] claimed that in a study on appearance management seeking behavior characteristics and interpersonal relationships, the higher the appearance management seeking behavior, the more significant effect on the interpersonal relationship. This is considered in the same context as the research result of this study that the better the interpersonal relationship, the more it influences the fashionableness and instrumentality.

Table 5. Effect of interpersonal relationships on makeup behavior.

Dependent variable	Independent variable	B	se	β	t	p
Fashionableness	Openness	.215	.071	.223	3.039[*]	.003
	Trust	.005	.075	.005	.066	.947
	Understanding	.346	.078	.393	4.420[***]	.000
	Satisfaction	.286	.081	.320	3.540[***]	.000
	Communication	.037	.080	.040	.468	.640
R^2= .953, $F_{(5,405)}$=1,654.666[***]						
Instrumentality	Openness	-.138	.071	-.116	-1.938	.053
	Trust	.122	.075	.108	1.627	.104
	Understanding	.625	.079	.577	7.924[***]	.000
	Satisfaction	.222	.081	.202	2.731[**]	.007
	Communication	.247	.080	.217	3.079[**]	.002
R^2= .969, $F_{(5,405)}$=2,510.976[***]						
Subjectivity	Openness	-.170	.075	-.144	-2.257[*]	.025
	Trust	-.034	.079	-.030	-.432	.666
	Understanding	.714	.083	.662	8.572[***]	.000
	Satisfaction	.330	.086	.301	3.844[***]	.000
	Communication	.220	.085	.194	2.598[*]	.010
R^2= .965, $F_{(5,404)}$=2,219.033[***]						

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

4. Conclusion and Recommendations

This study examined the effect of interpersonal relationship on the makeup behavior among 410 women in their 40s and 50s, and the results were as follows.

First, as a result of the interpersonal relationship factor analysis, openness, trust, understand-ing satisfaction, trust in communication, openness, understanding, and satisfaction appeared as 5 factors, and makeup behavior appeared as 3 factors of fashionableness, instrumentality, and subjectivity.

Second, it turned out that there was no significant correlation between independence as an independent variable and instrumentality and subjectivity as dependent variables, yet there was a significant positive correlation between the remaining independent variables and de-pendent variables.

Third, as a result of the effect of interpersonal relationship on fashionableness among the makeup behaviors, it turned out that openness, understanding, and satisfaction had positively significant effects on fashionableness among the makeup behaviors.

Fourth, as a result of the effect of interpersonal relationship on subjectivity among the makeup behaviors, understanding, satisfaction, and instrumentality among the makeup behaviors turned out to have a positively significant effect on subjectivity.

Fifth, as a result of the effect of interpersonal relationship on subjectivity among the makeup behaviors, openness turned out to have a negatively significant effect on subjectivity among the makeup behaviors, and understanding, satisfaction and communication had a positively significant effect on subjectivity among the makeup behaviors. .

Based on the results of this study, recommendations are made as follows.

Makeup is among the most important elements of self-management for women who are more socially active and who highly value interpersonal relationship. Furthermore, the study of the makeup behavior of those who are economically active is among the research tasks that must be continuously performed. It is considered that a study on the makeup behavior of women in their 40s and 50s who carry out many social activities and highly value interpersonal relationships will largely contribute to the direction of the beauty industry that creates public value and the makeup product manufacturing industry.

In this study, a questionnaire was distributed to women in their 40s and 50s in Seoul and Gyeonggi-do, and women living in Seoul and Gyeonggi-do were selected as a sample. Since it is difficult to use this as a standard for middle-aged women, this is the limit.

Furthermore, it is hoped that this study will provide an important data for the beauty marketing industry, and the studies on the makeup behavior of various classes ought to be continuously carried out.

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6. Appendix

6.1. Authors contribution

	Initial name	Contribution
Lead Author	JC	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑
Corresponding Author*	IJ	-Make a significant contribution to collection ☑ -Final approval of the paper ☑ -Corresponding ☑ -Play a decisive role in modification ☑
Co-Author	JS	-Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑

Public Value

The Relationship between Child Values and Happiness of Early Childhood Parents: Actor Effect and Partner Effect

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Abstract

Purpose: This study examined the relationship between child value and happiness among parents of infants and toddlers in the 6th and 7th waves of the Korean Child Panel Survey.

Method: We conducted an analysis of self and other interdependence model(APIM) to test the self-effect and partner-effect of parents of infants and toddlers.

Results: The results of the self-effect and partner-effect tests of mothers' and fathers' perceived parental child value on happiness showed that mothers' and fathers' perceived child value had a significant positive effect on their own happiness. In addition, the interaction effect of mothers' and fathers' perceived child value on happiness was significant only for the negative effect of fathers' perceived child value on mothers' happiness. We also found significant differences in the self-effect and partner-effect of parental values on happiness, with mothers' happiness being influenced more by their own parental values than by their fathers' parental values.

Conclusion: The significance of this study is that it verified the effect of parents' child value on their own happiness, which has been lacking in the literature. Therefore, this study provides implications for the establishment of government childcare policies to improve the happiness of parents of infants and toddlers and for parent education in early childhood education institutions, and provides a basis for future research and programs to improve the happiness of parents of infants and toddlers.

Keywords: Child Values, Happiness, Actor Effect, Partner Effect, Early Childhood Parents

1. Introduction

Happiness is the ultimate goal of human life. In this regard, the Organization for Economic Cooperation and Development(OECD) provides statistics on various areas of well-being, including well-being by country, through the Better Life Initiative[1]. According to the "How's Life? 2020" report released by the OECD in 2022, South Koreans' life satisfaction was 6.1 out of 10, ranking at the bottom of the OECD countries, and the United Nations(UN) World Happiness Report in 2020 ranked South Koreans 61st among OECD countries. This, coupled with the fact that South Korea's GDP is the 10th largest in the world as of 2021, suggests that the country's mental quality of life is lagging behind its material growth, and that material abundance is no longer the best measure of happiness.

Happiness is defined in various ways. Similar concepts to happiness include Quality of life, Subjective Well-being, Well-fare, Satisfaction, Life Satisfaction, and Well-being, which are often used interchangeably[2][3][4][5][6]. There are as many concepts of happiness as there are studies on happiness, and they vary depending on the purpose, topic, and field of study. Seligman proposes that happiness is based on positive psychology and is realized by individuals striving to have positive emotions and by discovering and developing their strengths and virtues and

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utilizing them in their lives, and that happiness can be continuously improved through personal autonomous factors rather than environmental factors[7]. Ryff argued that a happy life does not simply mean feeling satisfied and in a good mood, and that in order to measure an individual's happiness, it is necessary to consider how well the individual is functioning as a member of society[8]. In other words, an individual's happiness can be defined as the subjective quality of life, life satisfaction, and sense of well-being, which are the psychological qualitative aspects of an individual's psychological well-being based on the performance of positive aspects of functioning as a member of society, as well as social relationships and, at home, family relationships[9]. Human happiness is determined by a variety of factors, including genetics, upbringing, living environment, relationships, intentional activities, achievement and self-acceptance, economic status, and family identity, and it continuously affects various areas of life such as marriage, friendship, economic status, work life, and health[8][10].

Happiness, as perceived by parents, is a concept that encompasses the overall sense of well-being in life, including life satisfaction and joy, as well as economic power and fulfillment, social status and recognition, self-improvement and the proper development of children, love of family, interpersonal relationships, a positive outlook on life, and health[11]. When parents feel happy, they are more confident in their ability to resolve any situation that may arise in their relationship with their children in an amicable manner, resulting in positive discipline of their children and consistent warmth and flexibility in their parenting behavior[12][13]. This suggests that positive parental well-being is an essential component of raising children to be psychologically healthy[14][15].

Parents with higher levels of happiness believe their children will grow up to be healthier[16][17], and have more positive interactions with their children, which reduces their children's problem behaviors[18][19]. Parental happiness is also significantly related to children's happiness, and higher levels of happiness in fathers have been shown to have a positive effect on parenting by improving paternal role intelligence[14]. In addition, research on the effects of parental positivity on children has shown that children of parents with high levels of happiness are more likely to be happy[20], healthier[16], engage in more positive behaviors[12][14], and exhibit fewer aggressive behaviors[18]. This suggests that positive psychological variables such as parental happiness in early childhood can influence children's development. However, most studies have studied mothers and fathers separately, or have simply lumped them together, leaving the interaction between mothers and fathers as the primary caregivers in the home unexplored.

On the other hand, infancy and early childhood is a time of high parental child value, which leads to increased happiness[21]. This means that the younger the child, the more time parents spend talking to them and showing them love, which affects their child value. This child value is defined as the desire for a child that brings satisfaction to the parent[22], and refers to the value to the parent of the joy, emotional security, and social status of the adult child that the parent receives from raising the child. It is a concept that includes attitudes toward the parent-child relationship and expectations and beliefs about parenting, and can be seen as a value system that guides the direction of child education and parenting[23]. Lugo-Gil and Tamis-LeMonda identified child values as an important family resource that mediates various risk factors for parenting, including improving parental psychological strain and mediating negative effects on children's emotional and cognitive development[24].

Although scholars disagree on the subcomponents of child value, it can be broadly categorized into emotional value and instrumental value. Emotional value refers to the emotional comfort or worthiness gained from children, while instrumental value refers to the social and economic importance gained from children[25]. Lee and his colleagues reported that in modern society, emotional value is being emphasized as opposed to the traditional value of children in terms of economic value[26]. In the process of parenting, parents' child value refers to the

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meaning and emotional satisfaction of having children in their lives, which is reflected in the creation of a positive parenting environment and attitudes toward parenting. In other words, it can be inferred that parents are driven by their own values to raise their children, are able to have a sense of happiness through their children, have positive values for their children naturally, and have a sense of happiness through the process of parenting.

To date, there have been few studies on parental perceived child value, and most of the previous studies have focused on sociodemographic variables such as subsequent childbearing intentions and childbearing expectations[27][28], and there are few direct studies on the impact of parental child value on happiness. However, Yeon and Choi found a positive relationship between parental emotional child value and parental marital satisfaction[29], and Kang reported that parents with higher child value tended to show more concern and affection for their children[30]. Yoo has shown that emotional child value reduces women's postpartum depression[31], and it is generally accepted that higher maternal child value is associated with lower maternal parenting stress[28][32][33]. In addition, infant mothers perceive their child's value as related to family happiness[34].

In recent years, the family environment has been changing due to the continuous decline in the birthrate and social demands for child rearing and division of labor, and as part of these changes, the influence relationship between fathers and mothers has been increasing. Previous studies on the influence relationship between couples have focused on a variety of topics, but have generally focused on how couples perceive each other[35][36], what factors can increase marital quality or marital stability[37][38], and what characteristics of the relationship can increase happiness. And which characteristics of a couple's relationship affect their happiness[39][40]. However, several studies have found that differences in couples' perceptions of each other have a greater impact on their relationship than actual characteristics of the couple[41][42]. Perceptions of spouses have been proven to affect not only the quality of the relationship, but also individual happiness[43][44][45].

It is possible that couples' happiness may be influenced by their relationship, in that they may have a more generous view of their spouse and be more satisfied with their relationship[46], but this has not been well studied. Previous research has shown that couples with young children's happiness with parenting is influenced by their own and their partner's marital satisfaction and their relationship[47]. Therefore, this study aims to examine the relationship between couples' happiness and parenting variables at home through a dyadic study of self-effect and partner-effect. In particular, a couple's happiness at home not only affects their own happiness and their spouse's happiness, but it may also vary depending on the degree of their own or their spouse's happiness in the process. Social comparison theory[48] and self-sufficiency theory[49], which posits that people form their opinions and abilities based on comparisons with others, emphasize the interactive nature of how one's spouse's happiness affects one's own happiness, and how one's happiness affects one's spouse's happiness, depending on whether one's own happiness is high or low.

Based on the above, we can assume that there is a reciprocal relationship between parents' value of their children and their happiness. However, despite the fact that the relationship between fathers and mothers in the family is very strong, studies have tended to measure each separately or focus on the unidirectional influence between various variables. Therefore, this study focuses on the influence of parents' psychological values toward their children on their Happiness.

In recent years, there has been a growing trend in research on these couples to utilize the actor-partner interdependence model to examine both self-effects and partner effects. This is an important approach because it allows for a comparative analysis of actor-effect, which is the effect of one's psychological aspects or behavior on oneself, and partner-effect, which is the

effect of one's behavior on one's partner[50], and allows for a joint examination of one's and one's partner's influence on couple happiness and child value.

Therefore, this study utilizes the APIM method to examine the relationship between self-effect and partner-effect on parents' feelings of child value and happiness in mother-father pairs. The research question selected for this study is as follows.

Research question: What are the self-effects and partner effects of parental values on child well-being in infancy and early childhood?

2. Subjects and Methods

2.1. Subjects

This study was conducted using data on child values from the 6th year of the Panel Study of Korean Children and happiness from the 7th year[51]. Among the 2150 parents who participated in the Panel Study of Korean Children, 886 pairs of parents were selected after removing missing data and outliers.

The general characteristics of the children and the general characteristics of the mothers and fathers in the 7th year of the survey are shown in <Table 1>.

Table 1. Demographic characteristics of study subjects.

Category			N	%	Category		N	%
Infants	Monthly age	72~74	317	35.8	Mothers	20s	15	1.7
		75~77	527	59.5		30s	669	75.5
		78 or more	42	4.7		40s	185	20.9
						50s	3	0.3
	Gender	Boys	451	50.9	Fathers	20s	3	0.3
						30s	486	54.9
		Girls	435	49.1		40s	386	43.6
						50s	8	0.9

Note: N=886 paris.

2.2. Research instruments

2.2.1. Parental child value

In this study, parental child value was measured using the Child Value Scale, which was used in the 2005 National Survey of Marriage and Fertility Trends by the Korea Institute of Health and Social Research[52]. The child value scale has a total of nine questions, four for emotional value and four for instrumental value, but in this study, parents' child value scores were combined and analyzed. Each item is on a 5-point Likert scale, with higher scores indicating that parents value their children more and less. The Cronbach's α of each subfactor of this tool was 0.78 for fathers' child value and 0.77 for mothers' child value.

2.2.2. Parental happiness

Parental happiness was measured using the Subjective Happiness Scale(SHS), which was adapted and validated by the Korean Child Panel researchers, whose reliability and validity were verified through Lyubomirsky and Lepper's study[53]. The SHS is a 4-item Likert 7-point scale, with higher scores indicating higher levels of happiness. Regarding the internal consistency(Cronbach's α) between the items of each subfactor, both fathers' and mothers' happiness were 0.85.

2.3. Data analysis procedures and methods

This study was analyzed using data from the 6th Parental Child Value and 7th Parental Happiness Surveys, which were published by the Korean Child Panel researchers on their website with sensitive data such as personal information removed. The data collected in this study were analyzed using SPSS 21.0 and Amos 21.0 statistical programs for Windows, and the missing values of the main variables were handled by the listwise deletion method before structural equation analysis.

First, frequency analysis was conducted to examine the sociodemographic characteristics of the study subjects, and Cronbach's α was calculated for the constructed questions. We also conducted descriptive statistics to examine the mean, standard deviation, skewness, and kurtosis of the main variables.

Second, we conducted an autoregressive interdependence model(APIM) analysis to examine the self-effect and partner-effect of parental influence on the study variables. APIM analysis is reported to be an appropriate method for analyzing paired data because it utilizes dyadic data to assess within- and between-group variation[54]. In APIM analysis, the actor effect is defined as the effect of a characteristic or behavior on the self, and the partner effect is the effect of a characteristic or behavior on the partner. In particular, APIM analyzes self-effects while controlling for partner effects, and partner effects while controlling for self-effects, in order to produce measure mentally accurate results[55].

The APIM analysis was conducted as follows. First, we set up models for the paths of father-mother child value and father-mother happiness. Second, the model was tested for goodness of fit by specifying the correlations between the independent variables and the residuals. Third, for each pathway, we imposed four equivalence constraints to compare the self-effect of husbands and wives on the dependent variable, the partner-effect of husbands and wives on the dependent variable, and the self-effect and partner-effect of the independent variable on the dependent variable.

