

RESEARCH

Open Access



# What factors encourage the acceptance of cosmetic surgery? Differences in sociopsychological influences contingent upon cosmetic surgery experience

Sunwoo Kim\*

\*Correspondence:  
swkim36@snu.ac.kr

Research Institute of Human  
Ecology, Seoul National  
University, 222-305, Gwanakro 1,  
Gwanak Gu, Seoul 08826, South  
Korea

## Abstract

While numerous sociopsychological factors affect one's acceptance of cosmetic surgery, little is known about the sociopsychological influences that lead to cosmetic surgery acceptance based on one's prior experience with cosmetic surgery. The present study identified the differences between two groups: women with cosmetic surgery experience and women without prior cosmetic surgery experience. A research model was developed with five hypotheses to identify the four sociopsychological influences on cosmetic surgery acceptance: upward appearance comparison, awareness of an emphasis on beauty ideals, internalization of beauty ideals, and body surveillance. Data were collected from 651 South Korean women in their 20 s to 40 s and were analyzed using second-order confirmatory factor analysis and multi-group structural equation modeling. In the cosmetic surgery group, upward appearance comparison, awareness of an emphasis on beauty ideals, and body surveillance had a positive effect on cosmetic surgery acceptance. Internalization of beauty ideals and body surveillance also had a positive effect on cosmetic surgery acceptance in the no cosmetic surgery group. Additionally, the effects of upward appearance comparison, awareness of an emphasis on beauty ideals, and internalization of beauty ideals on cosmetic surgery acceptance varied significantly between the two groups. The findings add insights on the design of therapeutic programs to prevent cosmetic surgery addiction and education programs to increase body appreciation.

**Keywords:** Cosmetic surgery acceptance, Upward appearance comparison, Awareness of an emphasis on beauty ideals, Internalization of beauty ideals, Body surveillance, South Korean women

## Introduction

Cosmetic surgery has increasingly been accepted around the world, with an acceptance rate that rose from 5.4% in 2018 to 7.4% in 2019 (International Society of Aesthetic Plastic Surgery, 2019, 2020). According to country-level statistics, 15.9% of all cosmetic surgery procedures were performed in the US in 2019, and Brazil, Japan, Mexico, and Italy also ranked high in the number of procedures (International Society of Aesthetic

Plastic Surgery, 2019, 2020). In South Korea, the number of procedures has been smaller, but per capita, the number of cosmetic surgery procedures and plastic surgeons have been ranked high globally since the 2010s (Bonell et al., 2021; Jee et al., 2014). Almost 20% of South Koreans have had at least one cosmetic surgery procedure, demonstrating the widespread acceptance (Bonell et al., 2021). Cosmetic surgery is more common for women than for men in South Korea because women are evaluated more on appearance, and women's appearance has a stronger influence on people's evaluation of their social ability compared to men's appearance (Park et al., 2019). A Korean Gallup poll indicated that 91% of adult women in South Korea responded that appearance plays a critical role in social success, and 53.9% of them encountered appearance-based discrimination when applying for a job (Gallup Korea, 2015; Lim, 2019).

Cosmetic surgery is an appearance management behavior to radically modify one's appearance in a short period of time with surgical or non-surgical procedures (Bonell et al., 2021; Henderson-King & Henderson-King, 2005; Lee & Lee, 2019). People pursuing a drastic transformation in appearance often decide to undergo cosmetic surgery, but the procedures involve risks such as medical side effects (e.g., inflammatory reactions, infection, physical malfunction of the surgical site, and surgical failure), psychological problems (e.g., cosmetic surgery addiction), and economic burden (Sarwer et al., 1998). One risk of cosmetic surgery is that it can lead to cosmetic surgery addiction, which is an obsession to repeatedly modify one's appearance through cosmetic surgery (Lee, 2013). Cosmetic surgery addiction could also be a significant risk because it may lead to illegal surgeries performed by non-professional medical specialists (Shin et al., 2004). An example of the risk of cosmetic surgery addiction is depicted in a famous reality television program in South Korea, "Fan Lady," showing a South Korean woman who was addicted to illegal cosmetic surgery. Repeated illegal cosmetic surgery enlarged her face so it resembled a fan. She also suffered from serious side effects that endangered her life (Shin et al., 2004).

Undergoing cosmetic surgery is often criticized by society since a beautified appearance through cosmetic surgery is dismissed as "fake beauty" or "artificial beauty" (Bonell et al., 2022). Due to these unfavorable perceptions, people are often afraid of having cosmetic surgery and criticize its use as a tool to achieve a beautified appearance (Bonell et al., 2022). In particular, people decide whether to engage in a specific behavior based on whether it makes them feel socially recognized, feel a sense of belonging, or feel respected as social individuals (Hossain & Ali, 2014; Ormond, 1991). Social individuals (1) belong to social groups, (2) desire stable relationships with members of their social groups, and (3) identify themselves through social assessment and acknowledgement (Hossain & Ali, 2014; Ormond, 1991). Thus, as social individuals, they may believe that having cosmetic surgery will harm their social reputation or social position due to social criticism of cosmetic surgery from their social group members. However, despite these negative perceptions, people may still decide to have cosmetic surgery (Bonell et al., 2021).

