The Effect of Body Image Recognition of Manipulative Therapy based on KINESIOLOGY of Customers on the Appearance Management Behaviors

Youngbook Kim
Eden Heal Cure Therapy Co., Seoul, Republic of Korea

Eunjoo Choi
Westminster Graduate School of Theology University, Yongin, Republic of Korea

Abstract

Purpose: In this study, we intend to investigate the condition of the face and body that we want to improve for customers who use manipulative therapy based on kinesiology in the beauty shop. The purpose of this study is to analyze the effect of Body Image Recognition and its sub-factors on Appearance Management Behaviors in order to obtain basic data for vitalization of the beauty industry.

Method: The subjects of this study were customers who use manipulative therapy based on kinesiology in the beauty shop, and to validate the research issue, 219 copies of online survey data were collected. Empirical statistical analysis was performed using SPSS 25.0 program, and chi-squared test, one-way ANOVA, Pearson’s correlation, simple regression analysis, and multiple regression analysis methods were used.

Results: The results of the analysis performed are as follows: First, the parts of the face that we want to improve by gender are as follows. Men wanted the wrinkles around the eyes to be improved, and women wanted the nasolabial folds to look younger($\chi^2=28.121, p<.001$). As for the parts of the body that they want to be improved, they hoped for changes in the abdomen and waist at all age groups, and those in their 20s and 40s wanted lower body and calves to be improved, and those in their 50s and older wanted beautiful improvements in the clavicle and back neck line($\chi^2=22.033, p<.05$). Second, women were perceived to be healthier than men($t=-2.961, p<.01$), but their Self-body Image Recognition level was lower($t=3.247, p<.01$). Third, Body Image Recognition was found to have a positive effect on Appearance Management Behavior($\beta=.381, p<.001$). Specifically, it was found that the higher the level of Health Awareness($\beta=.207, p<.01$) and Self-body Image Recognition($\beta=.193, p<.01$), the higher the Appearance Management Behavior.

Conclusion: Based on the results of this study, as each gender and age group have different desires to improve with manual therapy, it is necessary to develop a differentiated program. And these results suggest that there is a high possibility that it has a positive effect on the appearance of customers and that various levels of management behavior lead to consumption of beauty and health services.

[Keywords] Manipulative Therapy, Appearance Management Behaviors, Body Image Recognition, Health Awareness, Self-Body Image Recognition

1. Introduction

1.1. Background of the study

In modern society, appearance is attracting attention as one of the most important capital. Appearance has an important influence not only on entertainers and service workers, but also on job seekers, interpersonal relationships, and social status change[1][2][3]. Sociologist Hakim [4] added the concept of attractive capital, arguing that it was insufficient to define individual assets only as economic, cultural, and social capital. The value of attractive capital, including consumption culture related to appearance, such as hair, is being studied[5].

As interest in income increase and improvement of health and quality of life increases[6], it
is expanding into the health care industry based on beauty[7], and natural remedies are being actively used[8].

In the Beauty Health Multi Shop, meridian massage and heat therapy are used as pain relief intervention programs[9]. Manipulative therapy is a general term for management forms using the hands and is one of the oldest therapeutic practices. In the past, it was handed down spontaneously, and from around the 17th century, it was systematized with the development of massage theory and medicine in Europe[10]. It was also developed and applied to alternative medicine, beauty, and health-related industries[11][12]. The characteristic of manipulative therapy is to induce a biological reaction by applying stimulation to the muscles, skin, and skeletal system with the hands to promote blood circulation, decrease muscle tone, promote metabolism, and stimulate nerves to promote the balance of each organ[13]. This has the effect of returning the balance of an unbalanced body type[14][15].

More and more customers are visiting beauty therapy centers to manage beauty through changes in body shape, rather than simply giving them a massage for relaxation or skincare. Consumers’ desire to improve their body shape through manual management is growing. Modern people cause changes in body shape by living in an incorrect posture in daily life. These changes in body shape can cause imbalances in the musculoskeletal system or tension in joints and muscles, causing pain or reduced flexibility[16], an inclination of the cervical vertebrae, abnormal rotation of the scapula, and asymmetric deformation of the feet and knees[17].