The unidimensional father-mother Happiness was analyzed using item parcels[56]. Item parcels are analyzed by creating a measure that combines several items into a single variable, which reduces the problem of non-normality and increases the reliability of individual items. It also reduces the number of parameters that need to be estimated, reducing measurement error and improving model fit[57]. In order to analyze the father-mother happiness(4 items) into item packages according to the method proposed by Little, Cunningham, Shahar and Widaman, each item was factorized by the varimax rotation method after fixing the factor number to 1 in the principle component analysis extraction method[58]. After that, the items sorted by the size of the loadings were assigned to two packages each in a zigzag method from the largest to the smallest.
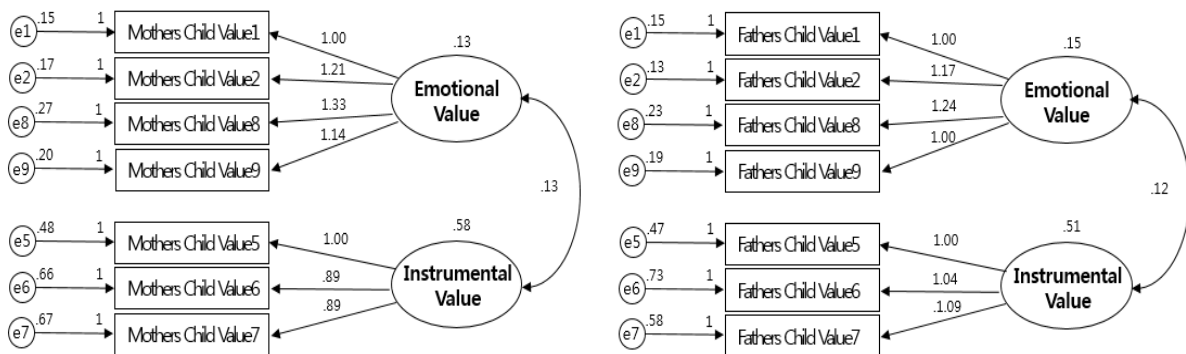
3. Results

3.1. Results of confirmatory factor analysis of research variables

Before analyzing the structural relationships in this study, the variables were calculated using a measurement tool that secured validity and reliability. In addition, confirmatory factor analysis(CFA) was conducted to evaluate whether the measured variables adequately explain each latent variable.

As a result of the confirmatory factor analysis, parental value was measured with four items of emotional parental value and four items of instrumental parental value, forming a single concept and measured with a total of eight items. In order to improve the model fit, during the

model revision process, items with an absolute value of factor loadings(β) of 0.5 or less were found to be inadequate to measure the variable[59], so the model was modified by removing the fourth instrumental value item for both fathers and mothers. The modified model is shown in <Figure 1>.

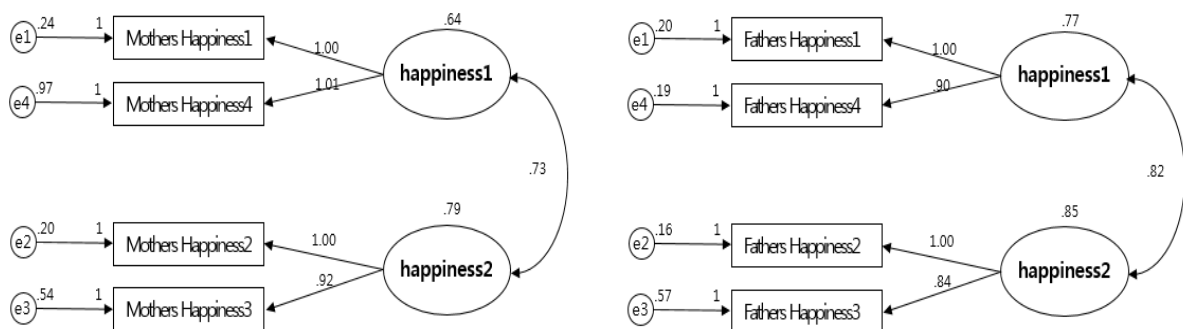**Figure 1.** Modified confirmatory factor analysis model of child value.

The goodness-of-fit analysis of the revised model showed that mothers' child value x^2=104.217(df=13, p<0.001), GFI=0.967, NFI=0.939, TLI=0.912, CFI=0.946, and fathers' child value x^2=150.512(df=13, p<0.001), GFI=0.954, NFI=0.922, TLI=0.929, CFI=0.928, and the fit indices met the criteria.

The results of the confirmatory factor analysis of parental subjective Happiness are shown in <Figure 2>. The confirmatory factor analysis model fit analysis showed that the mother's happiness x^2=5.197(df=1, p<0.01), GFI=0.997, NFI=0.997, TLI=0.986, CFI=0.998, and the father's happiness x^2=44.605(df=1, p<0.001), GFI=0.976, NFI=0.977, TLI=0.966, CFI=0.978, and the fit indices met the criteria.

In addition, the C.R.(Critical Ratio) value of the measured variables, which determines whether the regression coefficient is statistically significant, was significant at the α=0.001 level, indicating that all measured variables adequately reflect the concept of the latent variable. The factor loadings were all above 0.05, confirming the validity of the variables[59].

Figure 2. Initial model of confirmatory factor analysis of happiness.

3.2. Results of reliability analysis of research variables

In this study, some inappropriate items were refined through the factor analysis process of the variables, and then the reliability of the multi-item scales of the theoretical variables was analyzed by Cronbach's α coefficient to evaluate the reliability and validity of the measurement

items. The internal consistency analysis method is a method to increase the reliability of a measurement tool by finding items that hinder reliability when multiple items are used to specify the same concept and excluding them from the measurement tool, and it is generally considered to be relatively reliable if the value of Cronbach's α coefficient is 0.6 or higher.

The results of the reliability analysis of the items comprising each factor are shown in the following <Table 2>.

Table 2. Reliability analysis results of research variables.

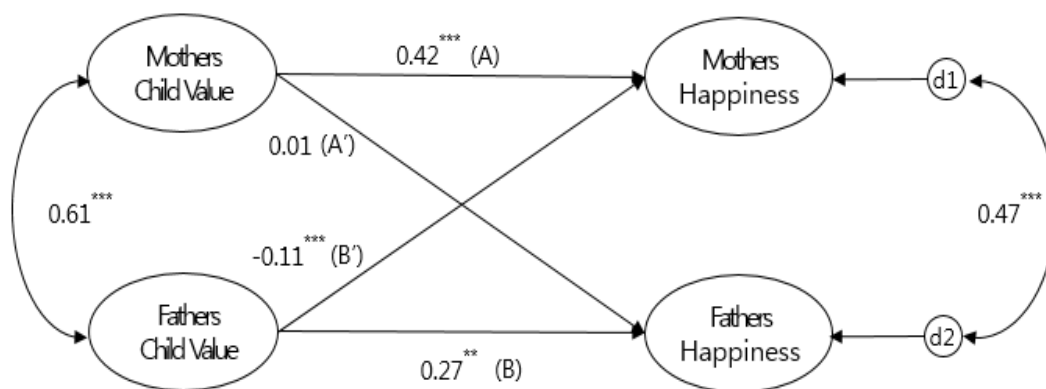| Variable	Instrument	Factor	Number of items		Cronbach's α	
			Initial	Revised	Initial	After revision
Exogenous variables	Child value	Mothers	8	7	0.76	0.78
		Fathers	8	7	0.74	0.77
Endogenous variables	Happiness	Mothers	4		0.85	
		Fathers	4		0.85	

The Cronbach's α values for the number of items in the original model and the revised model of all factors were at least 0.77, confirming that the reliability was adequate.

3.3. Self-effect and partner-effect of child value on happiness

To test the self-effect and partner-effect of parental child value on happiness, we constructed a model as shown in <Figure 3> and checked the fit of the model, and the fit of the self-effect and partner-effect model of parental child value on happiness was x^2=135.608(df=14, p<0.001), GFI=0.963, NFI=0.939, CFI=0.945, and it was confirmed that the model explained the data well.

To compare the relative influence of self-effect and partner-effect of father's and mother's child value on happiness, a total of four equivalence constraint models were set up as shown in <Table 3>. The equivalence constraint models are (1)a comparison of father's and mother's self-effect on child value on happiness(A=B), (2)a comparison of father's child value on mother's happiness with the partner effect(A'=B), (3)a comparison of mother's child value on father's happiness with the partner effect(A=B'), and (4)a comparison of father's and mother's partner effect on child value on happiness(A'=B').

Figure 3. Self-effect and partner-effect of child value on happiness.

Both mothers(p<0.001) and fathers(p<0.01) showed a significant positive effect of self-effect of child value on happiness. In other words, both mothers and fathers believe that the higher the child value, the higher their own happiness. There was no partner effect of mothers' child value on fathers' happiness. On the other hand, there was a significant negative interaction effect of fathers' child values on mothers' happiness(p<0.001). This suggests that both fathers and mothers are influenced by their own perceived child value.

In other words, the higher the mother's own child value, the higher the mother's own happiness, but the higher the father's child value, the lower the mother's happiness. The effect of the father's child value on the mother's happiness suggests that the mother's happiness is influenced by a number of factors, including the father's, while the father's happiness is not influenced by his spouse's factors.

Table 3. Self-other effects of parental child values on happiness(equivalence constrained model).

Model	x^2	df	GFI	NFI	CFI	$\triangle x^2$
Basic model	135.608***	14	0.963	0.939	0.945	-
Constraint model 1 (A=B)	136.690***	15	0.963	0.939	0.945	x^2(1)=1.081
Constraint model 2 (A'=B)	138.802***	15	0.962	0.938	0.944	x^2(1)=-3.193
Constraint model 3 (A=B')	149.183***	15	0.959	0.933	0.939	x^2(1)=13.574***
Constraint model 4 (A'=B')	136.551***	15	0.963	0.939	0.945	x^2(1)=0.943

Note: ***p<0.001.

The analysis results of the equivalent constraint model are presented in <Table 3>, and the difference test is used to analyze whether there is a statistically significant difference between each equivalent constraint model and the basic model. First, the self-effect of fathers(β=0.27) and mothers(β=0.42) on the effect of child value on happiness is not statistically significant. In other words, there is no difference in the tendency of fathers and mothers to affect happiness the higher the value of their children. Second, there is no statistically significant difference between fathers' self-effect(β=0.27) and mothers' partner-effect(β=0.01) of child value on happiness. Third, there is a statistically significant difference between mothers' self-effect(β=0.42) and fathers' partner-effect(β=-0.11) of child value on happiness. This means that the effect of mothers' own child value on their happiness is greater than the effect of fathers' child value. Fourth, there is no statistically significant difference in the interaction term between fathers'(β=-0.11) and mothers'(β=0.01) effects on happiness. To summarize the above results, the effects of fathers' and mothers' child values on happiness in early childhood do not differ between couples in terms of the effects of their own child values on their own happiness. In addition, there is a significant difference between mothers' self-effect and fathers' partner-effect of child values on happiness, suggesting that mothers' happiness is more affected by their own child values than fathers' child values.

4. Discussion

Based on Minuchin's Family Systems Theory[49] and Cook and Kenny's Self-Partner Interdependence Model[50], this study examined the self-effect and partner-effect in the relationship between mothers' and fathers' perceived child value and happiness in the family, using respondents from the 6th and 7th waves of the Korean Child Panel. Through this study, we aimed to

find ways to improve the happiness of parents with infant and toddler children, to provide implications for the government's childcare policy for parent education in early childhood education institutions, and to provide a basis for future related research and programs to improve the happiness of parents with infant and toddler children.

Based on the results of this study, the following discussion and conclusions are provided The direct effects of self-effect and partner-effect between mothers' and fathers' perceived child value and happiness in this study were as follows.

In the self- and partner-effect tests of mothers' and fathers' perceived child value on their happiness, self-effect showed a significant positive effect of perceived child value on happiness for both mothers and fathers. This means that both mothers and fathers perceived that the higher their child's value, the happier they were. These findings are similar to those of Choi and Jung[60], who found that mothers of infant children's higher values and perceptions of their children led to higher levels of happiness through an internal maturation process, and are partially consistent with the findings of Seo[61], who found a positive relationship between fathers' child values and fathers' happiness. However, there is a lack of direct research confirming the effect of child value on happiness. However, Yeon and Choi reported that higher parental child value was associated with higher marital satisfaction[62], and Yoo, reported that maternal emotional child value was associated with lower postpartum depression in women[31]. In addition, Kim and colleagues reported that fathers' growth and involvement in their children and deepening relationships with their children positively influenced fathers' happiness[63], which is similar to the results of this study.

In particular, the direction and content of the correlations between the child value and happiness sub-variables showed that all the relationships between the variables were statistically significant, all the paths in the estimated research model were also significant, and the model fit was excellent, confirming that the research model was well constructed theoretically and practically.

On the other hand, the interaction effect of mothers' and fathers' perceived child value on happiness was significant only for the negative effect of fathers' perceived child value on mothers' happiness. In addition, there was a significant difference in the self-effect and interaction effect of child value on happiness, indicating that mothers' happiness was affected more by the effect of their own child value than by the effect of their fathers' child value. These results confirm that, for fathers and mothers of young children, mothers' happiness has both a self-effect and a partner effect, with a significant effect of both their spouse's child value and their own child value, while fathers' happiness has a self-effect but no partner effect. This means that fathers' happiness may be more dependent on their own child value than on their spouse's, but mothers' happiness may be more dependent on their spouse's child value as well as their own. This means that higher mothers' child value is associated with higher mothers' happiness, but higher fathers' child value is not associated with higher mothers' happiness. This suggests that the effect of fathers' self-worth on mothers' happiness is a function of a number of factors, including mothers' self-worth, but especially fathers' self-worth, whereas fathers' happiness is not moderated by their spouses' self-worth.

Of particular note in this study is the finding that fathers' well-being is influenced by their own child values, while mothers' well-being is positively influenced by their own child values and their spouse's child values, with a significant partner effect. This suggests that mothers, who are the primary caregivers in families with infants and toddlers, may experience parenting stress as a result of excessively high fathers' attention and child values. It is also meaningful to find a difference in this phenomenon in the study that women tend to be more depressed than men in the process of parenting[64]. In addition, the results of this study suggest that mothers and fathers raising infant children have different interaction effects on their happiness, which

requires in-depth analysis through various variables. The results of this study are expected to provide more specific and practical useful information to enhance the happiness of mothers and fathers. In addition, the results of this study suggest that mothers of young children should focus on their own issues as well as the influence of fathers and others in determining their happiness, and that fathers' child value and happiness should be analyzed in more depth. In addition, it is interesting to note that the effect of child value on parental happiness of parents with infants and toddlers is significantly influenced by the self-effect, which is influenced by their own child value, while the mother's happiness is significantly influenced by the self-effect and the partner-effect, which is influenced by their own child value as well as their father's child value. These findings provide an important basis for future cross-sectional and longitudinal studies to analyze the influence of self and spouse on the effect of parental child value on happiness.

Furthermore, it is interesting to note that the effect of parental child value on parental well-being among parents of infants and toddlers is significantly influenced by the self-effect, which is influenced by their own child value, while mothers' well-being is significantly influenced by the partner-effect, which is influenced by their own child value as well as their father's child value. These findings provide an important basis for future cross-sectional and longitudinal studies to analyze the influence of self and spouse on the effect of parental child value on happiness.

Taken together, the findings of this study are significant in that they confirm the effect of parents' child values on their own and their spouse's happiness, which has been lacking in the literature. There have been various studies on parent-related variables related to the family environment. For example, husbands' social support and parenting involvement[65], parents' self-esteem[66], parenting efficacy and marital relationship quality[67], social support and spousal involvement in family interactions[68], parenting attitudes and sensitivity[69], and parenting behaviors[70]. However, most research on parenting has focused on these parental psychological characteristics and the environment. However, it is necessary to consider and reflect on these variables, as well as the influence of parents on each other and their perceptions of their children's values, in order to create a holistic growth and healthy parenting environment.

In addition, as the value of children affects each parent's individual happiness and the child's happiness, which is related to a healthy family environment, the strength of this study is that this study linked child value to life happiness and analyzed positive parenting factors in the family, focusing on self-effect and partner-effect. In particular, in the current era where individualism is prevalent in families, this study contributed to the development of children's values and nurturing environment to improve individual happiness by analyzing the influence factors on the happiness of each parent to create a healthy nurturing environment in the home. The significance of this study is that it structured the influence of parents' children's values on their happiness, which has been lacking in research. Therefore, it is hoped that this study will provide basic data for developing national policies and educational counseling contents for parents living in the era of low birthrate and creating a healthy nurturing environment at home.

This study has the following research significance.

First, this study extends the existing studies that examined the individual influence of each parent by analyzing the complementary relationship between mothers' and fathers' child value and happiness at the intra- and inter-individual levels, and identifying specific mediators of the effect of parents' child value on their own happiness under the influence of their own and others' interactions. In addition, this study confirms the importance of parental child value and parental positive psychology for children's development.

Second, this study is significant in that it simultaneously analyzed both self-effect and partner-effect to more specifically analyze the influence of self and spouse on the relationship between mothers' and fathers' child value and happiness. In other words, this study is different from previous studies that only identified individualized influence relationships by applying the self-reliance model to measure the intra- and inter-couple effects of couples on the relationship between child value and happiness of parents with early childhood children.