This paradox has become more apparent in modern society due to numerous facilitators of cosmetic surgery that offset the negative perceptions of cosmetic surgery (Bonell et al., 2021, 2022; Kim, 2021; Kim & Lee, 2018). Among the facilitators, sociopsychological influences are some of the strongest forces in the proliferation of cosmetic surgery

(Sarwer et al., 1998). Sarwer et al. (1998) and Wang et al. (2021) proposed that the sociopsychological influences on cosmetic surgery acceptance include (1) appearance comparison with social members who belong to a certain social group (Hossain & Ali, 2014), (2) sociocultural attitudes towards appearance, and (3) objectified body perceptions. These factors affect social individuals' perceptions of themselves and their appearances (e.g., body satisfaction, appearance satisfaction, and self-esteem), which result in the desire to maintain a well-disciplined physique and a beautified appearance (Kim & Lee, 2018; O'Brien et al., 2009; Patrick et al., 2004). Given these sociopsychological conditions, people whose appearance is similar to the beauty ideals of society benefit from social competition, whereas those with a more ordinary appearance could face social discrimination (Frieze et al., 1991; Julander & Julander, 2009; Mulford et al., 1998). These sociopsychological conditions encourage individuals' acceptance of cosmetic surgery despite the risks and social criticism (Wang et al., 2021).

It is important to note that cosmetic surgery acceptance, which signifies a positive attitude toward cosmetic surgery (Henderson-King & Henderson-King, 2005), does not always result in actually undergoing cosmetic surgery. Son (2011) found that more than 70% of South Korean women reported a positive attitude to accept cosmetic surgery, but only about 26% had had cosmetic surgery. Considering this gap between the positive attitude and actual behavior, this study predicted that there are differences in sociopsychological influences on cosmetic surgery acceptance based on one's prior experience with cosmetic surgery. Although much academic work has focused on cosmetic surgery, few studies have dealt with these differences. Thus, this study aims to examine and verify the differences in the sociopsychological influences on cosmetic surgery acceptance based on women's prior cosmetic surgery experience in South Korea, where cosmetic surgery is socially prevalent due to the spread of "lookism," which is discrimination based on a person's appearance and the pursuit of ideal beauty standards (Lee et al., 2017). The findings of this study are expected to provide insights into the design of therapeutic programs to prevent cosmetic surgery addiction and education programs to improve body appreciation. In particular, the results of this study may have implications not just for South Korean culture but also for other cultures. This is because lookism, which encourages the spread of cosmetic surgery, is not just a South Korean cultural phenomenon but rather a worldwide social trend (Lee et al., 2017).

## **Literature review and hypothesis development**

### **Cosmetic surgery**

Cosmetic surgery is an appearance management method to permanently or semi-permanently modify one's appearance in a short period of time (Henderson-King & Henderson-King, 2005; Lee & Lee, 2019). It carries higher risks than detachable or removable beauty enhancements that are temporarily applied to the body for a short time, such as wearing makeup, clothing, or accessories (Roach-Higgins & Eicher, 1992). Cosmetic surgery is generally classified into surgical and non-surgical procedures (Lee & Lee, 2019). Negative attitudes toward cosmetic surgery were prevalent until the early 2000s, but the general sentiment toward cosmetic surgery has recently shifted to positive acceptance (Lee & Lee, 2019). Today, cosmetic surgery is regarded as a way to change one's appearance. Thus, people have increasingly perceived it as an acceptable appearance

management tool because unachievable ideals of beauty have become pervasive in society (Bonell et al., 2021).

Cosmetic surgery acceptance signifies the degree to which people have a positive attitude toward cosmetic surgery and embrace it as an appearance management tool (Henderson-King & Henderson-King, 2005). People increasingly believe that changing their appearance to meet ideal beauty standards benefits their social life or self-perception (Henderson-King & Henderson-King, 2005). Henderson-King and Henderson-King (2005) asserted that the acceptance of cosmetic surgery is determined by social and intrapersonal motivations based on a three-dimensional measurement scale: (1) the “intrapersonal” dimension includes personal factors that influence cosmetic surgery acceptance to improve self-esteem or alleviate psychological problems; (2) the “social” dimension refers to social motivations that affect the determination to undergo cosmetic surgery to enhance social and professional prospects and attract social members; and (3) the “consider” dimension measures the degree to which cosmetic surgery is seriously considered to improve physical attractiveness. However, cosmetic surgery acceptance does not always lead to undergoing actual cosmetic surgery procedures (Son, 2011).

Undergoing cosmetic surgery is an essential determinant of perceptions, attitudes, and behaviors regarding cosmetic surgery. Kim and Chung (2014) and Swami et al. (2008) established that having prior cosmetic surgery is a significant predictor of future cosmetic surgery. Son (2011) also found that the levels of sociopsychological attributes (i.e., internalization of beauty ideals, social comparison of appearance, and body surveillance) vary significantly between those who have had cosmetic surgery and those who have not. However, those studies have only examined the differences in the probability of having additional cosmetic surgery (Kim & Chung, 2014; Swami et al., 2008) and the differences in the mean scores of sociopsychological attributes based on prior cosmetic surgery experience (Son, 2011). Thus, it was impossible to determine from the findings of previous studies whether sociopsychological influences on cosmetic surgery acceptance are different based on one’s cosmetic surgery experience.

### **Sociopsychological influences on cosmetic surgery acceptance**

Numerous factors influence the acceptance of cosmetic surgery. Based on a systematic literature review, Sarwer et al. (1998) proposed a conceptual model of the relationship between influencing factors and cosmetic surgery acceptance, which included four influencing factors. Sociopsychological influences, including social comparison of appearance and sociocultural attitudes towards appearance, were identified as one of the four influencing factors related to greater acceptance of cosmetic surgery. In addition, Henderson-King and Henderson-King (2005) devised a measurement scale of cosmetic surgery acceptance and demonstrated that body objectification, as one of the sociopsychological influences, affects cosmetic surgery acceptance.