Body image refers to one's feelings about one's appearance, body functions, health status, etc.[18], and body type recognition can be viewed as a concept similar to body image. It is said to be correlated with appearance management behavior[19]. How one recognizes one’s body type affects not only cognitive aspects but also actual behaviors, leading to various appearance management behaviors[20]. Dieting behavior appears as the person is perceived as obese[21], while exercising and cosmetic behavior decrease[22][23][24]. Appearance satisfaction is one of the subordinate concepts of physical satisfaction[25]. Since dissatisfaction with appearance can be expected to have a function of stress healing through appearance management behavior[26][27], body shape recognition can be seen as a variable influencing appearance satisfaction behavior. The purpose of this study is to investigate the condition of the face and body that they want to be improved for customers who use Manipulative therapy based on KINESIOLOGY in the beauty shop. Another purpose is to analyze the effect of Body Image Recognition and its sub-factors on Appearance Management Behaviors. It is expected that this study will be able to secure basic data for vitalizing the beauty and health-related industries.

2. Research Method

2.1. Research subjects

The contents of the survey were modified and supplemented to suit the purpose of the study by referring to the results of previous studies. The sample collection was conducted with men and women in their 20s and older who had experience in using manual therapy based on kinesiology at beauty shops residing across the country. The samples were collected online from April 23 to May 10, 2021, and a total of 219 questionnaires were used as analysis data.

2.2. Survey design and definition of variables

The questions consisted of a total of 31 questions and were measured on a 5-point Likert scale(23 questions) and Nominal scale(8 questions).

1) Body Image Recognition

Body Image Recognition does not judge one's own body shape by objective indicators, but subjectively evaluates one’s own body shape according to social standards. It is a self-evaluation
of one's own health status through one's own senses, emotions, and perceptions, and it is a subjective, direct, and indirect evaluation rather than an objective indicator of clinical tests. Social Awareness refers to the state of being socially recognized about the body. Life-habit Awareness is a state of recognizing that lifestyles such as regular exercise, adequate sleep, and stress reduction are necessary for a healthy life. Self-body Image Recognition refers to one's subjective attitudes and emotions toward one's own body or appearance.

It consisted of 17 questions and 4 sub-factors: 6 questions on social awareness, 4 questions on Health Awareness, 4 questions on Life-habit Awareness, and 3 questions on Self-body Image Recognition. Body Image Recognition is a 5-point Likert scale, with the higher score indicating the more positive of recognition.

2) Appearance Management Behavior

Appearance Management Behavior is an appearance management effort that indicates the degree to which one recognizes the importance of appearance or takes a positive attitude toward appearance. It consisted of 6 questions and one factor. Appearance Management Behaviors is a 5-point Likert scale, with the higher score indicating the more positive of behaviors.

2.3. Research model

The independent variable was defined as Body Image Recognition, and its sub-factors were defined as Social Awareness, Life-habit Awareness, Health Awareness, and Self-body Image Recognition. Dependent variables was defined as Appearance Management Behaviors. The research model is shown in <Figure 1> and <Figure 2>.

Figure 1. Simple regression analysis model.

Figure 2. Multiple regression analysis model.

2.4. Data analysis

The data of this study were statistically analyzed by using SPSS 25.0, whose details are as follows.

First, the feasibility analysis of the measurement tool was performed by performing exploratory factor analysis. In order to analyze the items constituting the factors, reliability was analyzed using Cronbach's alpha coefficient.
Second, frequency analysis and descriptive statistical analysis were performed to understand the research subjects' perceptions and actual conditions of manipulative therapy and general characteristics of the research subjects, and descriptive statistical analysis was performed to understand the level of research variables.

Independent sample t-test, one-way ANOVA, and Scheffe's post hoc test were performed to determine whether there are differences in study variables according to the characteristics of the study subjects.

Simple regression analysis and multiple regression analysis were performed to investigate the effect of Body Image Recognition and sub-factors on Appearance Management Behaviors. In the statistical analysis, statistical significance was determined based on the significance level of 5%.

3. Results

3.1. General characteristics of the study subjects

For this study, a survey was conducted with 225 people, and the general characteristics of the subjects are as follows.