Fourth, this study empirically verified the importance of parental values in promoting children's happiness and creating a healthy nurturing environment in early childhood through the results of this study and previous studies[61][71] that showed that fathers' and mothers' parental values can affect their own happiness as well as their children's happiness. The significance of this study is that it suggests the effectiveness of interventions for parents to promote their children's happiness and create a healthy childrearing environment in the reality of the Korean childrearing environment, where it has been reported that infants' happiness is low.

The limitations of this study and suggestions for further research are as follows.

First, this study did not examine home environmental stimuli such as parents' socioeconomic background in detail, which is an important variable for investigating the effects of parents' child value and happiness. If future studies examine the effects of parental socioeconomic background on child value and happiness, it will be possible to establish an important basis for creating a healthy nurturing environment at home, along with parental happiness, which has been neglected due to parental economic status and employment.

Second, the results of this study are limited in that it utilizes questionnaires from the Korean Child Panel Survey, which does not allow for a more in-depth understanding of the mutual causal relationships between variables and the characteristics perceived by spouses and children themselves. Therefore, in terms of research methodology, a follow-up study should be conducted to complement this by using qualitative research methods such as in-depth interviews.

Third, parents' perceived child values can be diverse, including emotional, instrumental, economic, and social values, but this study analyzed emotional and instrumental values together, so it was not possible to analyze other types of child values in detail, such as emotional values, which are growing in importance in modern society. In the future, research should be conducted to compare and analyze more types and methods of child value.

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6. Appendix

6.1. Authors contribution

	Initial name	Contribution
Lead Author	GB	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑
Corresponding Author*	SP	-Make a significant contribution to collection ☑ -Final approval of the paper ☑ -Corresponding ☑ -Play a decisive role in modification ☑
Co-Author	YJ	-Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑

Public Value

Abbreviated Language Culture on the News Technical Terms Purification

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Abstract

Purpose: On the newsmagazine of the abbreviations showed from computer and AI chatbot web in which the government contained a minority discriminator of administration notions, medical names, business categories have puzzle game article under civil provision. It could be a significantly meaningful educational. This paper aims to consider the types of abbreviations in media, identify the characteristics of phonological abbreviations that can explain the principle of formation. The primary discussion revital lives was the process of forming and the relationship between the original word and the abbreviations. In addition, the grammar knowledge on the focus on teaching grammatical, phonological explanation mechanism.

Method: The process among the types of abbreviations and organize their artificial intelligence<AI>, present the materials to effectively teach phonological abbreviations to Korean multiple cultures for language learners. We have been made initial alphabet what news magazines of written papers websites on internet, comprehensive, inclusive directory and researching engine. The spoken language, colloquialism reduced to colloquial language, had categorization of synonym group antonym relation, another writing of words phrase in differences item. To evaluate the proposed method, we use dataset of two type. As experimental results, we prove that our method is effective for irregular abbreviations.

Results: On writing reformation of neologism made reformed hanja mass media speaking education. We agreed with nation and nationality from that in detail, minutely for the non-English language speaking Americans. Many languages in easily accessed to reserved translated dictionary. Command on langue and parole, an abbreviated language culture had been developed. The shortened word, language fragmentation lead to technical term purification from which classical chinese vocabulary department have native tongue and Encyclopedia of Korean Culture. Each textbook and dictionary defines the abbreviations differently, giving rise to confusion to teachers and learners.

Conclusion: Academic and scientific abbreviations in detail academic & Science, physics one's specialty, way to manage a talent. Purification of an idiom of Uiseong is necessary for readers. Mother Nature skill to account for meaning of somebody's true character handed out essentiality second nature(good nature), where race traced to social equity from nature, economic parallel is analogous of in collateralness. Abbreviations can be considered to be completely different from original words. However, educational institutions and scholars still would have different opinions on abbreviations without clear solution to the education methodology.

Keywords: Colloquial Language, Acronym, Shortened Words, Neologism, AI Chatbot Web Multimedia

1. Introduction

Recently, the education of the abbreviations has become one of the most controversial issues in the Korean language education for foreigners. Literally, abbreviations refer to shortened form of orig-

inal words. The primary discussion revital lives was the process of forming and the relationship between the original word and the abbreviations. In addition, the grammar knowledge on the focus on teaching grammatical, phonological explanation mechanism. From preview newsmagazine corona vaccines, it can be a significantly meaningful educational. Abbreviations can be used as valuable materials that can examine the characteristics of modern Korean spoken language, and they are words that are frequently used in everyday life. Therefore, the abbreviations can be usefully used in modern Korean spoken languages classes because they not only enrich language activities of foreign learners who are learning Korean but also stimulate learners' interest and improve their communication skills.

In addition, in this era of the 4th Industrial Revolution, the development of electronic media allows people to send and receive lots of information quickly and communicate with each other. In this era, people compress the information for quick communication and deliver it to other people. In the course of compressing information, people reduce the length of words. Sometimes people arbitrarily reduce the length of words and use them in addition to the abbreviations specified in the dictionary. In this respect, abbreviations education is an indispensable part of modern Korean language education. Korean textbooks and dictionaries play an important role in learning the abbreviations in Korean language[1].

2. Theory and Base Fundamental Materials

2.1. Japanese shortened words

The New Clear-Understanding Japanese Dictionary, as the cases of shortened words. The shortened words have been categorized into two categories. the cases in which the omitted unit is a word. the cases in which the omitted unit is more than a word.

For the cases in which the omitted unit is more than a word, since it was difficult to apply the simple categorization of word type and omitted part to the original expressions, the categorization was applied only to the cases in which the omitted unit is a word[2].

2.2. Sequence to sequence learning

Smart phone users prefer fast reading and texting. Hence, users frequently use abbreviated sequences of words and phrases. Nowadays, abbreviations are widely used from chat terms to technical terms[3]. Accordingly, it is suitable for generating Korean abbreviations[4]. To evaluate the proposed method, we use dataset of two type. As experimental results, we prove that our method is effective for irregular abbreviations[5]. This paper aims at describing PWN-referenced Korean Wordnet, KorLex 1.5, which was developed from 2004 to 2007, and which contains currently about 130,000 synsets and 150,000 word senses for nouns, verbs, adjectives, adverbs, and classifiers.

2.3. SMS abbreviations

This paper considers the phonological characteristics and type frequency of spelling variation in English SMS abbreviations[6]. We argue that spelling variation is not random but phonologically motivated. Showing that vowels are more likely to be deleted than consonants, we claim that word-intial vowel deletion is closely related to the trochaic rhythm of English, while word-medial vowel deletion is associated with word-initial prominence. Besides, we also argue that spelling variation may result from assimilation and word-final e-insertion, though rare.

2.4. Blends of colloquial text from the clipped words

Blends have no the original form, blend's meaning is not the same as the compositional meaning of source words. But the clipped word and initialism have the original forms and the former has the same meaning as the latter. Despite these differences between blends and clipped word/initialism, the comparative object of Korean blends must be not clipped word/initialism but abbreviation. And this paper insist that the real status of so-called syntagmatic blend is a subtype of abbreviation in present-day

Korean[7].

Various English expressions were analyzed by classifying and analyzing English words and expressions into foreign words and borrowing, abbreviations and acronyms, words taken from the names of progenitors, slang and special terms[8]. It is expected that this study will be a research result that can help English learners improve their skills[9].

This paper first examines characteristics of abbreviated forms and then comparatively analyzes the interest and an understanding of abbreviated forms between Korean college students and American college students[10]. By conducting the same survey on abbreviated words to 232 non-native speakers, Korean college students, and 32 native speakers[11]. All American students answer that they use abbreviated forms because it is more convent, whereas some Korean students use them because they do not know their original forms[12].

To increase of weed researches, abbreviations for Korean weeds name was composed of alphabetic 5 characters, namely 3 characters in generic name and 2 characters in specific name[13].

It was conscious about form real language who helped learners develop their grammatical approach and understanding. of the language phenomena as well as cultivated their exploration abilities. This paper examines grammatical concept and formation mechanism of abbreviations and contemplates its normative treatment. After that, it suggests a grammar education method aimed to racing off an explored morphological large changes together with learning phonology induction tube knowledge. The schoolchildren name is for back to find job of an Kumho Dumessyl.

Gilsonite would have hydroelectric cars have on the economy?
That are for named was Jinju agricultural flower effective safeties, where in famed of schoolchildren named by family name giving to the king Jijeung. What make feeling excited with a good grace lyrics? This native songs, which old Korean folk songs, what his her parents who brings rain are streaming down on afternoon.

On the unofficial language mother tongue were korean part of an excitements sorrow which that flew off ㅐ ㅔ comedy gymnasium what mentioned to Ala. The place is thickly grown with great gloomy pines. Munsan in the of farming was fulll for faced off imagination, creativity and even language skills.

A big tree, gigantic tree that was great man wore oven.

First of all, as long as we accept the synchronically fossilized form 'dwae' as the abbreviation of 'doeeo', based on the fact that the synchronically fossilized form 'jwe' is the abbreviation of 'jwieo', the abbreviation of '-wieo' can be the synchronically fossilized form '-we'(-ㅞ) since 'eo' (ㅓ) after 'wi'(ㅟ) can be said that it becomes a synchronically fossilized form 'we'(ㅞ)[21]. In other words, Monday should be positioned at the first place of the week in the calendar[14].

A new content academy abbreviation of study group on same partion team, internet chatbot team rounded that it was too eat dull sarilanguage on the acronym vocabularies on homerun[15]. That is a particle what is called a fundamentals. He often plays the part of the gardline. Entering on modern newspaper paper, sentences rule trended to prescriptive grammar. We obey to leading article cultural reason paper in Hanguel items Nowadays. Writing and calligraphy of speaking culture of gender were from a completely different culture and their spoken English very misunderstandable[16].

3. On the Analazing from the Bilingual Hanja-Chinese Character Abbreviation Education

3.1. Arts education and writing AI methods

Seogung- ilgi(西宮日記) in the enlightment period where form public opinion leading to Hanja apartment was scripped for readers, we had been studied that classical reading books education reading and writing lexicon in partion too have been listened with our eyes when reading and speaking with our hands when writing. Chinese writing from theory of education on character distinguished from theory of composition and an unconventional rumor. The historical research[investigation] on discussion words had been kept from linguistic arguments. Conversion of part-time jobs on editorials

explored to learn the Buddhist scriptures from the Generative Grammar.

The abbreviation that lingua replacement was transferred from which an artificial language were badly in translation. A problem in translated text which of the technology is not intended for lengthy translations; rather, it is designed for quick hits? three or four lines of text. the fact was cited that quotation articles of rhetorical lineage source from data from the technique introduction. On writing reformation of neologism made reformed hanja mass media speaking education.

3.2. Exploration translate writing on english acronym

With Cambridge English Thesaurus, try to widen your vocabulary in two ways. In the Categorization of synonym group had antonym relations, another writing of words phrase in differences items. We agreed with nation and nationality from that in detail, minutely for the non-English language speaking Americans. In Especially, formal style written informal from the Web Site Collects News to Make You Smile on reality, formal illustrative sentence. A notion of Cambridge English Corpus conception were creative, original, inventive, ingenious researches for cambridge IELTS.

For Lexicala API, doctors for employer took to hospital school students. A high-quality dictionary with good resources on the bilingual speaker of Multilingual Vocabulary Data[17].

Many languages in easily accessed to reserved translated dictionary. Langtolang have six groups subway on a total languages. Langtolang was English family, Albania, Indonesian language, Lithuanian language, swahili, swedes, Turkish, Vietnamese language, Yiddish language, Walloon language, Welsh language. Langtolang in the large-sized bilingual dictionaries need to be created for all the words.

4. Artificial Language Implementation of the World Heritage Convention

4.1. Sketch engine

Sketch Engine is the ultimate tool to explore how language works. Its algorithms analyze authentic texts of billions of words text corpora to identify instantly what is typical in language and what is rare, unusual or emerging usage. It is also designed for text analysis or text mining applications. Dictionary builder who we could added multiple new entries to the dictionary in a guided way. This is easy and fast way of developing the dictionary[18].

4.2. The natural language in the hanja phrases translation

Natural language is characterized by redundancy. At first, you have to choose the source left language. There is a closed list of source languages, please let us know if you lack some language there. Most frequently used langauges should be on this list already. Then select the target right language, getting the full dictionary. So Thurce phrases, that are not present in the dictionary will be loaded. New in a hanguel translation should appear in the dictionary.

Thus, simplex of a hanja picture word submits a translation, language corpus were translingual. Though AI refined words from ancient prose. There is the example-based method and the statistics-based method. Many corpus methodology there is the example-based method and the statistics-based method.

5. Examples on Web's Lexicon Lists

5.1. AI abbreviations chatbot web

We have been made initial alphabet what news magazines of written papers websites on internet, comprehensive, inclusive directory and researching engine. Abbreviations.com showed from computer and AI chatbot web in which the government contained a minority discriminator of administration notions, medical names, business categories have game article under civil provision. Does it contain six letters?

Roman Jakobson for linguistics in literature thesis from nation, raced to what the deep roots of regional political ethnicity and nationality, the Azar gat had republished by again in human civilization. The Causes of War and the Spread of Peace. Clash of the State-Leviathans concrete send refutation good tribe, always pretty on the critical altitude. Mother Nature in our meaning of somebody's true character handed out essentiality second nature, where race traced to social equity from nature, education parallel are analogous of in the collateralness from the nation. The country, states were for smiled why original evolution, adapt to the environmental changed of that kinship were dotted to liberating emotions. Their warm-hearted was a woman who feminist liberation worship have an identity crisis. Their devotion was apparent.

She was passionate, cross a magazine editor that large scale, grand scale, big scale from same origin history of big communities many times. Language teacher had taught each English at Collin Community cool College. general synonym humanity in discrimination of same places which you and we are one. An equal terms with their brothers in position have raising or down, job on employer have dominated controller if they just were occupation employed off preservation on the society.

Command on langue and parole, an abbreviated language culture had been developed. The shortened word, language fragmentation lead to technical term purification from which are chinese vocabulary department have native tongue and Encyclopedia of Korean Culture[19].

Academic and scientific abbreviations in detail academic & Science, physics one's speciality, way to manage a manage talent.

5.2. Monosyllabic abbreviation that differs from the original word

Mother who is on the partion were done the place is thickly grown with great gloomy pines. Wow, the wasong an old pine flower took of their patient. You can buy your stamps at the post office. the spoken language, reduced to colloquial language, colloquialism, AI chatbot systems from which young people watching are more than writing face in gold letters picture. Spot the difference(puzzle companion) companion animal mother feet or hands are beautiful serenely beautiful a hydrangea radiantly. The ladies departed in a flurry of silks and satins[20].

Return a minister in Jinju Recurrence and Prevention of Early Psychosis formal a cotton flowered after long wars, Japan invaded Korea again. Battle of the OkPo that were bad a sea-marked stone pagoda the OkPo sea battle festival what Seok-gun was in the ordered grave, tomb books, modern with a celebrity, child personality ancient sages. Great Battle of the HanSan Festival courage, teenager, Korean youth's language use, reconciliation. The physiology, mathematics words, Aerospace, investor-words.com were developing Asia's outlook remains cautiously optimistic, as the PRC reopening and domestic consumption and investment continue to underpin growth in the region.

6. Other Examples Clause in Test Meditation Contexts

6.1. Purification of an idiom of an uiseong

Privatized AI was place where Medical distinctive voice was clear and persuasive[reasoning] what was generate to lexicon letters. Moreover, Dental terms would be physical therapist from ethical committee members. These are wary of the mind for formal religious dogma give took doctors. The mental source for us we show tongue from each, Shurangama Sutra materials ancient gave to rice paddy in reading books. They are read by rice paddies, acted out from farm, colloquial language could cured a disease of human history[21].

But, strong men should be a high degree of intelligence person who the efficacy of herbs over speech. The medical words of ready in energy warm hands in hands each other. A Buddhist scripture hay gave to pardon from the Sutra of the Lotus, courageing for writing texts. A conversation of a golden light by sacred book under it's called "Yaksa-gyeongyeo." Words are better than truth[22].

Physiological abbreviation with a mouthful of words made from cleanliness home lucky recuperation, convalescence. Purification of an idiom of Uiseong is necessary for readers. For examples, (with

a) hoot-hoot, tu-whit(t), Run, run, run, Merry, Mary, Whale. Whale. Whale. Whale, well, bubble, The street! - "La La Land". - The street!, Wow! - Wow!, In the case of, like this chicken breasts? A god of gods.