#### ***Social comparison of appearance: upward appearance comparison***

Sarwer et al. (1998) identified social comparison of appearance as a sociopsychological influence on cosmetic surgery acceptance. According to the social comparison theory by Festinger (1954), social comparison means that social individuals evaluate their own social ability, which is essential for social achievement, against other social members’ ability based

on. Social comparison increases when (1) the evaluation criteria are subjective, (2) accomplishing the ability is unattainable, and (3) the ability is indispensable for social success (Festinger, 1954; Radloff, 1966). In modern society, when an attractive appearance plays a crucial role in social success and an ideal appearance is an unachievable standard, people compared their own appearance to that of other social members (Arnocky et al., 2016; Matera et al., 2018; Nerini et al., 2014; Patrick et al., 2004).

Upward appearance comparison signifies that individuals evaluate their own appearance against other people who are perceived to have more superior appearance than themselves such as celebrities or social media influencers (O'Brien et al., 2009). These comparisons can increase risky appearance management behaviors, including cosmetic surgery (Kim & Lee, 2018; O'Brien et al., 2009). Upward appearance comparison can also lead to jealousy of the social benefits of the comparison targets and can lead to an inferiority complex about one's ordinary appearance that is far from society's beauty ideals (O'Brien et al., 2009). The jealousy and inferiority complex can lead to a desire to quickly change one's ordinary appearance so it is closer to society's unattainable beauty ideals, despite the risks and side effects (Arnocky et al., 2016). Recently, extensive media exposure and celebrity worship have influenced cosmetic surgery acceptance because celebrity images with excessive airbrushing in the media have become a primary target of appearance comparisons and have increased people's dissatisfaction with ordinary appearances (Jung & Hwang, 2016; Swami et al., 2009). In addition, as the use of visual image-oriented social media platforms such as Instagram has grown exponentially, exposure to postings of individuals with perfect appearances has increased the acceptance of cosmetic surgery (Brown & Tiggemann, 2016; Walker et al., 2021). Therefore, it is reasonable to predict that upward appearance comparison will increase cosmetic surgery acceptance. However, previous studies focusing on the impact of upward appearance comparison on cosmetic surgery acceptance have mostly collected data from general samples and have not considered prior cosmetic surgery experience (Kim & Lee, 2018; Matera et al., 2018; Nerini et al., 2014; O'Brien et al., 2009; Sarwer et al., 1998). It is likely that the general samples in these studies included both individuals who have had cosmetic surgery and those who have not. Hence, this study predicts that upward appearance comparison has a positive effect on cosmetic surgery acceptance for both groups: those who have had prior cosmetic surgery (cosmetic surgery group) and those who have not (no cosmetic surgery group). Based on this discussion, Hypothesis 1 is derived.

H1. Upward appearance comparison has a positive influence on cosmetic surgery acceptance.

H1a. Upward appearance comparison has a positive influence on cosmetic surgery acceptance in the cosmetic surgery group.

H1b. Upward appearance comparison has a positive influence on cosmetic surgery acceptance in the no cosmetic surgery group.

***Sociocultural attitudes towards appearance: awareness of an emphasis on beauty ideals, and internalization of beauty ideals***

The ideal beauty standards portrayed in the media promote the importance of appearance and lead individuals to further internalize the ideal beauty standards

in their aesthetic values and preferences (Park, 2012). These perceptions and internalization constitute social individuals' overall attitudes toward appearance (Heinberg et al., 1995). These attitudes are sociocultural products since social individuals are influenced and established by sociocultural forces such as values, lifestyles, and the media (Lee & Cho, 2014). Heinberg et al.'s (1995) sociocultural attitudes toward appearance questionnaire (SATAQ) assesses people's perceptions and acceptance of socially imposed ideal beauty standards. The SATAQ includes two sub-dimensions: (1) "awareness of an emphasis on beauty ideals" measuring how much people recognize the importance of an attractive appearance to achieve social benefits, and (2) "internalization of beauty ideals" referring to how much people embrace socially popular ideal beauty standards to determine their own personal aesthetic values and preferences (Heinberg et al., 1995). Numerous studies have found that sociocultural attitudes toward appearance influence diverse appearance management behaviors (Lee & Cho, 2014; Park, 2012). Social individuals with high SATAQ scores—those who believe that attractive appearance is important for achieving social benefits and accept ideal beauty standards as their aesthetic values or preferences (Heinberg et al., 1995)—engage in more risky appearance management behaviors that have inherent risks and side effects, including cosmetic surgery (Steiner-Adair et al., 2002; Swami, 2009).

Thompson and Heinberg (1999) noted that social individuals internalize abnormally thin bodies and unattainable beauty standards because these bodies and beauty standards are common in the media, including TV, movies, magazines, and commercials. They also argued that modern times have seen an upward trend in appearance being perceived as important. In the past, beauty standards were presented through artwork that was mostly enjoyed by privileged social classes, but in modern society, these standards are strongly and rapidly spread through the media (Kim, 2016). However, the beauty standards that have diffused in modern society are difficult for ordinary people to attain. Images in the media, which affect the formation of ideal beauty standards, have often gone through excessive editing such as airbrushing, and the people in the images manage their appearance with inordinate beautification methods by skilled beauty professionals (Lin & McFerran, 2016).

Exposure to these media images and messages can lead to body dissatisfaction and subsequently lead to internalization of distorted beauty standards (Ahern et al., 2008; Hogue & Mills, 2019). Furthermore, since recognizing that an attractive appearance can be a competitive edge for social achievement, such as a job search and romantic relationships, people end up emphasizing beauty ideals and being dissatisfied with their own ordinary bodies (Warren et al., 2005). This physical body dissatisfaction increases the desire to change one's appearance to fulfill the beauty ideal in a short period, resulting in increased cosmetic surgery acceptance despite the inherent risks and social criticism. Previous studies have found that cosmetic surgery acceptance increases when there is increased awareness of an emphasis on and internalization of beauty ideals (Jung & Hwang, 2016; Kim, 2021; Matera et al., 2018; Wang et al., 2021). These studies have collected data from general samples, including those who had prior cosmetic surgery and those who had no prior cosmetic surgery experience. Hence, this study investigated the influence of awareness of an emphasis on beauty ideals and internalization of beauty

ideals on cosmetic surgery acceptance in the two groups, and the following hypotheses are presented:

H2. Awareness of a social emphasis on beauty ideals has a positive influence on cosmetic surgery acceptance.