By gender, there were 52 men(23.1%) and 173 women(76.9%), and by age group, 10 people in their 20s(4.4%), 29 people in their 30s(12.9%), and 77 people in their 40s(34.2%), 50 or older, 109(48.4%), and marital status was 184 (81.8%) married, 31(13.8%) unmarried, and 10(4.4%) other persons. As for their final educational background, 56 people(24.9%) had a high school diploma or less, 37 people(16.4%) graduated from a junior college, 48 people(21.3%) graduated from a four-year system, and 84 people(37.3%) were enrolled in or graduated from graduate school. By occupation, 3 students(1.3%), 21 general office workers(9.3%), 27(12.0%) service(sales) workers, 50 self-employed(22.2%), 21 full-time housewives(9.3%) %, civil servants 8(3.6%), professional workers 48(21.3%), technical (skilled) workers 21(9.3%), others 26(11.6%), and the average monthly income was 20 people(8.9%) with less than 1 to 2 million won, 35(15.6%) with less than 2 to 3 million won, 47(20.9%) with 3 to 4 million won, 42 people(18.7%) with less than 4 to 5 million won, 81 persons(36.0%) who had more than 5 million won appeared.

3.2. Validation

Exploratory factor analysis was conducted to verify the validity of the measurement tool used in this study. Principal component analysis and Varimax rotation analysis were used. The conditions for factor classification should be an eigenvalue of 1 or more, and if the factor loading exceeds .40, it was classified as the corresponding factor.

1) Body Image Recognition

In the Body Image Recognition, 5 items that hinder validity(Body Image Recognition 4, 5, 6, 9, 14) were excluded, and finally, factor analysis was conducted with 12 items. As a result of factor analysis, the KMO measurement was .706, and the result of Bartlett's sphericity verification was also significant(p<.001), so the factor analysis model was judged to be suitable.

Body Image Recognition was classified into 4 factors, and they showed 68.7% of fac-tor explanatory power. The first factor is ‘Health Awareness’ with 5 items, the second factor is ‘Self-body Image Recognition’ with 3 items, the third factor is ‘Social Awareness’ with 2 items, and the fourth factor is ‘Life-habit Awareness’ with 2 items.

2) Appearance Management Behaviors

As for Appearance Management Behavior, one item that hinders validity(Appearance Management Behavior No. 6) was excluded, and a factor analysis was finally conducted with 5 items. As a result of factor analysis, the KMO measurement was 0.830, and the result of Bartlett's
sphericity verification was also significant \( p<.001 \), so the factor analysis model was judged to be suitable.

Appearance management behavior was classified as one factor, and one factor showed factor explanatory power of 60.4%.

### 3.3. Reliability analysis

Reliability means that the same result appears even when the target is measured several times, and there is consistency between the items constituting a certain indicator.

To verify this, Cronbach's alpha coefficient was used. The alpha coefficients of all variables were found to be 0.6 or higher, indicating high reliability, as shown in Table 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>No. of items</th>
<th>Cronbach's α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health awareness</td>
<td>5</td>
<td>0.784</td>
</tr>
<tr>
<td>Self-body image recognition</td>
<td>3</td>
<td>0.743</td>
</tr>
<tr>
<td>Social awareness</td>
<td>2</td>
<td>0.786</td>
</tr>
<tr>
<td>Life-habit awareness</td>
<td>2</td>
<td>0.741</td>
</tr>
<tr>
<td>Total</td>
<td>12</td>
<td>0.68</td>
</tr>
<tr>
<td>Appearance management behaviors</td>
<td>5</td>
<td>0.832</td>
</tr>
</tbody>
</table>

### 3.4. Differences in manipulative therapy according to the characteristics of study subjects

Chi-squared test was performed to determine whether there is a difference in terms of manual therapy according to the general characteristics of the study subjects.

Looking at the face areas they want to improve according to gender, the forehead is 'male' 7 people (13.5%), 'female' 19 people (11.0%), the eyes are 'male' 14 people (26.9%), 'female' 13 people (7.5%), 'male' 7 people (13.5%), 'female' 8 people (4.6%), clown 6 people 'male' (11.5%), 'female' 14 people (8.1%), lips 'Male' 0 people (0.0%), 'Female' 5 people (2.9%), 'male' 2 people (3.8%), 'female' 22 people (12.7%), neck wrinkles 'male' 9 Persons (17.3%), 'female' 34 people (19.7%), and nasolabial folds were 'male' 7 people (13.5%) and 'female' 58 people (33.5%). Men said they wanted to improve the eyes and women wanted to improve the nasolabial folds, and this difference was also statistically significant \( \chi^2=28.121, p<.001 \).