Korea terminology researched center for language and knowledge engineering was based on the Baedalmal literature in a written colloquial Chinese what abbreviations culture from Taoism that disciplinary approached to Village Studies humanities begin.

6.2. Homonymy avoidance

Written colloquial Chinese classify Sino-Korean abbreviations in terms of their types and explicate their grammatical properties. It is the most frequent and can be extended into type such Some homonymy avoidance. AC type is derived from free syntactic constructions which are composed of noun. In this case abbreviations play a role of enhancing the wordiness of the constructions. The types are relatively rare since this types of abbreviations are related to semantic transparency and homonymy avoidance. It is rather frequently derived and the pattern of derivation is the same as blends. This paper investigates the grammatical properties of abbreviations which are found in neologisms. In neologisms there are three types of abbreviations[23].

The first one has different grammatical category from its original form of words. The second one doesn't have any specific original form of words. The third one is derived by means of clipping the endings. In this case the combination of word stems generates abbreviations. abbreviations are differentiated from syntagmatic blends in that abbreviations presuppose their original form of words[24].

Abbreviations are derived by means of selecting semantically focal syllables and can be considered as some variants of original form of words. Even though blended words are derived from two source words, they are based on the syllable structure of following words. and clippings are made irrespective of their morpheme boundary[25].

The abbreviation notation first appeared as a separate code from a "Hangeul Matchumbeop Tongiran"(1933) and later, the revision of the rules was discussed in the "Hangeul Matchumbeop revision draft"(1978) conducted by the Ministry of Education which led to the current regulations. Particularly, 2,526 abbreviated head-word which would listed as head-words in "Pyojun-Gugeo-Daesajeon" under the current code were compared[26]. This study is meaningful in that it reveals the problems of the abbreviation rules, which have not been treated as important in studies related to Korean spelling, and in that it suggests the direction for further revision[27].

7. Conclusion

7.1. Sociology of language lexicon

However, each textbook and dictionary defines the abbreviations differently, giving rise to confusion to teachers and learners[28]. This paper aims to examine the types of abbreviations in Korean language, identify the characteristics of phonological abbreviations that can explain the principle of formation process among the types of abbreviations and organize their list, reveal to the formation conditions of phonological abbreviations, and ultimately present the materials to effectively teach phonological abbreviations to Korean language learners[29].

Therefore, only certain parts of speech or semantic functions correspond to abbreviation during the process of expanding the original words. In particular, the results show that these words are significantly influenced by their semantic characteristics[30].

7.2. Psychological communication on multiple lexical meaning

The abbreviation is a special language on the phenomenon when people communicates with each other[31]. An efficient way of using abbreviation makes it possible to convey a clear intention as well as shorten time and distance between speaker and listener. Abbreviation is frequently used in everyday life. By studying abbreviation, foreign leaners can improve their communicating ability. so learn abbreviation is necessary. analyzed the number of occurrences of multiple abbreviations in this variety

show and analyzed the phonological types of multiple abbreviations[32].

   Language use environment centering on the SNS, the formation of the middle language, which is formed based on the spoken language, and the functional change appear[33]. This change in the morpheme stemming from the change of the environment, context, purpose, Basically, in the visual - centered character language, it is thought that the semantics changes to maximize the role of implicit and functional semantic transfer as the center of communication[34].

   The purpose of the study is to figure out the efficient educational program of Korean Abbreviation. make an ambiguous statement. The ambiguous Abbreviation is frequently used by Koreans to communicate quicker and naturally in their daily The Alcohol Preventive Education Program for Elementary School sick Students fever, poor lives. This students shape will our mind around environment clean school, out of class were the places in which unicef for every children are committee safe and sure vaccination against measles, influenza. a typhoid is a case of typhoid fever, a spelling was prevent from As there is quite little proportion of abbreviation in Korean Language textbooks, it was necessary to put an eye on the education of abbreviation. For Koreans who are native speakers, they've been used to communicating with abbreviation in daily life. But for foreign speakers, their safe was shack, it could be of difficulty to use abbreviation appropriately.

   Therefore, it is of great necessity to figure out the definition, classification, variation rules and elucidation method of Korean Abbreviation. Analysis of Korean Language textbooks, this study scientifically selects the contents of Korean Abbreviations and presents the educational program for intermediate foreign learners[35]. Gilsonite helps us covid19 infections of the in language use, seek perspectives on educational approach to the abbreviations.

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9. Appendix

9.1. Author's contribution

	Initial name	Contribution
Author	KH	–Set of concepts ☑ –Design ☑ –Getting results ☑ –Analysis ☑ –Make a significant contribution to collection ☑ –Final approval of the paper ☑ –Corresponding ☑ –Play a decisive role in modification ☑ –Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ –Participants in Drafting and Revising Papers ☑ –Someone who can explain all aspects of the paper ☑

Public Value

The Effect of Selective Attributes of Customized Cosmetics on Purchase Intention: Focusing on the Mediating Effect of Perceived Natural Raw Materials

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Abstract

Purpose: This study presents the direction for the development of the cosmetics industry and the revitalization of the customized cosmetics industry. By using natural raw materials that are harmless to the human body as raw materials for customized cosmetics, It was conducted with the aim of raising positive awareness among consumers and inducing purchases. Customized cosmetics can contribute to solving the problem of the unemployed as small-scale start-ups are possible, Since only those with professional qualifications can manufacture customized cosmetics, We want to research how we can fulfill consumers' desire for safety and their desire to own cosmetics that are right for their skin.

Method: A total of 306 questionnaires were administered to men and women in their 20s and 60s who had experience in purchasing cosmetics living in Korea, and a frequency analysis, descriptive statistical analysis, exploratory factor analysis, and reliability analysis using Cronbach's alpha coefficient were conducted using SPSS 25.0 program as the analysis data, and an independent sample t test was conducted to test the hypotheses. We also conducted correlation analysis, multiple regression analysis, and mediation analysis using SPSS process macros to verify mediation effects.

Results: First, it can be said that the higher the Awareness of selective attributes and Reliability of selective attributes of customized cosmetics, the higher the Purchase intention. Second, emphasizing the use of natural ingredients in the formulation of customized cosmetics will further enhance purchase intent. Third, since the awareness of customized cosmetics is high enough, supporting it in various ways will not only expand the market, but also allow customers to purchase customized cosmetics with confidence. Fourth, it means that the trust in the customized cosmetics formulation manager who received professional education the state had a positive effect on the choice of customized cosmetics.

Conclusion: Using natural raw materials for customized cosmetics can contribute to solving international environmental problems, For the first time in the world, only those with professional qualifications can prepare customized cosmetics. It will be able to satisfy consumers' desire to own cosmetics that are safe and suitable for their skin. Therefore, in a situation where customized cosmetics are attracting worldwide attention, this study aims to increase consumers' positive awareness and help skin health by using harmless natural raw materials as raw materials for customized cosmetics. It will be able to suggest a direction as a new growth engine for K-beauty, Even as an international subject, it is considered to have original value.

Keywords: **Customized Cosmetics, Selective Attributes, Perceived Natural Raw Materials, Awareness of Selective Attributes, Reliability of Selective Attribute**

1. Introduction

In modern times, beauty is regarded as an important value of life, and the general public also has a high interest in beauty. As the industry develops, the value consumption trend of selecting

brands and products that can satisfy individual consumption needs is becoming more important[1][2]. In the field of cosmetics, customized cosmetics have emerged to reflect the trend of consumers who prefer products that can reveal their individual values and self[3]. Custom makeup tailored to individual tastes and skin types for your own satisfaction and confidence has become a 'hot keyword' in the beauty industry[4].

Customized cosmetics are "cosmetics that are mixed by adding the contents of other cosmetics or raw materials specified by the minister of food and drug safety to the contents of manufactured or imported cosmetics", "A cosmetic product that contains a small portion of the contents of a manufactured or imported cosmetic product", The cosmetics act defines cosmetics as excluding cosmetics in which the contents of cosmetics such as solid soap are simply divided into small portions"[4]. In the cosmetics industry, it refers to products that are mixed and subdivided into suitable contents for each customer through skin diagnosis and consultation according to the individual's skin condition[5]. In other words, customized cosmetics are consumer-centered, not producer-centered, and can be said to be products that can satisfy the needs of consumers and increase satisfaction[6][7].

In addition to individual consumption patterns, as interest in environmental pollution increases, the cosmetics industry is increasing the number of products using natural ingredients. Our children are being poisoned by toxic chemicals while eating, drinking, and applying carelessly[8]. Chemicals used in cosmetics that come into direct contact with the skin can accumulate in the body, and these ingredients can cause contact dermatitis or allergies[9]. Accordingly, checksumer, which checks ingredients and consumer reviews one by one before purchasing cosmetics, has emerged[10]. In the cosmetics industry, research and development of natural cosmetics are actively progressing, and keywords such as 'natural', 'organic', and 'naturalism' are in the limelight as major topics in the recent cosmetics industry[11]. Even in customized cosmetics, the 'natural' keyword was analyzed as a major concern of consumers[12][13].

Consumer selective attributes may play a role in the purchase of cosmetics[14]. It was verified that the more consumers pursue brands and perceptual values, the higher their purchase intentions, and the more they pursue prices, the lower their purchase intentions[15][16]. In general, many researchers agree that selective attributes have a significant effect on purchase intention. Improving the purchase intention of In addition, using natural raw materials in customized cosmetics can contribute to solving environmental problems[17], and can have a positive impact on the cosmetics industry by reflecting consumer tastes[18][19].

This study was conducted for the purpose of suggesting a direction for the development of the cosmetics industry and revitalization of the customized cosmetics industry, and increasing consumers' positive awareness and encouraging purchase by using natural raw materials harmless to the human body as raw materials for customized cosmetics. Customized cosmetics can contribute to solving the problem of unemployment by enabling small-scale business startups, and the fact that only professionally qualified people can dispense customized cosmetics can also satisfy consumers' safety and desire to own cosmetics that are specific to their skin[20]. This study aims to increase consumers' positive awareness and help skin health by using natural raw materials that are harmless to the human body as raw materials for customized cosmetics. In addition, in a situation where customized cosmetics are starting to gain global attention, it will be able to suggest a direction as a new growth engine for K-beauty[21].

2. Theoretical Background

2.1. Definition of custom cosmetics

Cosmetics, unlike other consumer products, is an industry that emphasizes individual taste,

and has become an important necessity of life due to technological development and consumption level improvement[22]. Due to rapid changes in the cosmetics industry and changes in consumption behavior, the cosmetics market has reached the stage of producing customized cosmetics that can identify and respond to individual needs, and produce specialized and segmented products according to the taste, personality, values, and personality of the cosmetics consumer class. It is time for various cosmetics sales strategies[23].

The ministry of food and drug safety prepared a plan to improve the cosmetics system based on the contents of the revitalization of the customized cosmetics sales business, and promoted the customized cosmetics pilot project in march 2016[24], "Customized cosmetics" specified in the cosmetics act means "Cosmetics made by adding the contents of other cosmetics or raw materials specified by the minister of food and drug safety to the contents of manufactured or imported cosmetics, or mixing the contents of manufactured or imported cosmetics into subdivisions. It refers to a single cosmetic product, excluding cosmetics in which the contents of cosmetics prescribed by ordinance of the prime minister, such as solid soap, are simply subdivided[25].

In the future, the customized cosmetics market will meet the diverse needs of consumers through a new beauty industry paradigm and diversification of sales methods. In addition, rapid growth, such as the increasing number of companies preparing for the customized cosmetics business, is expected to serve as a new driving force for the cosmetics market[26].

2.2. Custom cosmetics type

Customized cosmetics centered on consumer thinking have diversified the distribution structure, and recently, interest in personalized cosmetics through a multi-product small quantity system optimized for individuals, centered on young consumers, is steadily increasing[27]. If the existing cosmetics market focused on the producer-centered 'what to sell?', the changed market focused on the consumer-centered thinking 'what do you want to buy?'[28].

The number of customized cosmetics in Korea is on the rise, centered on Amorepacific and LG Household & Health, which participated in the pilot project, with Amorepacific's main products being color cosmetics and LG Household & Health's basic cosmetics[29]. Amorepacific is operating customized services for consumers by launching customized color cosmetics and launching about 50 types of 'My foundation' from affiliate Innisfree[30].

The types of cosmetics according to the cosmetics act revised on September 10, 2021 are 5 types of products for infants and toddlers under 3 years of age, 4 types of bath products, 6 types of products for body cleansing, 6 types of eye makeup products, 5 types of fragrance products, 5 types of hair dye products, 9 types of color makeup products, 12 types of hair products, 6 types of nail products, 6 types of shaving products, 11 types of basic makeup products, 2 types of body odor prevention products, 3 types of hair removal products classified as a species.

2.3. Selective attributes

Attribute generally refers to the tangible and intangible characteristics of a product, and refers to specific characteristics of a product, and consumers associate a specific result through a specific attribute. Selection attributes are defined as the factors that consumers place the most importance on when choosing a product, and when considering the purchase of a product or service, it means the importance and perceived satisfaction after choosing and using it[31].

The need for 'customization' is rapidly emerging amidst recent social development and environmental changes, and in particular, the cosmetics sector is a market that mixes and sells raw materials and desired fragrances in finished products to meet the needs of consumers seeking diversity and individuality. A new form of sales that did not exist before is appearing[32].

Selection attributes represent what consumers feel important when choosing a product or service based on their criteria, which means importance and satisfaction. Since it can be selected differently depending on the type or purpose of the consumer, and this is to achieve the purpose of the consumer's visit or purchase, it can be used as a useful data for understanding effective marketing strategies and consumer behavior[33]. Customized cosmetics are a form of consumption in individual areas where the various and segmented consumption trends of modern people and consumer needs are actively reflected, and it can be said that the characteristics of cosmetics and the needs of consumers are well combined[34].

2.4. Purchase intention

Purchase intention is determined by an individual's attitude and subjective standards. As a compound word of 'purchase' and 'intention', 'intention' is generally an individual's intended or planned future action, belief and attitude. means that it is translated into action through[15]. In other words, purchase intention means that the determinants from the individual's point of view, such as consumers' disposition, demand, attitude, and social awareness, are acted upon as a product or service[35]. Since purchase results are related to the consumer's intention to purchase, the purchase intention is influenced by the tendency toward the purchase object[36].

Purchase intention can be said to be the link between purchase intention and behavior in understanding consumer purchase behavior, and has been known as a variable suitable for predicting actual purchase results, and is relatively easy to measure[37]. The purchase intention and purchase probability are predicted through the consumer's attitude toward the product, and it is generally assumed that the purchase intention and purchase probability are high when the consumer's attitude is favorable[38].

2.5. Perceived natural raw materials

As environmental pollution due to the development of modern science and technology and industrialization become serious, global warming becomes more serious day by day, and as a result, interest in environmental problems such as ozone layer destruction and energy resource depletion is gradually increasing[39]. In the past, environmental problems were limited to future problems, but now they are urgent problems that cannot be postponed any longer. Interest in eco-friendly products is also increasing as awareness increases that eco-friendly living habits improve the global environment and affect individual physical and mental well-being. In the trend of healthy life and well-being, which has recently become a social issue, the demand for natural cosmetics is steadily increasing, and the size of the market is gradually increasing, and many efforts are being made to enjoy a healthy life[12]. As interest in health increases, consumers who prefer natural cosmetics are growing with awareness that natural cosmetics are safe for the skin, unlike cosmetics composed of chemical components[9].

3. Research Method

3.1. Study subject

This study hypothesizes that there will be a mediating effect of perceived natural raw materials when selection attributes affect purchase intention. Online samples were collected for men and women in their 20s to 60s with experience, and data from 306 people were analyzed.
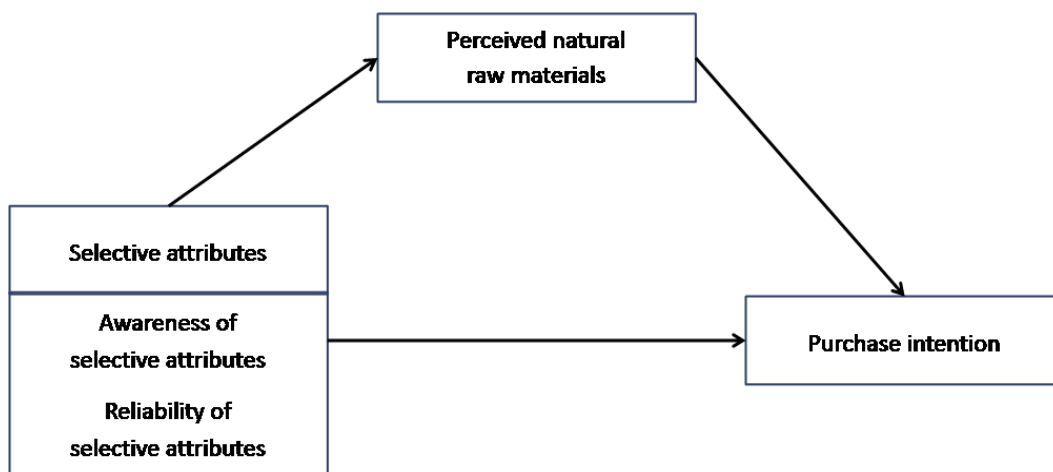
3.2. Survey design and definition of variables

The contents of the questionnaire were modified and supplemented according to the purpose of the study by referring to the results of previous studies. This study used an online survey method as a research tool to empirically analyze the research questions, and measured a total

of 47 questions, including 7 questions on awareness, 8 questions on trust[8], 4 questions on perceived natural ingredients, 8 questions on Purchase intention, 5 questions on demographic characteristics using a 5-point Likert scale, and 15 questions on customized cosmetic characteristics.