H2a. Awareness of a social emphasis on beauty ideals has a positive influence on cosmetic surgery acceptance in the cosmetic surgery group.

H2b. Awareness of a social emphasis on beauty ideals has a positive influence on cosmetic surgery acceptance in the no cosmetic surgery group.

H3. Internalization of beauty ideals has a positive influence on cosmetic surgery acceptance.

H3a. Internalization of beauty ideals has a positive influence on cosmetic surgery acceptance in the cosmetic surgery group.

H3b. Internalization of beauty ideals has a positive influence on cosmetic surgery acceptance in the no cosmetic surgery group.

#### ***Body objectification: body surveillance***

Body objectification indicates that a social individual does not perceive his or her body as a whole personal subject that he or she can independently control, but rather an object for other social members to observe (Gapinski et al., 2003; Tiggemann & Lynch, 2001). Researchers have found that social forces, such as media exposure, reinforce body objectification (Fredrickson & Roberts, 1997; Harrison & Cantor, 1997; Tyner & Ogle, 2009). Media images and content encourage the public to objectify their bodies, especially women, by describing them as monitored objects from a third-party perspective (Silverstein et al., 1986), which results in both emotional problems (e.g., shame, anxiety, and depression) and behavioral problems (e.g., eating disorders and cosmetic surgery addiction) (Fredrickson & Roberts, 1997; Lee & Johnson, 2009). In particular, as a result of the technological advancements and rising popularity of cosmetic surgery, many women who suffer from the negative consequences of body objectification have chosen cosmetic surgery as a solution (Ching & Xu, 2019).

McKinley and Hyde (1996) described objectified body consciousness as a belief that it is possible to achieve unrealistic beauty standards by internalizing those standards as one's criteria for determining aesthetic preferences. They also developed a measurement scale with three sub-dimensions: body surveillance, body shame, and appearance control beliefs. Among those, body surveillance indicates that people objectify their own bodies and observe them from a third-party perspective, as if there is someone else who is the surveillant (McKinley & Hyde, 1996). In general, women are subjected to greater body surveillance than men because they are exposed to greater social pressure than men to maintain a desirable appearance (Roberts & Gettman, 2004; Tyner & Ogle, 2009). When women repeatedly experience body surveillance, it leads to the loss of body ownership and they internalize the observers' views with unrealistic beauty standards (Roberts & Gettman, 2004). This internalization can cause women to censor their bodies all of the time (Slater & Tiggemann, 2002). When the self-censorship of appearance becomes stronger, women can become

dissatisfied with their bodies because they cannot reach the ideal beauty standards (Slater & Tiggemann, 2002). Therefore, the women may embrace and adopt cosmetic surgery to alleviate their physical dissatisfaction because cosmetic surgery guarantees rapid transformation with the promise of achieving unattainable beauty ideals that are difficult to achieve through natural methods (Ching & Xu, 2019; Wang et al., 2021). Previous studies have found that body surveillance facilitates cosmetic surgery acceptance, and these studies have collected data from broad samples of those who have had prior cosmetic surgery as well as those who have never had the surgery (Ching & Xu, 2019; Lyu et al., 2021; Wang et al., 2021). Therefore, given this discussion, the following hypotheses are generated:

- H4. Body surveillance has a positive influence on cosmetic surgery acceptance.
- H4a. Body surveillance has a positive influence on cosmetic surgery acceptance in the cosmetic surgery group.
- H4b. Body surveillance has a positive influence on cosmetic surgery acceptance in the no cosmetic surgery group.

#### **The present study**

Hypothesis 1a/b to Hypothesis 4a/b predict that four sociopsychological factors influence cosmetic surgery acceptance for individuals who have undergone cosmetic surgery and those who have not. Some studies have found that prior cosmetic surgery experience is a crucial factor affecting perceptions, attitudes, and behaviors related to cosmetic surgery (Kim & Chung, 2014; Swami, 2008). Son (2011) also confirmed that the degrees of sociopsychological attributes vary significantly based on individuals' prior cosmetic surgery experience. Although prior studies have not directly explored the differences in the sociopsychological influences on cosmetic surgery acceptance based on the groups, this study suggests that the sociopsychological influences on cosmetic surgery acceptance vary contingent upon prior cosmetic surgery experience. Previous studies have shown that numerous antecedents and resulting factors were different based on one's prior experience with cosmetic surgery (Kim & Chung, 2014; Son, 2011; Swami, 2008). Thus, it is necessary to examine whether these differences are statistically significant. Based on this discussion, Hypothesis 5 is presented:

- H5. The influences of the sociopsychological factors on cosmetic surgery acceptance vary depending on prior cosmetic surgery experience.
- H5a. The influence of upward appearance comparison on cosmetic surgery acceptance varies depending on prior cosmetic surgery experience.
- H5b. The influence of awareness of an emphasis on beauty ideals on cosmetic surgery acceptance varies depending on prior cosmetic surgery experience.
- H5c. The influence of internalization of beauty ideals on cosmetic surgery acceptance varies depending on prior cosmetic surgery experience.
- H5d. The influence of body surveillance on cosmetic surgery acceptance varies depending on prior cosmetic surgery experience.



Figure 1, drawn by integrating the entire process of the hypothesis development, illustrates the research model of Hypotheses 1–5.