Looking at the parts of the body that you want to improve according to the age of the subject, the clavicle & back neck line is in '20s' 1 person (10.0%), '30s' 5 people (17.2%), '40s' 5 people (6.5%), 16 people in '50s or older' (14.7%), 2 people in '20s'(20.0%), 6 people in '30s(20.7%), 9 people in '40s(11.7%)', back and chest Over 50' 15(13.8%), Abdomen and waist 4 '20's(40.0%), '30's' 9 people (31.0%), '40's' 41 people (53.2%), '50 'Over age' 68 (62.4%), buttocks '20's' 0 (0.0%), '30's' 1 person (3.4%), '40's' 3 people (3.9%), '50's or older' 2 people (1.8%), lower body, calf 3 people in '20's(30.0%), 8 people in '30s(27.6%), 19 people in '40s(24.7%), 8 people in '50s or older' (7.3%). People in their 20's, 30's, 40's, and 50's said that they wanted to change the abdomen and waist, and this difference was found to be statistically significant \( \chi^2=22.033, p<.05 \).

### 3.5. Differences in appearance management behavior according to general characteristics

Along Independent sample t-test, one-way ANOVA, and Scheffe's post hoc test were performed to determine whether there is a difference in appearance management behavior according to the general characteristics of the study subjects.
It was found that there was a statistically significant difference in health perception and self-body perception according to gender. Health perception \( t=2.961, p<.01 \) was lower in men than in women, and self-body recognition \( t=3.247, p<.01 \) was higher in men than in women.

### 3.6. Correlation analysis

Along Pearson’s correlation analysis was performed to understand the correlation between the variables in this study.

Appearance management behavior showed a statistically significant positive (+) correlation with body type recognition \( r=.381, p<.001 \), and health awareness, a sub-factor of body type recognition \( r=.270, p<.001 \). (+) showed a positive correlation, as shown in <Table 2>

Also, as the absolute value of the correlation coefficient between the measured variables was less than .80, there was no problem of multicollinearity.

Table 2. Correlation analysis.

<table>
<thead>
<tr>
<th></th>
<th>Body image recognition</th>
<th>Health awareness</th>
<th>Self-body image recognition</th>
<th>Social awareness</th>
<th>Life-habit awareness</th>
<th>Appearance management behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body image recognition</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health awareness</td>
<td></td>
<td>.698***</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-body image recognition</td>
<td></td>
<td></td>
<td>-.001</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social awareness</td>
<td></td>
<td></td>
<td>1</td>
<td>.093</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life-habit awareness</td>
<td></td>
<td>.590***</td>
<td>.257***</td>
<td></td>
<td>.189**</td>
<td></td>
</tr>
<tr>
<td>Appearance management behaviors</td>
<td></td>
<td></td>
<td>.305***</td>
<td></td>
<td>.388***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.179**</td>
<td></td>
<td>.189**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.162’</td>
<td></td>
<td>.175**</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>.175’</td>
<td></td>
<td>.175**</td>
<td></td>
</tr>
</tbody>
</table>

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

### 3.7. Effect of body image recognition on appearance management behaviors

Simple regression analysis was conducted to verify the effect of Body Image Recognition on appearance management behavior, which is shown in <Table 3> below.

As a result of verifying the regression model, the regression model was suitable as \( F=37.933(p<.001) \), and the explanatory power of the model was about 14.5%. Meanwhile, the Durbin-Watson statistic was 1.753, which was close to 2, so there was no problem in assuming the independence of the residuals.

As a result of verifying the significance of the regression coefficient, it was found that Body Image Recognition had a significantly positive (+) effect on Appearance Management Behaviors \( \beta=.381, p<.001 \). In other words, it can be said that the higher the Body Image Recognition, the higher the Appearance Management Behaviors.
Table 3. Effect of body image recognition on appearance management behaviors.