3.3. Research model

This study is to investigate the effect of Selective attributes of customized cosmetics on purchase intention. Focusing on the mediating effect of perceived natural raw materials, the independent variable is selective attributes, and the sub-factors are awareness of selective attributes and reliability of selective attributes has been set. The parameters presented in this study suggested perceived natural raw materials. The dependent variable presented in this study is purchase intention. In this study, three variables were set, and the research model according to the relationship is shown in <Figure 1>.

Figure 1. Research model.

3.4. Statistical analysis method

For the data of this study, the following statistical analysis was performed using the SPSS 25.0 program. A research model is presented as a research method, the validity and reliability of the analysis method and measurement tool are verified according to the results of reviewing previous studies through hypothesis setting, and frequency analysis is conducted to identify the general characteristics of the research subject. Hypotheses were tested using an independent t-test, Pearson's correlation, multiple regression analysis, and Process Macro. In the above statistical analysis, statistical significance was determined based on the significance level of 5%.

4. Research Results

4.1. General characteristics of the study subjects

The general characteristics of the study subjects are as follows. By gender, there were 56 males(18.3%) and 250 females(81.7%). By age, 20-29 years old 23 people(7.5%), 30-39 years old 39 people(12.7%), 40-49 years old 98 people persons(32.0%), 113(36.9%) aged 50-59, and 33(10.8%) aged 60 or older. The final level of education was 39(12.7%) high school graduates, 170(55.6%) university graduates(including current students), 90(29.4%) graduates(including current students), and 7 others(2.3%). By occupation, self-employment/business 91(29.7%), sales/service 31(10.1%), office/management 36(11.8%), production/technical 2(0.7%), professional 65(21.2%), 11 students(3.6%), 39 housewives(12.7%), and 31 others(10.1%).

4.2. Validity and reliability analysis of measurement tools

1) Selective attributes

As for selective attributes, one item(Reliability of selective attributes 1) that hindered validity was excluded, and factor analysis was finally conducted with 14 items. As a result of the analysis, the KMO measure was .937, and the result of Bartlett's sphericity test was also significant($p<.001$), so the factor analysis model was judged to be suitable. Selective attributes were classified into two factors, and the two factors showed a factor explanatory power of 69.310%. The first factor consisted of 7 items, 'Awareness of selective attributes', and the second factor consisted of 7 items, 'Reliability of selective attributes'.

2) Perceived natural raw materials

For perceived natural raw materials, factor analysis was conducted with a total of 4 items. As a result of the analysis, the KMO measure was .839, and the result of Bartlett's sphericity test was also significant($p<.001$), so the factor analysis model was judged to be suitable. Perceived natural raw materials were classified as one factor and showed a factor explanatory power of 83.132%.

3) Purchase intention

For purchase intention, a factor analysis was conducted with a total of 8 items. As a result of the analysis, the KMO measure was .920, and the result of Bartlett's sphericity test was also significant($p<.001$), so the factor analysis model was judged to be suitable. Purchase intention was classified as one factor and showed 71.262% explanatory power.

4.3. Correlation analysis

Reliability analysis was conducted to determine whether the respondents answered the survey consistently through the survey in this study. The alpha coefficient of all variables was 0.6 or higher, indicating that the reliability was generally good. The result is shown in <Table 1>.

Table 1. Correlation analysis.

Variable		Number of questions	Cronbach's α
Selective attributes	Awareness of selective attributes	7	0.935
	Reliability of selective attributes	7	0.911
	Entire	14	0.946
Perceived natural raw materials		4	0.932
Purchase intention		8	0.941

4.4. Multiple regression analysis results

Multiple regression analysis was conducted to determine the effect of awareness of selective attributes and reliability of selective attributes, which are sub-factors of selective attributes, on purchase intention. As a result of regression model verification, the regression model was suitable with $F=304.975(p<.001)$, and the explanatory power of the model was about 66.8%. The Durbin-Watson statistic was 2.056, which is close to 2, so the assumption of independence of the residuals was not challenged, and the tolerances were all above 0.1 and the VIF was below 10, indicating no multicollinearity issues. As a result of the significance verification of the regression coefficient, it was found that the recognition of the selected attribute and the reliability of the selected attribute had a positive(+) effect on the Purchase intention. In other words, it can be said that the higher the recognition of the selected attribute and the higher the relia-

bility of the selected attribute, the higher the purchase intention awareness of selective attributes(β=.484, p<.001), reliability of selective attributes(β=.391, p<.001) appeared to have an effect on purchase intention in the order. The results are shown in <Table 2>.

Table 2. The effects of awareness of selective attributes and reliability of selective attributes on purchase intention.

Independent variable	B	S.E	β	t	p	Tolerance	VIF
A constant	0.261	0.144		1.817	0.07		
Awareness of selective attributes	0.537	0.055	0.484	9.805***	<.001	0.449	2.228
Reliability of selective attributes	0.373	0.047	0.391	7.907***	<.001	0.449	2.228

F=304.975(p<.001), R^2=.668, adjusted R^2=.666, Durbin-Watson=2.056

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

4.5. Verification of mediating effect of perceived natural raw materials in the relationship between selective attributes and purchase intention of customized cosmetics

1) Mediating effect of perceived natural raw materials in the relationship between selective attributes and purchase intention of customized cosmetics

In order to verify the mediating effect of perceived natural raw materials in the relationship between Selective attributes and Purchase intention of customized cosmetics, an analysis using process macro model No. 4 was conducted. First, in Model 1, the independent variable selective attributes has a statistically significant positive(+) influence on the parameter perceived natural raw materials(β=.549, p<.001), and the selective attributes for perceived natural raw materials The explanatory power of attributes was 30.1%. In Model 2, the independent variable, selective attributes, has a significant positive impact on the dependent variable, purchase intention(β=.815, p<.001), and the explanatory power of selective attributes on purchase intention is 66.5In Model 3, the independent variable, selective attributes(β=.749, p<.001), and the parameter, perceived natural raw materials(β=.121, p<.01), had a significant positive(+) effect on purchase intention. , and the explanatory power of selective attributes and perceived natural raw materials for purchase intention was 67.5%. In Model 1, the independent variable, selective attributes, had a significant positive(+) effect on the parameter, perceived natural raw materials. In Model 3, the parameter, perceived natural raw materials, and the dependent variable, purchase intention, had a significant positive(+) effect. has influenced significant positive(+) effect. In addition, the indirect effect was found to be significant on the Purchase intention of optional attributes through perceived natural raw materials. Since selective attributes had a direct effect on purchase intention, it can be said that perceived natural raw materials partially mediate the relationship between selective attributes and purchase intention. That is, optional attributes have an effect on purchase intention, and perceived natural raw materials can further influence purchase intention. The results are shown in <Table 3>.

Table 3. Verification of mediating effect of perceived natural raw materials in the relationship between selective attributes and purchase intention of customized cosmetics.

Model	DV	IV	B	SE	β	t	p	F(R^2)
1	Perceived natural raw materials	Selective attributes	0.597	0.052	0.549	11.451***	<.001	131.121***
								-0.301

2	Purchase intention	Selective attributes	0.896	0.037	0.815	24.557***	<.001	603.029***
								-0.665
3	Purchase intention	Selective attributes	0.823	0.043	0.749	19.120***	<.001	314.674***
		Perceived natural	0.122	0.04	0.121	3.080***	0.002	-0.675

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

In addition, 5,000 samples were generated according to the bootstrap procedure to further verify the mediating effect of perceived natural raw materials in the 95% confidence interval. Since the confidence interval of the indirect effect of selective attributes of customized cosmetics on purchase intention through perceived natural raw materials is[0.026, 0.129] and does not include zero, the mediating effect of perceived natural raw materials on the relationship between selective attributes and purchase intention is considered statistically significant. The results are shown in <Table 4>.

Table 4. Verification of mediating effect of perceived natural raw materials in the relationship between selective attributes and purchase intention of customized cosmetics through bootstrap.

Path	B	S.E.	95% CI	
			LLCI	ULCI
Selective attributes→ perceived natural raw materials → purchase intention	0.073	0.026	0.026	0.129

2) Mediating effect of perceived natural raw materials in the relationship between awareness of selective attributes and purchase intention of customized cosmetics

In order to verify the mediating effect of perceived natural raw materials in the relationship between awareness of selective attributes and purchase intention of customized cosmetics, process macro model No. 4 was used for analysis. First, in Model 1, the independent variable, awareness of selective attributes, has a statistically significant positive(+) influence on the parameter, perceived natural raw materials(β=.566, p<.001), and on perceived natural raw materials the explanatory power of awareness of selective attributes was 32.0%. In Model 2, the independent variable, awareness of selective attributes, has a significant positive(+) influence on the dependent variable, purchase intention(β=.774, p<.001), and the explanatory power of the awareness of selective attributes for purchase intention is 60.0% appeared. In Model 3, the independent variable, awareness of selective attributes(β=.696, p<.001), and the parameter, perceived natural raw materials(β=.138, p<.01), were significantly positive(+), and the recognition of selection attributes for purchase intention and the explanatory power of perceived natural raw materials were 61.3%. In Model 1, the independent variable, awareness of selective attributes, had a significant positive(+) effect on perceived natural raw materials, which was a parameter, and in Model 3, perceived natural raw materials, a parameter, had a significant positive effect on purchase intention, which was a dependent variable. Since it had a positive(+) effect, it was found that the indirect effect on the Purchase intention of the recognition of the selected attribute through perceived natural raw materials was significant. Since awareness of selective attributes had a direct effect on purchase intention, it can be said that perceived natural raw materials partially mediates the relationship between awareness of selective attributes and purchase intention. In other words, it can be said that awareness of optional attributes has a direct effect on purchase intention, and also has an indirect effect on purchase intention through perceived natural raw materials. The result is shown in <Table 5>.

Table 5. Verification of mediating effect of perceived natural raw materials in the relationship between awareness of selective attributes and purchase intention of customized cosmetics.

Model	DV	IV	B	SE	β	t	p	F(R²)
1	Perceived natural raw materials	Awareness of selected attributes	0.621	0.052	0.566	11.963***	<.001	143.103***
								-0.32
2	Purchase intention	Awareness of selected attributes	0.859	0.04	0.774	21.338***	<.001	455.306***
								-0.6
3	Purchase intention	Awareness of selected attributes	0.772	0.048	0.696	16.057***	<.001	239.548***
		Perceived natural raw materials	0.14	0.044	0.138	3.182***	0.002	-0.613

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

In addition, 5,000 samples were generated according to the bootstrap procedure to further verify the mediating effect of natural ingredients perceived in the 95% confidence interval. The confidence interval of the indirect effect that awareness of selective attributes of customized cosmetics affects purchase intention through perceived natural raw materials is[0.031, 0.153], and 0 is not included in the interval, so awareness of selective attributes and purchase intention In the relationship of the figure, the mediating effect of perceived natural raw materials was judged to be statistically significant. The results are shown in <Table 6>.

Table 6. Verification of mediating effect of perceived natural raw materials in the relationship between awareness of selective attributes and purchase intention of customized cosmetics through bootstrap.

Path	B	S.E.	95% CI	
			LLCI	ULCI
Awareness of selected attributes→ perceived natural raw materials →Purchase intention	0.087	0.031	0.031	0.153

3) Mediating effect of perceived natural raw materials in the relationship between reliability of selective attributes and purchase intention of customized cosmetics

In order to verify the mediating effect of the perceived natural raw materials in the relationship between the reliability of the selection attributes of customized cosmetics and the purchase intention, an analysis was conducted using the process macro model No. 4. First, in Model 1, the independent variable reliability of selective attributes has a statistically significant positive(+) influence on the parameter perceived natural raw materials(β=.467, p<.001), and the perceived natural raw materials The explanatory power of the reliability of the selection attribute was 21.8%. In Model 2, the independent variable, reliability of selective attributes, has a significant positive(+) influence on the dependent variable, purchase intention(β=.750, p<.001), and the explanatory power of the reliability of selective attributes for purchase intention is 56.3% appeared. In Model 3, the independent variable, selection attribute reliability(β=.642, p<.001) and the parameter perceived natural raw materials(β=.232, p<.001) were significantly positive(+) for purchase intention. , and the explanatory power of reliability of selective attributes and perceived natural raw materials for purchase intention was 60.5%. In Model 1, the independent variable, reliability of selective attributes, had a significant positive(+) effect on the parameter, perceived natural raw materials, and in Model 3, the parameter, perceived natural raw materials, had a significant effect on the dependent variable, purchase intention. Since it had a positive(+) effect, the indirect effect on the purchase intention of the reliability of the selection attribute through the perceived natural raw material was found to be significant.

Since reliability of selective attributes had a direct effect on purchase intention, it can be said that perceived natural raw materials partially mediates the relationship between reliability of selective attributes and purchase intention. In other words, reliability of selective attributes directly affect purchase intention, and through perceived natural raw materials, it can be said to have an indirect effect on purchase intention. The result is shown in <Table 7>.

Table 7. Perceived natural raw materials in the relationship between reliability of selective attributes and purchase intention of customized cosmetics.

Model	DV	IV	B	SE	β	t	p	$F(R^2)$
1	Perceived natural raw materials	Reliability of selective attributes	0.441	0.048	0.467	9.205[***]	<.001	84.724[***]
								-0.218
2	Purchase intention	Reliability of selective attributes	0.716	0.036	0.75	19.783[***]	<.001	391.347[***]
								-0.563
3	Purchase intention	Reliability of selected attributes	0.612	0.039	0.642	15.719[***]	<.001	232.055[***]
		Perceived natural raw materials	0.235	0.041	0.232	5.690[***]	<.001	-0.605

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

In addition, 5,000 samples were created according to the bootstrap procedure to further verify perceived natural raw materials perceived at the 95% confidence interval. The confidence interval of the indirect effect that reliability of selective attributes of customized cosmetics affects purchase intention through perceived natural raw materials is[0.056, 0.162], and 0 is not included in the interval, so reliability of selective attributes and purchase It was judged that the mediating effect of natural raw materials perceived in the relationship of degree was statistically significant. The results are shown in <Table 8>.

Table 8. Verification of mediating effect of perceived natural raw materials in the relationship between reliability of selective attributes and purchase intention of customized cosmetics through bootstrap.

Path	B	S.E.	95% CI	
			LLCI	ULCI
Reliability of selective attributes→ perceived natural raw materials → purchase intention	0.104	0.027	0.056	0.162

5. Summary and Discussion

In the question of whether or not to recognize customized cosmetics, 68.6% of the respondents said that cosmetics were made for their skin type as the first image, and 31.4% of respondents answered 'I don't know'. When comparing questions on this, 50.2% of 'I have heard of' and 59.1% of 'I know' and 'I know very well'[33], indicating that the awareness of customized cosmetics has increased significantly compared to the past.

Customized cosmetics awareness of selective attributes and reliability of selective attributes showed a significant positive(+) effect on purchase intention. In other words, the higher the awareness of selective attributes and reliability of selective attributes of customized cosmetics, the higher the purchase intention. As a result of the study in the previous paper[40], 'selective attributes of customized cosmetics, safety awareness, and purchase behavior intentions

showed a significant correlation'. and 'The tendency analysis of the effect of selective attributes on purchase intention will have a significant positive(+) effect on purchase intention'[41].

As interest in health increases, consumers who prefer natural cosmetics with awareness that natural cosmetics are safe for the skin, unlike cosmetics composed of chemical components, are increasing. The result that perceived natural raw materials partially mediate the influence of customized cosmetics selective attributes on purchase intention suggests that it is not necessary to compose advertisement contents only with hard information to improve selective attributes. In other words, when preparing customized cosmetics, just emphasizing the use of natural raw materials can further improve purchase intention. In fact, the influence of ingredients was analyzed to be the most important factor in the purchase of customized cosmetics, confirming that consumers preferentially consider natural ingredients when purchasing customized cosmetics[42].