### Methods

#### Data collection

A web-based online survey was conducted to collect data from a sample of South Korean women in their 20 s to 40 s who enrolled in a panel at an online survey company in Seoul, South Korea. The panel members were given a small compensation for their participation in accordance with the panel's guidelines. The demographic group of women in their 20 s to 40 s is appropriate to investigate cosmetic surgery acceptance since previous studies have indicated that women in their 20 s to 40 s are more interested in cosmetic surgery than other demographic groups (Seo & Kim, 2022). In addition, globally, South Korea has the highest number of cosmetic surgery procedures and plastic surgeons per capita (Bonell et al., 2021; Jee et al., 2013). Furthermore, women are also more strongly attracted to cosmetic surgery than men in South Korea. Park et al. (2019) noted that South Korean women suffer from more social pressure to meet ideal beauty standards than men, and therefore, women undergo cosmetic surgery more frequently than men (Korea, 2015). Thus, it is urgent to study women's perspectives regarding cosmetic surgery in South Korea.

The survey company first sent the panel an e-mail explaining the qualifications, purposes of the study, assurance of confidentiality, and risks and rewards of participation. Women who agreed to participate in this survey could access the survey link attached to the e-mail. Before starting the survey, participants were informed about (1) the purposes of the study; (2) estimated time to complete the survey; (3) compensation for participation; (4) ethical regulations for the use of the collected data; (5) storage and disposal of

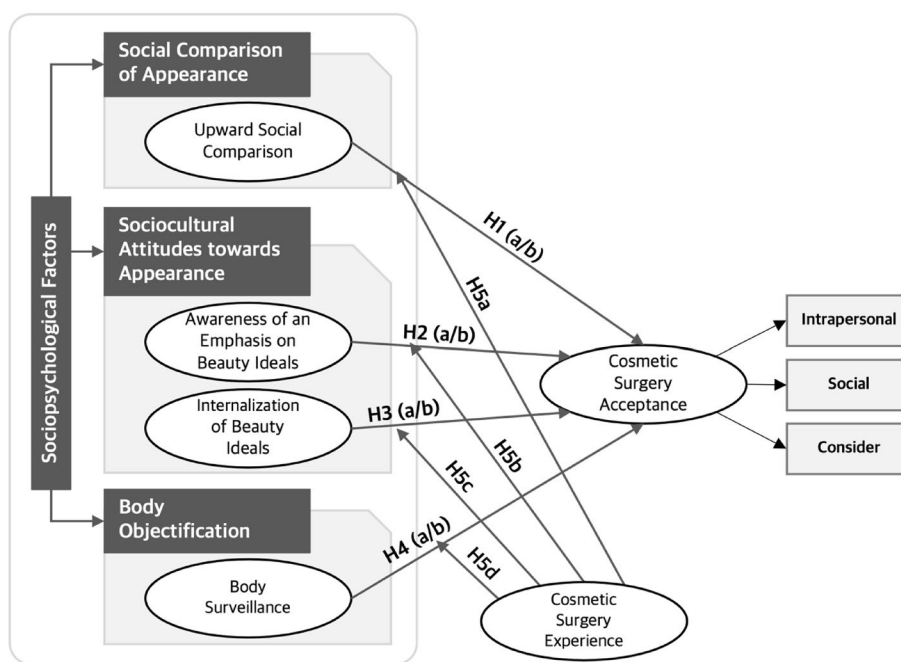


Fig. 1 Research model

the data; (6) who could access the data; (7) and participants' right to drop out of the survey. As notified to the study participants, this study complied with ethical standards when collecting, analyzing, and utilizing the data. A total of 813 participants started the survey, and 651 responses were finally analyzed after excluding unqualified or incomplete responses.

### Instruments

The online survey was a self-reported questionnaire. All survey items were adopted from previous studies, and some items were modified considering the context of this study. All items were measured on a 5-point Likert scale from 1 "*strongly disagree*" to 5 "*strongly agree*." The items for upward appearance comparison were adapted from O'Brien et al.'s (2009) upward physical appearance comparisons scale (UPACS), and four items were used considering the context of this study. Awareness of an emphasis on beauty ideals and internalization of beauty ideals were measured based on the sociocultural attitudes towards appearance questionnaire (SATAQ) by Heinberg et al. (1995). The SATAQ initially included 14 items, but this study adopted only three items for awareness of an emphasis on beauty ideals and five items for internalization of beauty ideals. Body surveillance was measured with four items from the objectified body consciousness scale (OBCS) developed by McKinley and Hyde (1996). Cosmetic surgery acceptance was measured with 11 items from Henderson-King and Henderson-King's (2005) acceptance of cosmetic surgery scale (ACSS): four items for the intrapersonal dimension, three items for the social dimension, and four items for the consider dimension.

### Statistical analysis

The collected data were analyzed through descriptive analysis, chi-square test, independent sample t-test, second-order confirmatory factor analysis (CFA), and multi-group structural equation modeling (SEM) using SPSS 23.0 and AMOS 18.0. This study examined characteristics related to cosmetic surgery and demographic characteristics of the sample (i.e., age, education level, marital status, and monthly household income) through descriptive analysis. In addition, the differences in the demographic characteristics between the two groups based on the participants' prior experience of cosmetic surgery were analyzed through chi-square tests. Independent sample t-tests identified differences in the mean total scores of the main constructs in the research model between the two groups. To test the measurement model, this study conducted a second-order CFA, which is a statistical technique that analyzes multi-level scales by bringing diverse dimensions under a common higher-level factor (Chen et al., 2005). The disadvantages of conventional CFA, in which a second-order factor for a multi-dimensional scale is substituted for first-order sub-dimensions, are that the explanation of the second-order factor is incomplete and the contribution of the sub-dimensions cannot be estimated (Koufteros et al., 2009). Therefore, this study conducted a second-order CFA to completely measure cosmetic surgery acceptance with three sub-dimensions. To apply the second-order CFA, this study first transformed the second-order factor of cosmetic surgery acceptance into three first-order dimensions (i.e., intrapersonal, social, and consider). Reliability and validity of the measurement items were evaluated with this first-order factor model with seven constructs. Subsequently, the second-order CFA was

conducted using the measured values of the first-order factor model as indicators of the second-order factor model (Koufteros et al., 2009) to confirm the validity of the second-order factor model. After verifying the validity and reliability, this study conducted a multi-group SEM to test the five hypotheses. The multi-group SEM applied prior cosmetic surgery experience as a moderating variable and examined differences between the groups.