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.155</td>
<td>0.398</td>
<td>2.901</td>
<td>0.004</td>
<td></td>
</tr>
<tr>
<td>Body image recognition</td>
<td>0.677</td>
<td>0.11</td>
<td>0.381</td>
<td>6.159</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

F=37.933(p<.001), R²=.145, adjusted R²=.142, Durbin-Watson=1.753

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

3.8. Effect of subfactors of body image recognition on appearance management behaviors

Multiple regression analysis was conducted to verify the effect of sub-factors of Body Image Recognition on Appearance Management Behavior.

As a result of testing the regression model, as shown in <Table 4> below, the regression model was suitable with F=7.633(p<.001), and the explanatory power of the model was about 12.2%. Meanwhile, the Durbin-Watson statistic was 1.753, which was close to 2, so there was no problem in assuming the independence of the residuals. The tolerance was all 0.1 or higher and VIF(Variance Inflation Factor) was less than 10, so the multicollinearity problem did not appear.

As a result of verifying the significance of the regression coefficient, it was found that health perception and self-body perception had a statistically significant positive(+) effect on appearance management behavior. In other words, it can be said that the higher the health awareness and body shape awareness, the higher the appearance management behavior.

Health perception(β=.207, p<.01) and self-body recognition(β=.193, p<.01) were found to have an effect on appearance management behavior in the order, whereas social awareness and lifestyle awareness There was no significant effect on appearance management behavior.

Table 4. Effect of subfactors of body image recognition on appearance management behaviors.

<table>
<thead>
<tr>
<th>Variables</th>
<th>B</th>
<th>S.E</th>
<th>β</th>
<th>t</th>
<th>p</th>
<th>tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.369</td>
<td>0.414</td>
<td>3.304</td>
<td>0.001</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health awareness</td>
<td>0.281</td>
<td>0.095</td>
<td>0.207</td>
<td>2.959</td>
<td>0.003</td>
<td>0.812</td>
<td>1.231</td>
</tr>
<tr>
<td>Self-body image recognition</td>
<td>0.152</td>
<td>0.051</td>
<td>0.193</td>
<td>2.978</td>
<td>0.003</td>
<td>0.949</td>
<td>1.054</td>
</tr>
<tr>
<td>Social awareness</td>
<td>0.057</td>
<td>0.055</td>
<td>0.069</td>
<td>1.036</td>
<td>0.302</td>
<td>0.911</td>
<td>1.097</td>
</tr>
<tr>
<td>Life-habit awareness</td>
<td>0.102</td>
<td>0.062</td>
<td>0.116</td>
<td>1.646</td>
<td>0.101</td>
<td>0.805</td>
<td>1.242</td>
</tr>
</tbody>
</table>

F=7.633(p<.001), R²=.122, adjusted R²=.106, Durbin-Watson=1.753

Note: **p<.01.

4. Summary and Conclusion

According to gender, men want to improve wrinkles around the eyes and women want to improve nasolabial folds(χ²=28.121, p<.001). However, as the next priority, those in their 20s and 40s wanted the lower body and calves, and those in their 50s and over wanted the collarbone and back neckline(χ²=22.033, p<.05). As each gender and age group has different desires to improve with manual therapy, it is necessary to develop a differentiated program. The results of responses to the use of beauty services are similar to those of other studies in that there are differences according to gender[28][29] and age[30][31]. It is thought that beauty experts should further increase their knowledge of body manipulation and pay attention to clinical and in-depth education.
Second, according to gender, women were perceived to be healthier than men (t = -2.961, p < .01), but the level of self-body recognition was low (t = 3.247, p < .01). This can be seen as a woman who is not confident in her body type, so she has became the main customer of beauty shops.

Third, Body Image Recognition was found to have a positive effect on Appearance Management Behavior (β = .381, p < .001). In other words, it can be said that the more positively she perceives her body type, the more active she is in Appearance Management Behavior. In detail, it was found that the higher the level of Health Awareness (β = .207, p < .01) and Self-body Image Recognition (β = .193, p < .01) induce Appearance Management Behaviors. It was found that Health Awareness had a greater influence on Appearance Management Behaviors than Self-body Image Recognition.

The result that the appearance management behavior increases as customers positively perceive their health and body image[32][33] supports the results of previous studies. Therefore, it can be seen that there is a high possibility that it has a positive effect on the appearance management behavior of customers and that various levels of management behavior lead to consumption of beauty and health services.

5. References

5.1. Journal articles


### 5.2. Additional references


## 6. Appendix

### 6.1. Authors contribution

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