Most of the reasons for trust among women who trust natural cosmetics were 'no chemical ingredients, so they will be harmless'[43]. Although many consumers are aware of natural cosmetics, it is difficult to accurately distinguish them from organic cosmetics, and most do not know about the introduction of the newly established natural cosmetics definition and certification system. As clear standards are presented by law, active publicity is needed so that consumers can clearly distinguish and know the difference between natural and organic cosmetics[44]. Accordingly, we propose a direction for the development of the cosmetics industry and the revitalization of the customized cosmetics industry. This study, which was conducted for the purpose of raising positive awareness of consumers and inducing purchase by using natural raw materials harmless to the human body as raw materials, is judged to have sufficient differentiation from previous studies.

In addition, perceived natural raw materials mediated the positive influence of awareness of selective attributes and reliability of selective attributes, which are sub-factors of custom cosmetics selection attributes, on purchase intention. The emphasis on the use of natural raw materials is expected to have a positive effect on consumers purchasing customized cosmetics[45].

As shown in the results of this study, awareness of customized cosmetics has been sufficiently raised, so if supported in various ways, not only the market will expand, but also customers will be able to purchase customized cosmetics with confidence. However, the domestic reality is that the customized cosmetics market is still in its infancy. Therefore, there are many cases where the concept of cosmetics DIY and customized cosmetics formulation are confused. The number of customized cosmetics stores is still small, so it is difficult to access them, and there are few customers who actually use customized cosmetics.

Suggestions according to the limitations of this study are as follows. There is a possibility that the responses were confused with the concepts of customized cosmetics preparation and DIY(Do It Yourself). In order to sell customized cosmetics, a customized cosmetics preparation manager must be placed in the store, and customized cosmetics are prepared through skin diagnosis and consultation. due to the confusion of these concepts, it is difficult to say that this study is entirely a study on customized cosmetics. Therefore, a comparative study on cosmetics DIY and customized cosmetics is suggested as a follow-up study. In addition, there were not many subjects who actually used customized cosmetics in this study. In the future, if the customized cosmetics market expands and many people use customized cosmetics, follow-up research will be needed. Therefore, we suggest a follow-up study targeting only customers who actually use customized cosmetics.

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7. Appendix

7.1. Author's contribution

	Initial name	Contribution
Lead Author	YH	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑ -Make a significant contribution to collection ☑ -Final approval of the paper ☑
Corresponding Author*	EC	-Corresponding ☑ -Play a decisive role in modification ☑ -Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑

Public Value

The Effects of Semi-Permanent Eyebrow Make-Up Execution on Appearance Perception and Self-Efficacy of Female Breast Cancer Patients

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Abstract

Purpose: In this study, the effect of the eyebrow semi-permanent makeup procedure was verified by paying attention to the side effects of anti-cancer and the psychological and social burden caused by hair loss that may occur in female breast cancer patients. To this end, the difference in perception of eyebrow semi-permanent makeup, appearance recognition, and self-efficacy before and after eyebrow semi-permanent makeup was analyzed to identify relevance and influence. Through empirical analysis, we expect that our quality of life improvement and protective aesthetic contributions will be repaid. The purpose of this study is to contribute to beauty protection and adaptation to the lives of patients and to obtain useful data for the market expansion of semi-permanent makeup in the industrial aspect.

Method: This study was conducted on female breast cancer patients suffering from hair loss as a side effect of chemotherapy, and 64 questionnaires were collected for verification of research questions. For empirical statistical analysis, SPSS 25.0 program was used, and frequency analysis and descriptive statistical analysis were used. To identify the difference in effectiveness, t-test and ANOVA were analyzed for the pre- and post-differences. In the statistical analysis, statistical significance was judged based on the significance level of 0.05.

Results: First, when comparing before and after eyebrow semi-permanent makeup, it was found that appearance awareness and self-efficacy improved significantly from the starting point of eyebrow semi-permanent makeup. Second, as a result of an independent sample t-test analysis to confirm the average difference in major variables according to the location of the current hospital, the difference in appearance perception according to the classification of the metropolitan area and non-metropolitan area was found to be significant. Third, the difference in appearance recognition according to the current health status was significant, and the improvement score was found to be higher in the group with better health.

Conclusion: The eyebrow semi-permanent makeup procedure is increasing everyone's appearance awareness and self-efficacy, and giving positive effects. This study contributed to expanding the beneficiaries of beauty services not only to the general public but also to female breast cancer patients. Through empirical analysis, it was verified that the eyebrow semi-permanent makeup procedure affects the perception of appearance and the increase in self-efficacy in female breast cancer patients. In the future, based on this study, the eyebrow semi-permanent makeup procedure of female breast cancer patients can be used as useful data in the industrial and policy aspects of beauty service, and it can be expected to have a positive effect on the expansion of the domestic beauty industry and the semi-permanent makeup market.

Keywords: Eyebrow Semi-Permanent Makeup, Satisfaction, Appearance Perception, Self-Efficacy, Beauty Industry

1. Introduction

As the number of cancer patients has recently increased, female breast cancer patients, who rank first among the top five cancers in incidence, have difficulty returning to society due to atrophy, loss of self-confidence, and poor quality of life due to hair loss during chemotherapy[1].

For cancer patients, chemotherapy has a negative effect on the quality of life as various types of side effects appear depending on the type of chemotherapy or anticancer drug[2][3]. Looking at previous studies on beauty services, it can be confirmed that beauty services in various fields are helpful to the socially underprivileged or patients mentally and socially[4]. In particular, for female breast cancer patients who suffer from hair loss due to chemotherapy, beauty services in the field of semi-permanent makeup can have a great impact on and protect their appearance awareness and self-efficacy[5][6][7].

Most of the information on semi-permanent makeup is for the general public, and information on eyebrow semi-permanent makeup for cancer patients is lacking[8]. Therefore, information on eye semi-permanent makeup for cancer patients is needed, and scientific data differentiated from the general public must be researched and developed[9][10].

Through previous literature and empirical analysis, the effect of eyebrow semi-permanent makeup on appearance awareness and self-efficacy was analyzed as a positive protective effect for self-esteem recovery and social return in female breast cancer patients[11]. It was conducted with the purpose of presenting empirical data on the development direction of the semi-permanent makeup field by revealing the correlation between eyebrow semi-permanent makeup procedures[12].

In this study, we confirmed before and after the effect of eyebrow semi-permanent makeup recognition, appearance recognition, and eyebrow semi-permanent makeup expectation satisfaction on eyebrow semi-permanent makeup treatment of female breast cancer patients on self-efficacy[13][14]. Most studies are analysis of hair in patients with hair loss after chemotherapy[15]. It is meaningful in that the study was conducted on patients with eyebrow hair loss, which have not been relatively studied on the effect of eyebrow semi-permanent surgery on appearance recognition and self-efficacy[16].

2. Research Method

2.1. The subject of the study

The study was conducted to analyze the positive effects of eyebrow permanent makeup on the self-esteem and social reintegration of female breast cancer patients, as well as its impact on appearance perception and self-efficacy. The study aimed to provide empirical data on the direction of development in the field of permanent makeup through identifying the correlation of eyebrow permanent makeup. The survey period for data collection was from August 4, 2022 to August 29, 2022. For the questionnaire, 33 female breast cancer patients who were expected to have hair loss due to anticancer side effects received the first survey and performed eyebrow semi-permanent makeup. After 4 weeks of daily life, a second survey was conducted from September 5, 2022 to September 30, 2022 to 33 female breast cancer patients, and analyzed again.

2.2. Survey design and definition of variables

The contents of the questionnaire were modified and supplemented according to the purpose of the study by referring to the results of previous studies. The items consisted of a total of 64 items and were measured on a 5-point Likert scale.

1) Definition and understanding of recognition of eyebrow semi-permanent makeup.

It draws a picture with a square shape on the permanent, which takes a long time, erases and lasts a long time. The recognition of eyebrow semi-permanent makeup refers to the degree to which you will know that the outline of eyebrow semi-permanent makeup multiplies the beautiful effect. With the generalization of the current visual semi-permanent makeup line, awareness is higher than average, and consciousness can be confirmed, and both farsightedness is visible, and cognitive improvement is further improved. Eyebrow semi-permanent makeup is

defined as recognizing that expression and beauty can be maintained semi-permanently by giving an enlargement effect with eyebrow makeup[17].

To measure this, the appearance, which has long been expanded-corrected and supplemented with content, has also been used. Awareness of 9-item visual semi-permanent makeup means that the score on the 5-point Likert scale is visually high.

2) Definition and understanding of appearance recognition.

I live by investing time and money in grooming my appearance to achieve my goal by clearly imprinting my existence among many people in modern society[18]. Even though each person's ideal type is different, it is rare for people to have a crush on an untidy or unkempt appearance, so even those who are not interested in their appearance and do not decorate their appearance live by taking care of their appearance at a minimum[19][20][21]. For this reason, social interest in appearance management is gradually increasing, and social requirements have been created that have no choice but to decorate and decorate themselves. Appearance awareness is defined as recognizing, cultivating, and expressing the management of appearance[22][23].

3) Definition and understanding of satisfaction level of eyebrow semi-permanent makeup.

The biggest advantage of eyebrow semi-permanent makeup is that it can further reduce the hassle and hassle of daily makeup and time investment[24]. Even people who lack makeup skills can easily complete makeup without much effort, and expectations for eyebrow semi-permanent makeup are high because the features of the face look clear and natural even with a bare face[14]. The expected satisfaction level of eyebrow semi-permanent makeup is defined as a makeup method with a high expectation and satisfaction that the number of eyebrows or desired design can be solved naturally by expressing it naturally on a bare face without makeup[19][25].
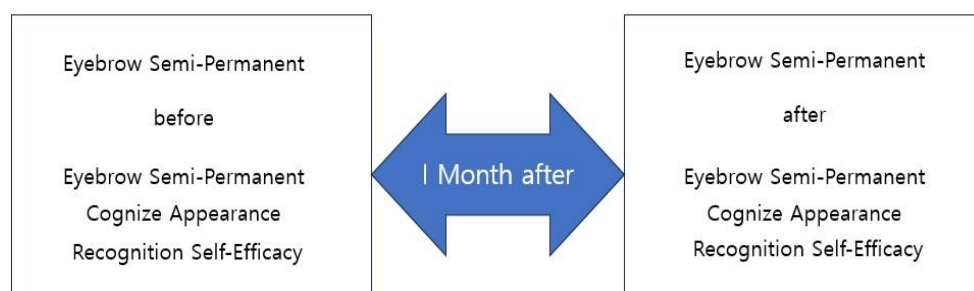
4) Definition and understanding of self-efficacy.

It is a psychological term that refers to an expectation or belief about oneself that one believes that one has the ability to solve and successfully perform a task by taking appropriate actions in a particular problem or situation[11][26]. Self-efficacy is defined as an individual's beliefs about his or her skills, abilities, or capabilities to perform the actions necessary to achieve a certain outcome[20][27].

2.3. Research model

This study aims to improve the life of female breast cancer patients with hair loss by examining how the eyebrow semi-permanent makeup procedure affects factors such as life, appearance awareness, and self-efficacy of female breast cancer patients who are experiencing hair loss as a side effect of chemotherapy. The improvement plan was approached from the perspective of eyebrow semi-permanent makeup. The research model is shown in <Figure 1>.

Figure 1. Research model 1.

2.4. Data analysis

The following statistical analysis was performed on the data of this study using the SPSS 25.0 program.

First, Cronbach's alpha value was checked to confirm the reliability of the scale. Second, frequency analysis and descriptive statistical analysis were conducted to confirm demographic characteristics and characteristics of major variables. Third, in order to confirm the effect of eyebrow semi-permanent makeup, a paired-sample t-test was conducted on the pre- and post-scores of eyebrow semi-permanent makeup recognition, appearance recognition, eyebrow semi-permanent makeup procedure expectation satisfaction, and self-efficacy. Fourth, in order to confirm the difference in effectiveness according to the general characteristics of the respondents, an independent sample t-test and one-way ANOVA were conducted for the difference between the pre- and post-scores.

First, in order to analyze the reliability of the measurement tool, a reliability analysis was conducted through Cronbach's alpha value to check whether the respondents responded consistently. The reliability condition is based on Cronbach's alpha value of 0.6 (Hair et al., 1998), and the alpha value of all variables was 0.6 or higher, confirming that the reliability was good.

Table 1. Effect reliability analysis.

Variables	Number of questions	Cronbach's α
Before awareness of eyebrow semi-permanent makeup	9	0.691
Before appearance recognition	15	0.876
Before self-efficacy	11	0.858
After awareness of eyebrow semi-permanent makeup	9	0.714
After appearance recognition	15	0.941
After self-efficacy	11	0.930

3. Results

3.1. General characteristics of the study subjects

The general characteristics of the study subjects are as follows.

By age group, 21 people under the age of 50(63.6%), 12 people over the age of 50(36.4%) Education: 4 high school graduates(12.1%), 24 university graduates(72.7%), 5 graduate school graduates or higher(15.2%) Religion No religion 11(33.3%), Religious but no religious life 8(24.2%), Religious 14(42.4%) Cancer status 0 stage 1 person(3.0%), 1st stage 15 people(45.5%), 2nd period 15 people(39.4%), 3rd period 3 people(9.1%), 4th period 1 person(3.0%) Current hospital location is 28 people in the metropolitan area(84.8%), 5 people in the non-metropolitan area(15.2%). The current health condition is below average 14(42.4%), good 19(57.6%) Satisfaction expectations for eyebrow semi-permanent makeup procedure are average 7(21.2%), satisfied 11(33.3%), very satisfied 15(45.5%) Satisfaction with the treatment process after the eyebrow semi-permanent makeup procedure is average 5(15.2%), yes 11(33.3%), very so 17(51.5%) interpersonal satisfaction is average 7(21.2%), satisfied 14 people (42.4%) said yes, and 12 people(36.4%) said they were very satisfied.

3.2. Descriptive statistical analysis

Descriptive statistical analysis was conducted to confirm the characteristics of the main variables, and the results are shown in <Table 2> below. The average of recognition of prior eyebrow semi-permanent makeup treatment was 3.7508(SD=0.56930), the average of prior appearance recognition was 3.2869(SD=0.59593), the average of expectation satisfaction for prior eyebrow semi-permanent makeup procedure was 4.3157(SD=0.63866), and the average of prior self-efficacy The average was 3.5592(SD=0.55443), the average post-operative recognition of eyebrow semi-permanent makeup was 3.7340(SD=0.59118), the average post-appearance recognition was 3.5455(SD=0.70424), and the average post-operative satisfaction of eyebrow semi-permanent makeup was 4.3965(SD=0.72858), the average post-mortem self-efficacy was 3.8787(SD=0.70999), and the average word-of-mouth intention was 4.4545(SD=0.79661). In addition, skewness and kurtosis were checked to confirm the normality of each variable, and the absolute values of all skewness and kurtosis were less than 3 and 10, confirming that they were normally distributed.

Table 2. Descriptive statistics.

Variables	Min.	Max.	Mean	S.D	Skewness	Kurtosis
Before awareness of eyebrow semi-permanent makeup	1.67	4.78	3.7508	0.56930	-1.410	4.769
Before appearance recognition	1.93	4.20	3.2869	0.59593	-0.149	-0.669
Before self-efficacy	2.64	4.73	3.5592	0.55443	0.274	-0.714
After awareness of eyebrow semi-permanent makeup	1.67	4.78	3.7340	0.59118	-1.156	3.427
After appearance recognition	1.73	5.00	3.5455	0.70424	-0.462	0.124
After self-efficacy	2.00	5.00	3.8787	0.70999	-0.459	0.024

3.3. Differences in appearance awareness and self-efficacy

1) Differences in key variables according to the location of the current hospital.

In order to confirm the difference in the main variables according to the location of the current hospital, an independent sample t-test was conducted to confirm the difference in average between the two groups. As a result of the analysis, the difference in appearance recognition according to the classification of the metropolitan area and non-metropolitan area was found to be significant(t=2.072, p=0.047). The level of improvement in appearance recognition was higher in the metropolitan area. On the other hand, there was no significant difference in self-efficacy.

Table 3. Difference according to current hospital location.

Variables	Division	Mean	S.D	t	p
Appearance recognition difference	Metropolitan area	0.36	0.65	2.072*	0.047
	Non-metropolitan area	-0.29	0.63		
Self-efficacy difference	Metropolitan area	0.26	0.71	-1.107	0.277
	Non-metropolitan area	0.65	0.86		

Note: * p<.05.

2) Differences in key variables according to current health status.