## Results

### Sample characteristics

This study measured participants' experience with cosmetic surgery and their demographic characteristics. Cosmetic surgery was defined as "a surgical or nonsurgical procedure that transforms a person's body or face for aesthetic purposes, even when there are no external or functional concerns," based on the definition by Lee and Lee (2019). A total of 263 women (41.17%) reported that they had undergone at least one cosmetic surgery procedure, while the remaining 383 women (58.83%) reported no cosmetic surgery. Among the 383 women who had never had cosmetic surgery, 93 women (valid percentage was 24.28%; total percentage was 14.29%) replied that they planned to have cosmetic surgery in the future, while the remaining 290 women (valid percentage was 75.72%; total percentage was 44.55%) answered that they had no plan to have cosmetic surgery. Among the 263 women who had cosmetic surgery, the most frequent surgical area was the eyes (valid percentage was 60.46%; total percentage was 24.42%), and the second most frequent area was the skin (valid percentage was 33.46%; total percentage was 13.52%). Table 1 includes detailed information on the cosmetic surgery experiences of the participants.

Next, this study examined participants' demographic characteristics, such as their age, marital status, education level, and monthly household income. The age groups of all respondents, regardless of their prior experience of cosmetic surgery, were evenly distributed: 213 women in their 20 s (32.72%), 220 women in their 30 s (33.79%), and 218 women in their 40 s (33.49%). However, a chi-square test confirmed that there was a difference in the age group structure according to the prior experience of cosmetic surgery ( $X^2(2, N=651)=8.785, p<0.05$ ); women in their 30 s had more experience with cosmetic surgery than other age groups, while women in their 40 s had less experience. With respect to the marital status of all respondents, 382 women were single (58.68%), 256 women were married (39.32%), eight were divorced, and three were widowed. Unlike with the age groups, there was no significant difference in marital status according to the prior experience of cosmetic surgery ( $X^2(4, N=651)=1.770, p=0.778$ ). In terms of the education level, 562 women (86.40%) had at least a college/university-level education, indicating that most respondents had high levels of education. Additionally, a chi-square test verified that the participants' education levels did not vary according to the prior experience of cosmetic surgery ( $X^2(2, N=651)=1.077, p=0.584$ ). As for the average monthly household income, 47.16% (307 women) earned "less than 4 million KRW ( $\approx$  4000 USD)," 38.86% (253 women) earned "from 4 million KRW ( $\approx$  4000 USD) to 8 million KRW ( $\approx$  8000 USD)," and 13.98% (91 women) were relatively high-income earners with a monthly household income of more than 8 million KRW ( $\approx$  8000 USD). A chi-square test confirmed that there was a significant difference in the

**Table 1** Characteristics related to cosmetic surgery

Variables	Frequency (n)	Valid percentage (%)	Percentage (N = 651) (%)
<i>Experience with cosmetic surgery (N = 651)</i>			
Yes	263		41.17
No	383		58.83
<i>Plan to have cosmetic surgery (n = 383)</i>			
Yes	93	24.28	14.29
No	290	75.72	44.55
<i>Cosmetic surgery area (n = 263)</i>			
Eyes	159	60.46	24.42
Skin (e.g., wrinkles, elasticity, tone)	88	33.46	13.52
Nose	51	19.39	7.83
Chin	42	15.97	6.45
Face shape/Facial Contouring	28	10.65	4.30
Forehead	22	8.37	3.38
Calf/Thigh	16	6.08	2.46
Abdomen	10	3.80	1.54
Breast	7	2.66	1.08
Lips	4	1.52	0.61
Hair	2	0.76	0.31
Hip	0	0.00	0.00
ETC	6	2.28	0.92

monthly household income according to the prior experience of cosmetic surgery ( $X^2$  (2,  $N = 651$ ) = 6.180,  $p < 0.05$ ). Women in the medium monthly income range of 4~8 million KRW had relatively little cosmetic surgery experience, while women in the monthly income ranges of less than 4 million KRW and more than 8 million KRW had considerable cosmetic surgery experience. Table 2 provides detailed information on the demographic characteristics.

#### Differences in the mean total scores of the main constructs between the two groups

This study used descriptive analysis and independent sample t-tests to explore the differences in the mean total scores of the main constructs based on the prior experience of cosmetic surgery. For upward appearance comparison, the cosmetic surgery group had a higher mean total score for the four items ( $M = 12.302$ ,  $SD = 3.694$ ) than the no cosmetic surgery group ( $M = 11.418$ ,  $SD = 3.689$ ), and a t-test confirmed that this difference was statistically significant ( $t$  (649) = -3.009,  $p < 0.01$ ). The mean total scores of the three items for awareness of an emphasis on beauty ideals were 10.898 ( $SD = 2.333$ ) in the no cosmetic surgery group and 11.291 ( $SD = 2.196$ ) in the cosmetic surgery group, and this difference was statistically significant ( $t$  (649) = -2.224,  $p < 0.05$ ). With respect to the five items measuring internalization of beauty ideals, the mean total score in the cosmetic surgery group ( $M = 16.097$ ,  $SD = 4.538$ ) was higher than the mean total score in the no cosmetic surgery group ( $M = 14.979$ ,  $SD = 4.604$ ), and this difference was significant ( $t$  (649) = -3.067,  $p < 0.01$ ). With regard to body surveillance, the mean total scores of the four items were 11.731 ( $SD = 3.187$ ) in the no cosmetic surgery group and 12.172

