

Shiseido Develops Assessment Scale for the Effects of Beauty Routines on Daily Behavioral Attitudes - Research on cosmetics that resonate with the mind and skin -

Shiseido Company, Limited (“Shiseido”) has developed a new behavioral attitudes scale that quantitatively measures the effects of beauty routines and their results on daily behavioral awareness*1. The new scale enables us to quantify changes in behavioral awareness, which we could only understand through the users’ comments until now. By focusing not only on users’ skin conditions but also on their emotions and attitudes in their everyday lives, we have increased the possibility of developing products and services that will help users achieve their “ideal self”.

In addition, we examined the emotions and changes in behavioral attitudes that spotless skin elicited by using the newly developed scale and found that positive emotions increased overall and extrovert behaviors that center on “actively interacting with others” such as “asking friends to meet up” were more likely to be taken.

Under the Science/Creativity approach of our unique R&D philosophy, “DYNAMIC HARMONY”, we at Shiseido have been taking on the challenge of scientifically exploring phenomena that were difficult to quantify, such as how beauty routines affect users’ emotions and attitudes. These study results were presented in part at the 17th Spring Annual Meeting of Japan Society of Kansei Engineering held on March 25 and 26, 2022.

*1 The awareness of oneself that can influence one's own behavior.



Figure 1. Examples of images used for evaluation.

Left: Bare skin Right: Spots removed by image processing.

Research Background

To achieve beauty and wellness, it is important to take into account changes in emotions and attitudes resulting from changes in skin condition in addition to the changes in the skin condition itself. However, previously there was no scale to quantitatively assess behavioral attitudes, and it was not easy to scientifically verify behavioral changes associated with beauty. Thus, we sought to create an assessment scale to quantitatively evaluate changes in behavioral attitudes elicited by beauty routines.

Steps in the development of beauty-associated behavioral awareness scale

We conducted two Internet surveys including people spanning all adult age groups (Table 1) and used the data to develop a beauty-associated behavior attitude scale. In the first survey (participants: 5152 Japanese women, 20-69 years old), we identified what kinds of behavioral changes could be expected from skincare and selected 42 question items associated with behavior changes. In the second survey, (participants: 2816 Japanese women, 25-74 years old), we asked the participants to select what extent they “want to start”, “want to try”, or “(have already started and) want to continue further” by 7-step scale for each question item. We then used an exploratory factor analysis*2 to reveal four scales that can measure changes in beauty-associated behavior attitudes and that these scales can be measured by a questionnaire with 16 questions (Table 2). We concluded that the four scales consisted of two aspects: for whom the action is performed (altruistic or selfish) and the type of behavior (external/extrovert or internal/introvert).

*2 An analytical method commonly used in scale development, etc., and is suitable for summarizing data measured by numerous items, such as questionnaires, into a common concept

Table 1. Steps in the development of behavioral attitude scale

	Objective	participant	Result
Survey 1	Search for what kinds of behavioral changes can be expected from skincare in answers to open ended questions on.	5,152 Japanese women, 20-69 years old.	Selected 42 items regarding behavioral changes.
Survey 2	Verify what kinds of scales summarize the 42 items obtained in Survey 1.	2,816 Japanese women, 25-74 years old.	Confirm that recognition of behavioral changes consists of four scales.

Table 2. Behavioral attitude scale and questions to assess beauty-associated behavioral changes

Scale	Description	Question Example
Considerate communication with others	Communicate with people around you in a Table 1. Steps in the development of behavioral attitude scale considerate manner.	Communicate with people around you with a smiley face.
Proactive communication with others	Proactively create opportunities to communicate with others.	Ask friends or acquaintances to meet up.
Self-consciousness about external appearance	Be mindful of your external impressions.	Try out makeup and clothes that you have been interested in.
Self-consciousness about inner self	Reflect on yourself and try to improve your inner self.	Acquire qualifications or study for career advancement.

Looking at the scoring trends for each scale across age groups reveals that the older the age group, the higher the score in the “Considerate communication with others” scale. This suggests that as they become more experienced in life, they become more considerate in their communication with others. In the “Self-consciousness about external appearance” scale, the younger the age group, the higher the score, indicating that younger people are more conscious of their appearance. In contrast, there were no age-dependent trends in the other two scales (Figure 2).

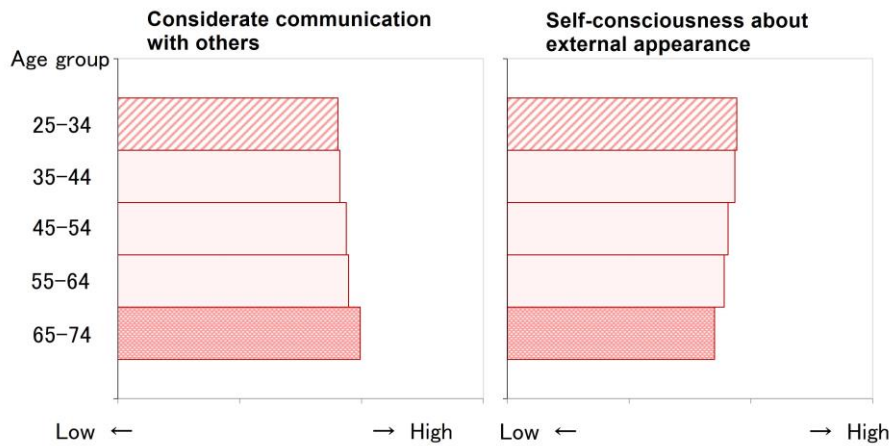


Figure 2. Trends in behavioral awareness scale by age group
(1,000 Japanese women, 25-74 years old)