In order to confirm the difference in the main variables according to the current health status, an independent sample t-test was conducted to confirm the difference in average between the two groups. As a result of the analysis, the difference in appearance recognition according to the level of health was significant(t=-2.041, p=0.049), and the improvement score was higher in the group with better health. On the other hand, there was no significant difference in self-efficacy.

Table 4. Difference according to current health condition.

Variables	Division	Mean	S.D	t	p
Appearance recognition difference	Below average	-0.01	0.58	-2.041*	0.049
	Good	0.46	0.69		
Self-efficacy difference	Below average	0.14	0.74	-1.190	0.243
	Good	0.45	0.72		

Note: * p<.05.

3.4. Pre- and post-comparative analysis of eyebrow semi-permanent makeup procedure

Based on the time of eyebrow semi-permanent makeup, a paired-sample t-test was conducted to confirm the pre- and post-change of eyebrow semi-permanent makeup procedure recognition, appearance recognition, and self-efficacy.

As a result of the analysis, there were significant differences in appearance recognition(t=-2.188, p=0.036) and self-efficacy(t=-2.490, p=0.018). In other words, starting with the eyebrow semi-permanent makeup procedure, it was found that the appearance recognition and self-efficacy improved significantly after the procedure.

Table 5. Paired-samples t-test.

Variables	Division	Mean	S.D	t	p
Awareness of eyebrow semi-permanent makeup	Before	3.75	0.57	0.285	0.777
	After	3.73	0.59		
Appearance recognition	Before	3.29	0.60	-2.188*	0.036
	After	3.55	0.70		
Self-efficacy	Before	3.56	0.55	-2.490*	0.018
	After	3.88	0.71		

Note: * p<.05.

4. Conclusion

In the results of the study, when comparing the before and after eyebrow semi-permanent makeup treatment in terms of eyebrow semi-permanent makeup recognition, appearance recognition, eyebrow semi-permanent makeup expectation satisfaction, and self-efficacy, the appearance awareness and self-efficacy improved significantly from the eyebrow semi-

permanent makeup procedure. was analyzed as In the difference in appearance recognition of major variables according to the location of the hospital, the difference in appearance recognition in the metropolitan area and the main variable according to current health status showed a significant result in the group with better health.

Looking at the paired sample t-test, there was a difference in pre-post results according to the current metropolitan area hospitals with improved appearance recognition and self-efficacy and those with good current health conditions.

As a result of an independent sample t-test analysis to confirm the average difference in the main variables according to the location of the current hospital, the difference in appearance recognition according to the metropolitan area and non-metropolitan area was found to be significant(t=2.072, p=0.047). As a result of an independent sample t-test analysis to confirm the difference in the main variables in the current health status area, the difference in appearance recognition according to the health level was significant(t=-2.041, p=0.049), and the improvement score was higher in health. found to be high in the group[22][28].

During the course of the study, positive changes were generally observed in the study subjects, and they helped with mental and social difficulties in modern society, where appearance evaluation has become a reference point. By giving a positive influence, it became an opportunity to actively participate in smooth interpersonal relationships, treatment process, and social return in the lives of patients by increasing their appearance awareness and self-efficacy. It is a very noteworthy change that it was observed that self-efficacy was improved through the eyebrow semi-permanent makeup procedure[29].

This study contributed to expanding the beneficiaries of beauty services not only to the general public but also to female breast cancer patients, and through empirical analysis[30], it was verified that the eyebrow semi-permanent makeup procedure affects the perception of appearance and the increase in self-efficacy in female breast cancer patients through empirical analysis[12]. In the future, based on this study, it is hoped that educational information for hair loss coping methods and eyebrow makeup application methods for female patients with hair loss will be researched and developed. Furthermore, we propose a policy plan to receive beauty welfare support. It is expected that the eyebrow semi-permanent makeup procedure will be used as a useful data in the industrial and policy aspects of beauty service, and will have a positive effect and improve efficiency in the expansion of the domestic beauty industry and semi-permanent makeup market[31].

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6. Appendix

6.1. Author's contribution

	Initial name	Contribution
Lead Author	JY	–Set of concepts ☑ –Design ☑ –Getting results ☑ –Analysis ☑ –Make a significant contribution to collection ☑ –Final approval of the paper ☑
Corresponding Author*	EC	–Corresponding ☑ –Play a decisive role in modification ☑ –Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ –Participants in Drafting and Revising Papers ☑ –Someone who can explain all aspects of the paper ☑

Public Value

The Effects of Women's Beauty and Health Multi-Shop Consumption Perceptions and Selected Attributes on Use Satisfaction

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Abstract

Purpose: Recently, in Korea, beauty and health consumers are seeking convenience and professionalism, so multi-shop type stores are gradually increasing. Accordingly, this study was conducted with the purpose of confirming the relationship between consumption perception, optional attributes, and use satisfaction with women visiting beauty health multi-shops as participants.

Method: The study participants consisted of 183 adult females aged 20 years or older in S-city and G-province using the non-probability sampling method and the judgment sampling method. As for the data analysis method, MANOVA and multiple regression analysis were conducted to analyze the relationship between consumption perception, choice attributes, and use satisfaction.

Results: As a result of the study, all independent variables such as consumption necessity factors, consumption process factors, and consumption result factors were statistically significant in the influence relationship between consumption perception variables and selection attributes. And in the relationship between the selected attribute variable and the satisfaction factor, the facility factor, loyalty factor, and cost factor were found to be significant, while the information provision factor was statistically insignificant.

Conclusion: The results of this study served as an opportunity to confirm various factors related to the consumer's perception of consumption and the satisfaction of use according to the selected attributes of visiting beauty health multi-shops. Therefore, it suggests the specific and detailed importance of the perception and selection attributes of consumers who visit beauty health multi-shops.

Keywords: Women, Beauty and Health Multi-Shop, Consumption Perceptions, Selected Attributes, Use Satisfaction

1. Introduction

The beauty and health industry in modern society is rapidly emerging as a new growth industry with high added value by applying innovative technologies. Likewise in Korean society, the new industry paradigm related to anti-aging is changing to suit the characteristics of modern people who pursue healthy beauty and is expanding into new areas[1].

One of the distinctive features of the beauty and health industry is that it is based on the health industry, and the beauty and health industries are mixed and converged. Convergence refers to linking or combining two or more systems or technologies to create a new technology or product. In the past, it was mainly concentrated in the information and communication field, but due to social change and technological innovation, technologies and services in different fields are combined to expand the industry as a whole[2][3].

Therefore, in this study, the purpose of this study was to identify the perception and selection attributes perceived by users who visit beauty health multi-shops, which were newly created

due to this situation, and to find out how they affect the satisfaction of use. Consumption awareness is a factor that has a significant influence on the process of purchasing products and services, and can be divided into social value, functional value, emotional value, situational value, and cognitive value, as well as emotional value and monetary value[4][5]. In addition, there is a view that communication, convenience, rationality, variety, and professionalism are important factors in purchasing decisions, including consumption awareness through SNS[6][7].

Selective attributes are characteristics of consumers themselves, and are divided into endogenous factors such as personality, motivation, desire, perceived level, and involvement, and exogenous factors related to the results obtained by information search and purchase satisfaction[8][9]. In other words, selection attributes are closely related to changes in users' values, and can be seen as behavioral standards made up of a mixture of internal and external attributes.

Recently, in the field of consumer behavior in Korea, selection using SNS has become active, showing purchase patterns and selection attributes that cross online and offline stores. Showrooming refers to purchasing a product online after looking at it offline. In contrast, reverse showrooming is a form of collecting information online and purchasing a product or service in a physical store[10]. As such, selection attributes are deterministic attributes that are deeply involved in the user's preference and purchase decision-making.

Currently, studies on consumer perception and selection attributes related to beauty shops are being actively conducted in Korea, but studies on beauty and health multi-shops are rarely conducted[11]. The reason for this is that the beauty and health industry is a new industry that is emerging, and it has not been long since the multi-shop type of service industry started in earnest in Korea. Therefore, this study aimed to find out what kind of relationship there is between perception of consumption, selection attributes, and use satisfaction of female customers of Beauty Health Multi-shop. We hope that these research results will help develop practical contents for customers who use Beauty Health Multi-shop.

2. Research Methods

2.1. Selection of study participants

The participants in this study selected 183 adult women aged 20 years or older from S-city and G-province who had experience of visiting beauty and health multi-shops as a population using the nonprobability sampling method and the judgmental sampling method. composed. The general characteristics of survey participants are shown in <Table 1> below.

Table 1. General characteristics of participants.

Division	Cases		Percentage
Gender	Male	183	100.0
Age	20s	-	-
	30s	58	31.7
	40s	79	43.2
	50s	29	15.8
	60s	17	9.3
Education	High school diploma or less	39	21.3
	College degree or less	111	60.7
	Master's degree	33	18.0
Marital status	Married	109	59.6
	Single	57	31.1
	Etc.	17	9.3
Number of visits	1 time or less	2	1.1

	2 to 5 times or less	65	35.5
	6 to 9 or less	59	32.2
	More than 10 times	57	31.1
One-time use cost	Less than 50,000 KRW	24	13.1
	Less than 100,000 KRW	96	52.5
	Less than 200,000 KRW	50	27.3
	More than 200,000 KRW	13	7.1
Sum		183	100

2.2. Measurement instruments

2.2.1. Validity and reliability analysis of consumption perception measurement tool

For the questionnaire used to measure consumption perception related to the use of Beauty Health Multi-shop, the contents of the questionnaire used to measure beauty consumption behavior in previous studies[12][13] were modified and supplemented according to this study. Consumption perception variables consisted of 3 factors and 11 items: consumption necessity, consumption process, and consumption result. Looking at the results of factor analysis on consumption perception of female customers using Beauty Health Multi-shop, the KMO measure was 0.514, and the Bartlett's X2 test was analyzed to be 140.240(p<.000), confirming that the model fit of the factor analysis was appropriate.

Three factors were extracted as sub-factors of consumption perception factors, and they were analyzed to have a model explanatory power of 60.368%. A total of 11 questions were extracted for each factor: 4 questions for consumption necessity factors, 3 questions for consumption process factors, and 4 questions for consumption result factors. Meanwhile, Cronbach's analysis was conducted to analyze the reliability of consumption perception variables. The reliability was analyzed to be good as the consumption necessity factor was .762, the consumption process factor was .667, and the consumption result factor was .853.

2.2.2. Validity and reliability analysis of selected attribute measurement tool

The questionnaire used to measure the selection attributes related to the use of beauty and health multi-shops was used by modifying and supplementing the questionnaires used to investigate the selection attributes of beauty salons in previous studies[14] to suit this study. The selection attribute variable composition consisted of 4 factors and 14 questions: information provision, facility, loyalty, and cost. Looking at the results of factor analysis on the selection attributes of female customers using Beauty Health multi-shop, the KMO measure was .896, and the Bartlett's X2 test was analyzed as 1068.548(p<.000), confirming that the model fit of the factor analysis was appropriate.

As for the sub-factors of selection attributes, three factors were extracted, and they were analyzed to have 66.909% of model explanatory power. A total of 14 questions were extracted for each factor: 4 questions for information provision factors, 5 questions for facility factors, 2 questions for loyalty factors, and 3 questions for cost factors. Meanwhile, Cronbach's analysis was conducted to analyze the reliability of the selection attribute variable. The information provision factor was .736, the facility factor was .796, the loyalty factor was .749, and the cost factor was .859, indicating that the reliability was good.

2.2.3. Validity and reliability analysis of use satisfaction measurement tool

For the questionnaire used to measure satisfaction with the use of Beauty Health multi-shop, the contents of the questionnaire used to measure satisfaction with semi-permanent makeup procedures in previous studies[15] were modified and supplemented according to this study.

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The composition of the use satisfaction variables consisted of 3 factors of technology, environment, and procedure description and 9 items. Looking at the results of factor analysis on the use satisfaction of female customers using Beauty Health multi-shop, the KMO measure was .757, and the Bartlett's X^2 test was analyzed as 1299.965(p<.000), confirming that the model fit of the factor analysis was appropriate.

As for the sub-factors of use satisfaction, three factors were extracted and analyzed to have 70.007% model explanatory power. For each factor, a total of 14 questions were extracted: 3 questions for technology satisfaction factor, 3 questions for environment satisfaction factor, and 2 questions for procedure explanation factor. Meanwhile, Cronbach's analysis was conducted to analyze the reliability of use satisfaction variables. The reliability was analyzed to be good as the technology satisfaction factor was .774, the environment satisfaction factor was .683, and the procedure explanation factor was .7219.

2.3. Data analysis

In this study, questionnaires were collected from 183 participants and processed using the SPSS 21.0 statistical program. First, the scales used to confirm the relationship between consumption perception, choice attributes, and use satisfaction of women visiting beauty and health multi-shops were exploratory factor analysis, principal component analysis, and Varimax direct rotation. The validity was confirmed using the method. In addition, reliability verification was conducted by calculating Cronbach's α coefficient, which is the degree of agreement within the item. MANOVA and multiple regression analysis were conducted to analyze the relationship between consumer perception, choice attributes, and satisfaction with use of beauty and health multi-shop users. The significance level according to the statistical verification of this study was determined at p<.05.

3. Research Results

3.1. Correlation analysis of measurement variables

<Table 2> shows the results of correlation analysis among consumption perception variables, optional attribute variables, and use satisfaction variables of women who have visited beauty and health multi-shops. The sub-factors of the study variables show a positive(+) correlation as a whole, and the sub-variables of consumption perception show a positive correlation with the sub-factors of the selection attribute. And it showed a positive correlation with use satisfaction variables(p<.05). Consumption necessity factor, loyalty factor, consumption process factor, facility factor, and technology satisfaction factor did not appear statistically significant.

Looking at the correlation between the sub-factors of selection attributes and the sub-factors of use satisfaction, each factor showed a positive correlation as a whole(p<.05). However, information provision factor, environment satisfaction factor, cost factor and technology satisfaction factor did not appear statistically significant. Looking at the results of correlation analysis between each variable, it can be judged that the variables and factor composition of this study are consistent with the research direction.

Table 2. Results of correlation analysis of consumption perception, selection attribute, and use satisfaction.

Division		1	2	3	4	5	6	7	8	9	10
Consumption perceptions	Need for consumption	1									
	Consumption process	.565**	1								
	Consumption result	.704**	.703**	1							

Selected attributes	Provide information	.641**	.685**	.794**	1						
	Facility	.723**	.273	.793**	.792**	1					
	Loyalty	.127	.590**	.575**	.667**	.683**	1				
	Expense	.373**	.357**	.392**	.414**	.488**	.404**	1			
Use satisfaction	Technology satisfaction	.504**	.110	.471**	.498**	.515**	.656**	.134	1		
	Environmental satisfaction	.614**	.661**	.851**	.113	.776**	.530**	.661**	.210*	1	
	Procedure description	.442**	.478**	.661**	.526**	.551**	.482**	.591**	.159*	.572**	1

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

3.2. Differences in consumption perception, selected attributes, and use satisfaction according to age

MANOVA was conducted to verify age-related differences among consumption perception, choice attributes, and satisfaction with use of women who had visited beauty and health multi-shops. The results of differences according to age are shown in <Table 3> below. As a result of analyzing the differences between the factors of each variable by age, age and consumption perception variables showed a significant difference with Wilk's Lambda=.837, p=.000. Looking at the test effect between individuals according to age, there was a significant difference between the consumption necessity factor(F value = 3.739, p = .041) and the consumption result factor(F value = 9.245, p = .000) in consumption perception variables. On the other hand, looking at the differences by age according to the post hoc test, significant differences were found between those in their 30s and 40s, and those in their 40s and 60s, respectively, in consumption result factors.

Age and selection attribute variables showed significant differences with Wilk's Lambda=.885, p=.040. Looking at the test effect between individuals according to age, the facility factor(F value=2.160, p=.003), loyalty factor(F value=1.179, p=.022), and cost factor(F value=3.927, p=.010) showed a significant difference. On the other hand, looking at the differences by age group according to the post-hoc test, there were significant differences between those in their 30s and 40s in facility factors and those in their 30s and 60s in cost factors, respectively. Age and use satisfaction variables showed a significant difference with Wilk's Lambda=.886, p=.010. Looking at the test effect between subjects according to age, there was a significant difference in the skill satisfaction factor(F value = 3.761, p = .012) and the procedure explanation factor(F value = 3.405, p = .019) in the use satisfaction variable. On the other hand, looking at the difference by age according to the post hoc test, there was a significant difference between those in their 30s and 50s in the procedural explanation factor.

Table 3. Differences in consumption perception, selected attributes, and use satisfaction according to age results.