**Table 2** Demographic characteristics

Characteristics	Division	Experience of cosmetic surgery		Total (%)	$X^2$ (df)	p-value
		Cosmetic surgery group (%)	No cosmetic surgery group (%)			
Age	20–29	85 (39.91)	128 (60.09)	213 (32.72)	8.785 (2)	.012
	30–39	107 (48.64)	113 (51.36)	220 (33.79)		
	40–49	76 (34.86)	142 (65.14)	218 (33.49)		
Marital status	Single	164 (42.93)	218 (57.07)	382 (58.68)	1.770 (4)	.778
	Married	98 (38.28)	158 (61.72)	256 (39.32)		
	Divorced	4 (50.00)	4 (50.00)	8 (1.23)		
	Widowed	1 (33.33)	2 (66.67)	3 (0.46)		
	ETC	1 (50.00)	1 (50.00)	2 (0.31)		
Education level	High-school graduate	36 (40.45)	53 (59.55)	89 (13.70)	1.077 (2)	.584
	University graduate	209 (42.05)	288 (57.95)	497 (76.34)		
	Graduate school and above	23 (35.38)	42 (64.62)	65 (9.98)		
Monthly income	Less than 4 million KRW	139 (45.28)	168 (54.72)	307 (47.16)	6.180 (2)	.045
	4 million to 8 million KRW	89 (35.18)	164 (64.82)	253 (38.86)		
	8 million KRW or more	40 (43.96)	51 (56.04)	91 (13.98)		
Total		268 (41.17)	383 (58.83)	651 (100.00)		

N=651

( $SD=3.443$ ) in the cosmetic surgery group, but a  $t$ -test indicated that the difference was not statistically significant ( $t(649) = -1.679$ ). In terms of cosmetic surgery acceptance, all mean total scores in the cosmetic surgery group ( $M=15.746$ ,  $SD=2.483$  for the four items of intrapersonal;  $M=9.765$ ,  $SD=2.805$  for the three items of social;  $M=14.552$ ,  $SD=3.142$  for the four items of consider) were higher than those in the no cosmetic surgery group ( $M=14.272$ ,  $SD=3.062$  for the four items of intrapersonal;  $M=7.828$ ,  $SD=2.722$  for the three items of social;  $M=11.373$ ,  $SD=3.954$  for the four items of consider), and all differences were statistically significant ( $t(649) = -6.524$ ,  $p < 0.01$  for intrapersonal;  $t(649) = -8.825$ ,  $p < 0.01$  for social;  $t(649) = -10.960$ ,  $p < 0.01$  for consider). Table 3 summarizes the results of the differences in the mean total scores and the  $t$ -tests in the main constructs between the two groups.

**Measurement model test results**

This study confirmed Cronbach’s  $\alpha$  values to verify the reliability of the main constructs, and all values were greater than 0.7 (ranging from 0.839 to 0.912), which is the common criterion proposed by Hair et al. (2006). Next, to test convergent validity, this study executed a first-order CFA, which comprised seven constructs including the three dimensions of cosmetic surgery acceptance. Next, the study conducted a second-order CFA, which considered the three dimensions as sub-constructs of cosmetic surgery acceptance. Both model fit indices were statistically acceptable including the first-order CFA ( $X^2=758.233$ ,  $df=301$ ,  $p < 0.001$ ,  $RMR=0.041$ ,  $GFI=0.918$ ,  $NFI=0.934$ ,  $RFI=0.923$ ,  $TLI=0.952$ ,  $CFI=0.959$ ,  $RMSEA=0.048$ ) and the second-order CFA ( $X^2=773.632$ ,  $df=309$ ,  $p < 0.001$ ,  $RMR=0.042$ ,  $GFI=0.916$ ,  $NFI=0.933$ ,  $RFI=0.924$ ,  $TLI=0.953$ ,  $CFI=0.958$ ,  $RMSEA=0.048$ ) (Bagozzi & Yi, 2012). Convergent validity was tested for the three conditions from Fornell and Larcker (1981); (1) all standardized factor loading values are greater than 0.5 and statistically significant; (2) all average variance extracted

**Table 3** Difference in mean total scores in the main constructs between the two groups

		UAC	AEBI	IBI	BS	ACS-C	ACS-S	ACS-I
Cosmetic surgery group	Mean total score	12.302	11.291	16.097	12.172	14.552	9.765	15.746
	S.D	3.694	2.196	4.538	3.443	3.142	2.805	2.483
	Min	4.00	6.00	5.00	4.00	4.00	3.00	7.00
	Max	20.00	15.00	25.00	20.00	20.00	15.00	20.00
No cosmetic surgery group	Mean total score	11.418	10.898	14.979	11.731	11.373	7.828	14.272
	S.D	3.689	2.233	4.604	3.187	3.954	2.722	3.062
	Min	4.00	3.00	5.00	4.00	4.00	3.00	4.00
	Max	20.00	15.00	25.00	20.00	20.00	15.00	20.00
T-test results	t	-3.009	-2.224	-3.067	-1.679	-10.960	-8.825	-6.524
	p	.003***	.026**	.002***	.094	.000***	.000***	.000***

\*\*\* $p < 0.01$ , \*\* $p < 0.05$

UAC, upward appearance comparison; AEBI, awareness of an emphasis on beauty ideals; IBI, internalization of beauty ideals; BS, body surveillance; ACS-C, acceptance of cosmetic surgery: consider dimension; ACS-S, acceptance of cosmetic surgery: social dimension; ACS-I, acceptance of cosmetic surgery: intrapersonal dimension