Resolution of skin concerns may lead to positive emotions and attitudes

To verify how the behavioral attitudes of consumers changes when their skin concerns are resolved, we conducted an experiment using facial spots as an example. We asked 32 Japanese women aged from 35 to 59 who were concerned about their unconcealable spots to fill out a questionnaire, which included “the cosmetic emotional attitude scale”^{*3} which Shiseido has previously developed, and the four behavioral attitude scales developed in this round of research, after looking at both an image of their bare skin and of their face that has had spots removed by image processing (Figure 1). As a result, we confirmed that the image of their spotless face significantly increased positive emotion scale score such as “energetic and cheerful” and significantly increased attitude scale score such as the “self-affirmation” and “extrovert” (Figure 3). Furthermore, we confirmed that behavioral attitude scores significantly improved on all four scales (Figure 4). The spotlessness not only led to a high score in “Self-consciousness about external appearance”, but also in “Self-consciousness about inner self” and “Proactive communication with others”. The results of this study suggest that the resolution of skin concerns may lead to variety of positive emotions and attitudes.

^{*3} Partially modified from Chiho Sato (2020) “Changes in Emotions and Attitudes When Using Cosmetics”. Journal of the Society of Cosmetic Chemists of Japan, 54(4), 351-357.

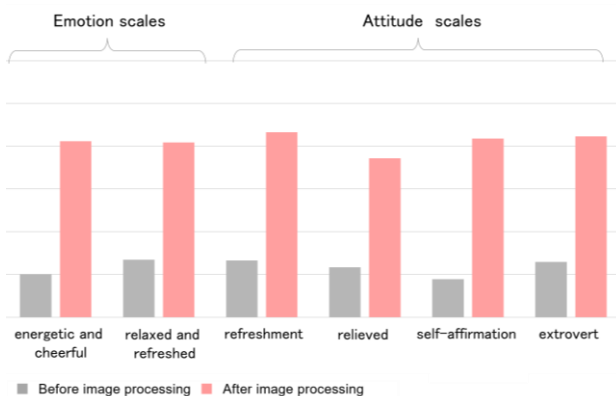


Figure 3. Changes in emotions and attitudes when looking at faces before and after image processing

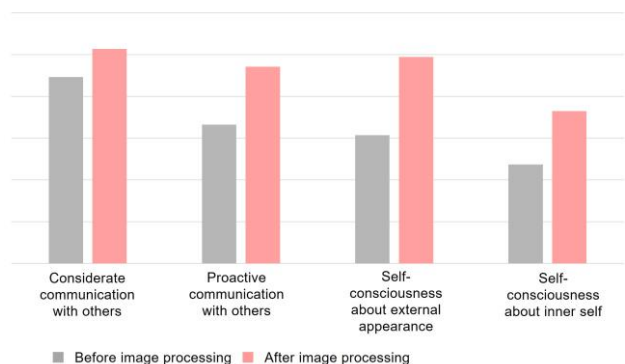


Figure 4. Change in behavioral attitudes when looking at faces before and after image processing

Future Prospects

Shiseido aims to be a “PERSONAL BEAUTY WELLNESS COMPANY” that supports people in realizing their unique beauty and wellness throughout their lives by 2030. It is more and more important to keep the body and mind healthy and beautiful in our aging society and in our stressful society, especially during the COVID-19 pandemic. With the behavioral attitude scale developed in this study, it has become possible to have a more detailed, quantitative understanding of the effects of products and services on users’ emotions and attitudes regarding the characteristics of products such as color, fragrance, and texture as well as the effects of their continuous use along with related services. We will continue our research with the aim of developing and providing personalized beauty solutions that create positive changes not only to the skin but also to emotions and attitudes.

Shiseido’s R&D philosophy “DYNAMIC HARMONY”

Shiseido Formulates its Unique R & D philosophy “DYNAMIC HARMONY” (2021)

<https://corp.shiseido.com/en/news/detail.html?n=0000000003252>

The DYNAMIC HARMONY special website:

<https://corp.shiseido.com/en/rd/dynamicharmony/>

<Reference>

Researchers' Challenges

■ A desire to “visualize” changes in facial expression and voice as data

We, at Shiseido, design products and verify their effectiveness by placing our attention on the positive changes in emotions and attitudes resulting from changes in skin condition in addition to the changes in the skin condition itself. We also test its effectiveness with the cooperation of many users at our innovation center. We as researchers actually saw scenes in which users gradually brightened their facial expressions and tone of voice when they used our products and had a desire to “visualize” those kinds of changes that occur in their everyday lives, which led us to the development of this assessment scale.



Researcher, Tomoko Watanabe

■ A unique scale realized through Shiseido’s experience in communicating with many consumers

We started the development of this scale by collecting “behavioral changes more likely to occur as a result of skincare” in cooperation with more than 5,000 users. In addition, the researchers had already seen such changes in their communication with a large number of users, and this kind of experience was also utilized when developing and verifying the details of the scale. Shiseido has been connected with consumers in stores and at R&D sites for many years, and it can be said that the development of behavioral attitude scale was the outcome of our long-standing efforts.

■ Future beauty we want to create by using the scale

Looking ahead, we are planning to conduct a comparative verification of changes in behavioral attitudes based on the presence or absence of various skin concerns other than spots by using this scale and also consider the development of scales for users other than Japanese women. In addition, we believe that by combining with other advanced methods, it will be possible to evaluate changes in behavioral attitudes and behavior itself more accurately. In this era of 100-year life expectancy, we will continue our research on psychology and behavioral science to support people in living their lives with healthy, beautiful mind and body through the effects of beauty routines.