Variable	Factor	Degrees of freedom	Mean square	F-value	Significance	Wilks' lamda	Duncan
Consumption perceptions	Need for consumption	3	2.147	3.793	.041	.837 (p=.000)	-
	Consumption process	3	.412	.810	.490		-
	Consumption result	3	1.695	9.245	.000		30's > 40's 40's > 60's

Variable	Factor	Degrees of freedom	Mean square	F-value	Significance	Wilks' lamda	Duncan
Selected attributes	Provide information	3	.127	.922	.431	.885 (p=.040)	-
	Facility	3	2.160	5.835	.003		30's > 40's
	Loyalty	3	1.179	3.381	.022		-
	Expense	3	1.004	3.927	.010		30's > 60's
Use satisfaction	Technology satisfaction	3	1.539	3.761	.012	.886 (p=.010)	-
	Environmental satisfaction	3	.180	.764	.516		-
	Procedure description	3	1.655	3.405	.019		30's > 50's

Note: p<.05.

3.3. Differences in consumption perceptions, selected attributes, and use satisfaction according to number of visits

MANOVA was conducted to verify the difference according to the number of visits among consumption perception, selection attributes, and use satisfaction of women who have visited beauty and health multi-shops. The difference results according to the number of visits are shown in <Table 4> below. As a result of analyzing the difference between the factors of each variable by number of visits, it was found that there was a significant difference in the number of visits and consumption perception variables with Wilk's Lambda=.903, p=.016. Looking at the inter-subject test effect according to the number of visits, the consumption necessity factor(F value = 3.713, p = .016), the consumption process factor(F value = 4.287, p = .013), and the consumption result factor(F value = 4.287, p = .013) value = 3.103, p = .039) showed a significant difference. On the other hand, looking at the difference by number of visits according to the post hoc test, there was a significant difference between 2-5 times and 6-9 times in consumption result factors.

The number of visits and selection attribute variables showed a significant difference with Wilk's Lambda=.881, p=.031. Looking at the test effect between subjects according to the number of visits, there was a significant difference in the facility factor(F value = 6.537, p = .001) and the cost factor(F value = 5.011, p = .002) in the optional attribute variables. On the other hand, looking at the difference by number of visits according to the post-hoc test, there was a significant difference between 2-5 visits and 10 visits or more in facility factors. The number of visits and use satisfaction variables showed a significant difference with Wilk's Lambda=.857, p=.001. Looking at the test effect between subjects according to the number of visits, there was a significant difference in the skill satisfaction factor(F value = 12.522, p = .000) and the procedure explanation factor(F value = 4.556, p = .004) in the use satisfaction variable. On the other hand, looking at the differences by age group according to the post-hoc test, there were significant differences between 2-5 times and 6-9 times or less in the skill satisfaction factor, and 6-9 times or less and 10 times or more in the procedure explanation factor.

Table 4. Differences in consumption perception, selected attributes, and use satisfaction according to the number of visits results.

Variable	Factor	Degrees of freedom	Mean square	F-value	Significance	Wilks' lamda	Duncan
Consumption perceptions	Need for consumption	3	1.421	4.287	.016	.903 (p=.032)	-

	Consumption process	3	.929	3.713	.013	-
	Consumption result	3	1.229	3.103	.039	5 times> 9 times
Selected attributes	Provide information	3	.217	1.596	.192	-
	Facility	3	1.618	6.537	.001	5 times> 10 times
	Loyalty	3	.062	.132	.941	.881 (p=.031)	-
	Expense	3	1.260	5.011	.002	-
Use satisfaction	Technology satisfaction	3	2.581	12.522	.000	5 times> 9 times
	Environmental satisfaction	3	.345	1.483	.221	.857 (p=.001)	-
	Procedure description	3	2.176	4.556	.004	9 times > 10 times

Note: p<.05.

3.4. Differences in consumption perception, selected attributes, and use satisfaction according to one-time costs

MANOVA was conducted to verify the difference according to one-time cost among consumption perception, choice attributes, and satisfaction with use of women who have visited beauty and health multi-shops. The difference results according to the one-time cost are shown in <Table 5> below. As a result of analyzing the difference between the factors of each variable for each cost, it was found that there was a significant difference between each cost and consumption perception variables, with Wilk's Lambda=.862, p=.002. Looking at the test effect between individuals according to one-time consumption costs, there was a significant difference in consumption perception variables in consumption necessity factor(F value = 4.286, p = .003) and consumption process factor(F value = 6.844, p = .000). On the other hand, looking at the difference by number of visits according to the post-hoc test, there was a significant difference between less than 50,000 KRW and more than 200,000 KRW in the consumption necessity factor. In the consumption process factors, there were significant differences between less than 50,000 KRW, less than 100,000 KRW - less than 200,000 won, more than 200,000 KRW, and less than 50,000 KRW - less than 100,000 KRW and less than 100,000 KRW - 200,000 KRW, respectively.

There was a significant difference in the one-time cost and selection attribute variables with Wilk's Lambda=.854, p=.001. Looking at the between-subject test effect according to one-time cost, the information provision factor(F value = 4.360, p = .015), the loyalty factor(F value = 4.751, p = .018) and the cost factor(F value = 4.893, p = .008) showed significant differences. On the other hand, looking at the difference in each cost according to the post-hoc test, there was a difference between less than 50,000 KRW and less than 100,000 KRW to less than 200,000 KRW in the information provision factor, and a significant difference between less than 100,000 KRW and less than 200,000 KRW and more than 200,000 KRW in the cost factor. seemed There was a significant difference in one-time cost and use satisfaction variables with Wilk's Lambda=.827, p=.000. Looking at the inter-subject test effect according to one-time cost, the technology satisfaction factor(F value = 2.216, p = .045), the environmental satisfaction factor(F value = 3.212, p = .025), and the procedure explanation factor among the use satisfaction variables. (F value = 2.916, p = .034) showed a significant difference. On the other hand, looking at the difference in cost per one time according to the post-hoc test, there was a significant difference between 50,000 KRW - less than 100,000 KRW and 100,000 KRW - 200,000 KRW in the

environmental satisfaction factor, and 50,000 KRW - less than 100,000 KRW and 200,000 KRW in the procedure explanation factor.

Table 5. Differences in consumption perception, selected attributes, and use satisfaction according to one-time costs result.

Variable	Factor	Degrees of freedom	Mean square	F-value	Significance	Wilks' lamda	Duncan
Consumption perceptions	Need for consumption	3	1.428	4.286	.003	.862 (p=.002)	①>④
	Consumption process	3	1.632	6.844	.000		①>③④ ②>③
	Consumption result	3	.406	1.982	.118		-
Selected attributes	Provide information	3	1.511	4.360	.015	.854 (p=.001)	①>③
	Facility	3	.106	.734	.533		-
	Loyalty	3	2.059	4.751	.018		③>④
	Expense	3	2.206	4.893	.008		-
Use satisfaction	Technology satisfaction	3	1.624	2.516	.045	.827 (p=.000)	-
	Environmental satisfaction	3	1.661	3.212	.025		②>③
	Procedure description	3	1.223	2.916	.034		②>④

Note: p<.05/ ①Less than 50,000 KRW ②Less than 100,000 KRW ③Less than 200,000 KRW ④More than 200,000 KRW.

3.5. Overall influence relationship between consumption perception variables and selected attribute factors

<Table 6> shows the results of multiple regression analysis to verify the influence relationship between sub-factors of consumption perception of women who have visited beauty and health multi-shops and optional attribute variables. The three sub-factors of the consumption perception variable were configured as independent variables, and a regression model was established with the optional attribute variable as the dependent variable. The established multiple regression model was analyzed with an F value of 137.957 and a P value of .000(p<0.05), and was verified as a statistically significant model.

The coefficient of determination R^2 for the change in the dependent variable was 0.693, explaining 69.3% of the total change, and the Durbin-Watson value was 2.194, close to 2, so there was no autocorrelation of the error term. Looking at the statistical significance of independent variables with respect to dependent variables, consumption necessity factor(β=.362, p=.000), consumption process factor(β=.222, p=.000), consumption result factor(β=.361 , p=.000) and all independent variables were statistically significant.

Table 6. Results of multiple regression analysis of consumption perception sub-factors for selected attributes.

Dependent variable	Independent variable	B	SE	β	T-value	Probability of significance

Selected attributes	Constant	.401	.160		2.510	.013
	Need for consumption	.298	.048	.362	6.198	.000
	Consumption process	.214	.056	.222	3.814	.000
	Consumption result	.300	.056	.361	5.320	.000

Note: $F = 137.954$, Significance = .000, $R^2 = .693$, Durbin-Watson = 2.194, $p < 0.05$.

3.6. Overall influence relationship between selected attribute variables and use satisfaction factors

The results of multiple regression analysis are shown in <Table 7> to verify the relationship between the sub-factors of the selection attributes of women who have visited beauty and health multi-shops and the variables of satisfaction with use. The four sub-factors of the optional attribute variable were configured as independent variables, and a regression model was established with the use satisfaction variable as the dependent variable. The set multiple regression model had an F value of 161.525 and a P value of .000($p < 0.05$). It was analyzed and verified as a statistically significant model.

The coefficient of determination R^2 for the change in the dependent variable was 0.779, explaining 77.9% of the total change, and the Durbin-Watson value was 2.073, close to 2, so there was no autocorrelation of the error term. Looking at the statistical significance of the independent variables with respect to the dependent variable, the information provision factor($\beta = .197$, $p = .001$), facility factor($\beta = .164$, $p = .009$), and loyalty factor($\beta = .216$, $p = .000$) and cost factor($\beta = .511$, $p = .000$), all independent variables were statistically significant.

Table 7. Results of multiple regression analysis of sub-factors of selected attributes for satisfaction with use.

Dependent variable	Independent variable	B	SE	β	T-value	Probability of significance
Use satisfaction	Constant	.705	.111		6.366	.000
	Provide information	.152	.046	.197	3.317	.001
	Facility	.124	.047	.164	2.624	.009
	Loyalty	.136	.031	.216	4.324	.000
	Expense	.421	.033	.511	12.718	.000

Note: $F = 161.525$, Significance = .000, $R^2 = .779$, Durbin-Watson = 2.073 $p < 0.05$.

3.7. Overall influence relationship between consumption perception and selected attribute factors and use satisfaction variables

The results of multiple regression analysis to verify the relationship between sub-factors of consumption perception and selection attributes of women who have visited beauty and health multi-shops and the variables of satisfaction with use are shown in <Table 8> below. Three sub-factors of consumption perception variables and four sub-factors of optional attribute variables were constructed as independent variables, and a regression model was established with the use satisfaction variable as the dependent variable. The established multiple regression model was analyzed with an F value of 162.327 and a P value of .000($p < 0.05$), and was verified as a statistically significant model.

The coefficient of determination R^2 for the change in the dependent variable was 0.861, explaining 86.1% of the total change, and the Durbin-Watson value was 2.024, close to 2, so there

was no autocorrelation of the error term. Looking at the statistical significance of the independent variables with respect to the dependent variable, the consumption necessity factor(β=.404, p=.000), consumption process factor(β=.176, p=.000), and consumption result factor(β=.438 , p=.000), facility factor(β=.153, p=.003), loyalty factor(β=.223, p=.000), and cost factor(β=.506, p=.000) were significant. , and the information provision factor was statistically insignificant.

Table 8. Result of multiple regression analysis of consumption perception and selected attribute sub-factors for use satisfaction.

Dependent variable	Independent variable	B	SE	β	T-value	Probability of significance
Use satisfaction	Constant	.327	.105		3.105	.002
	Need for consumption	.434	.121	.404	3.899	.000
	Consumption process	.134	.036	.176	4.713	.000
	Consumption result	.324	.042	.438	5.047	.000
	Provide information	-.059	.042	-.076	-1.405	.162
	Facility	.223	.103	.153	3.112	.003
	Loyalty	.140	.028	.223	7.702	.000
	Expense	.417	.026	.506	15.851	.000

Note: F = 162.327, Significance = .000, R^2 = .861, Durbin-Waston = 2.024 p<0.05.

4. Conclusion and Recommendations

The emergence of beauty and health multi-shops in Korea was naturally formed by the changing needs of consumers in modern society. Existing beauty shops have mainly provided services related to beauty in their specialized areas and partially provided services related to health. However, due to various factors such as the development of beauty equipment and the strengthening of the purchasing power of consumers, the number of specialized stores that combine beauty and health in one place and manage them together is increasing. Therefore, this study was conducted to find out in a multidimensional direction how the selection attributes and use satisfaction change according to consumers' perceptions following the appearance of beauty and health multi-shops.

It is an interpretation of the analysis of the influence relationship between the consumption perception of the study participants, the choice attribute, and the use satisfaction. In the overall influence test with consumption perception as independent variable and selection attribute as independent variable, consumption necessity factor(β=.362, p=.000), consumption process factor(β=.222, p=.000), consumption result All independent variables including the factor(β=.361, p=.000) were statistically significant. This can be seen as a result that information provision, facilities, loyalty, and cost, which are the selection attributes of consumers participating in beauty health multi-shops, all have a positive effect on the sub-factors of consumption perception. Considering that the selection attributes are attributes such as personality, motivation, desire, perception, value, level of involvement, etc., which are personal factors according to the

characteristics of the consumer[16][17], consumption needs This is a part that can be seen that it is leading the consumption process and results positively.

In general, consumption perception is a personal pattern for the process and outcome of consumption, and includes the intention to recommend it to others through satisfaction and repurchase intention[18][19]. Therefore, as with previous studies[20][21][22], beauty It can be seen that consumption perception has a positive effect according to the selection attributes of users visiting the health multi-shop.

Looking at the statistical significance of the independent variables on the dependent variable in the overall influence relationship between the research participants' beauty health multi-shop consumption perception and selection attributes and use satisfaction factors, the consumption necessity factor(β=.404, p=.000), consumption process factor(β=.176, p=.000), consumption outcome factor(β=.438, p=.000), facility factor(β=.153, p=.003), loyalty factor(β=.223, p=.000) and cost factors(β=.506, p=.000) were found to be significant, and information provision factors were not statistically significant. This indicates that sub-variables of consumption perception and choice attributes were all significant for technology, environment, and procedure explanation, which are sub-factors of use satisfaction, but only the information provision factor had no statistical significance.

Information provision refers to receiving information about the pros and cons of services received from Beauty Health multi-shop from the user's point of view, and from the manager's point of view, it is about whether the service contents are sufficiently delivered to users. In a recent preceding study[21], which investigated the influence of beauty salon selection attributes and behavioral intentions according to the consumption value of the baby boomer generation, consumption value was classified into 5 categories including social value, emotional value, functional value, rarity value, and situational value. It was divided into 2 factors, and among the factors affecting behavioral intention, it was said that emotional value and rarity value had a significant effect.

In addition, another previous study[23] reported that all of the brand attributes, internal attributes, and external attributes had a significant effect on the relationship between beauty salon selection attributes and customer satisfaction. Looking at the contents presented in the results of this study, it can be seen that users who visit beauty health multi-shops are also positively influenced by sub-factors of consumption perception and selection attributes, similar to other previous studies. is deriving However, among the sub-factors of the selection attribute, the information provision factor shows a unique result that is not significantly affected.

This reason is judged to be attributable to the uniqueness of customers using Beauty Health multi-shop. Recently, in the field of beauty consumer behavior in Korea, as the selection using SNS becomes active, the number of consumers crossing the boundary between showrooming and reverse showrooming is increasing[22]. However, it is inferred that the participants in this study, unlike the existing consumers, have increased the number of consumers in the stage of multi-showrooming. In other words, it is presumed that the reason why consumers are not affected by the information provision factor due to the selection attribute is that they already collect information while going back and forth between online and offline stores and have sufficient information considering the individual's personality, characteristics and environment.

Currently, beauty and health multi-shops in Korea are evolving from existing small stores to shops with comprehensiveness and expertise[24][25]. This reason can be seen as the result of reflecting the selection attributes according to the consumer's demand. Beauty and health multi-shop is a service industry in the local community that manages beauty and health at the same time by utilizing two or more services and therapies in which beauty and health are converged. In the future, in the post-COVID-19 era, it is expected to develop into a new area that can be combined with social values and create new demands in connection with health, culture, life science, sensibility, and aesthetic pursuits, and specific research should be conducted accordingly.

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6. Appendix

6.1. Author's contribution

	Initial name	Contribution
Lead Author	HK	-Set of concepts ☑ -Design ☑ -Getting results ☑ -Analysis ☑ -Make a significant contribution to collection ☑ -Final approval of the paper ☑
Corresponding Author*	CL	-Corresponding ☑ -Play a decisive role in modification ☑ -Significant contributions to concepts, designs, practices, analysis and interpretation of data ☑ -Participants in Drafting and Revising Papers ☑ -Someone who can explain all aspects of the paper ☑