(AVE) estimates are greater than 0.5; and (3) all composite reliabilities (CR) are greater than 0.7. All standardized factor loading values were between 0.672 and 0.904, and all values were statistically significant. In the second-order CFA, the standardized factor loading values of the lower dimensions were 0.678 for interpersonal, 0.907 for social, and 0.947 for consider, and all values were statistically significant. All AVE estimates were acceptable (ranging from 0.569 to 0.726). The CRs were from 0.732 to 0.961, and the values had acceptable levels surpassing the criterion. Discriminant validity requires that the AVE estimate for each construct should be greater than the corresponding squared inter-construct correlation estimate (Fornell & Larcker, 1981), and all AVE estimates satisfied this criterion. Table 4 summarizes the items, CFA results, and reliability analysis. Table 5 presents the inter-construct correlation estimates.

**Structural model results**

This study tested a multi-group SEM to examine the five hypotheses in the research model, in which cosmetic surgery experience was allocated as a moderating variable. First, before starting the group comparison, this study applied an equality constraint to the measurement weights to examine measurement invariance as recommended by Drasgow and Kanfer (1985). They asserted that measurement invariance shows that factor loadings of all items on the same constructs are equivalent across groups. This study estimated the chi-square difference between the unconstrained and constrained models. The result demonstrated that the chi-square difference was not significant ( $\Delta X^2(20) = 18.584, p > 0.05$ ). Therefore, the measurement items could be applied for the multi-group analysis. Next, this study verified the model fit indices of the unconstrained model recommended by Hair et al. (2006), and all indices had acceptable levels ( $X^2 = 1155.052, df = 618, X^2/df = 1.869, p < 0.000, RMR = 0.049, GFI = 0.902, NFI = 0.919, IFI = 0.950, TLI = 0.943, RFI = 0.915, CFI = 0.950, RMSEA = 0.037$ ) (Bagozzi & Yi, 2012). After confirming these conditions, H1 to H4 were tested across the two groups. The influence of upward appearance comparison on cosmetic surgery acceptance was significant in the cosmetic surgery group (H1a:  $\beta = 0.290, p = 0.003$ ),

**Table 4** Results of confirmatory factor analysis

Factor	Item	Factor loading	t	AVE	CR	Cronbach's $\alpha$		
1 <sup>st</sup> order	UAC	UAC1	I compare myself	.818	25.712	.726	.891	.912
		UAC2	to those who are	.833	26.496			
		UAC3	better looking	.904	30.231			
		UAC4	than me rather than those who are not	.851	-			
			At parties or other social events, I compare my physical appearance to the physical appearance of the very attractive people					
			I find myself comparing my appearance with people who are better looking than me					
			I compare my body to people who have a better body than me					
	AEBI	AEBI1	Attractiveness is very important	.812	19.050	.643	.905	.839
		AEBI2	if you want to get ahead in our culture	.848	19.408			
		AEBI3	It's important for people to work hard on their figures/physiques if they want to succeed in today's culture	.741	-			
			In today's society, it's important to always look attractive					
	IBI	IBS1	Music videos that show thin women	.785	-	.609	.732	.893
		IBS2	make me wish that I were thin	.771	19.880			
		IBS3	I wish to look like the models in the magazines	.766	19.731			
		IBS4	I tend to compare my body to people in magazines and on TV	.829	30.550			
IBS5		Photographs of thin women make me with that I were thin I wish I looked like a swimsuit model	.750	19.272				

**Table 4** (continued)

Factor	Item	Factor loading	t	AVE	CR	Cronbach's $\alpha$	
BS	BS1	During the day, I	.773	20.327	.628	.832	.869
	BS2	think about how I	.783	20.628			
	BS3	look many times	.828	21.967			
	BS4	I often worry about whether the clothes I am wearing make me look good I worry about how I look to other people I am more concerned with how my body looks than what it can do	.785	-			
ACS-I	ACS-I1	It makes sense	.845	-	.569	.845	.848
	ACS-I2	to have minor	.787	20.865			
	ACS-I3	cosmetic surgery	.672	17.223			
	ACS-I4	rather than spend- ing years feeling bad about the way you look Cosmetic surgery is a good thing because it can help people feel better about themselves People who are very unhappy with their physi- cal appearance should consider cosmetic surgery as one option If cosmetic surgery can make someone happier with the way they look, then they should try it	.701	18.138			
ACS-S	ACS-S1	I would think	.806	-	.643	.765	.843
	ACS-S2	about having	.826	22.566			
	ACS-S3	cosmetic surgery in order to keep looking young If it would benefit my career, I would think about hav- ing plastic surgery I would seriously consider having cosmetic surgery if I thought my partner would find me more attractive	.773	20.890			



**Table 4** (continued)

Factor	Item	Factor loading	t	AVE	CR	Cronbach's $\alpha$
ACS-C	ACS-C1	In the future, I	.837	-	.658	.759 .883
	ACS-C2	could end up hav-	.729	20.865		
	ACS-C3	ing some kind of	.829	25.064		
	ACS-C4	cosmetic surgery	.844	25.722		
2 <sup>nd</sup> order	ACS	If I could have a surgical procedure done for free, I would consider trying cosmetic surgery	.947	-	.726	.961 -
	ACS-S	If I knew there would be no negative side effects or pain, I would like to try cosmetic surgery	.907	17.146		
	ACS-I	I have sometimes thought about having cosmetic surgery	.678	14.434		

1<sup>st</sup> order model fit indexes:  $\chi^2 = 758.233$ ,  $df = 301$ ,  $p < .001$ ,  $RMR = .041$ ,  $GFI = .918$ ,  $NFI = .934$ ,  $RFI = .923$ ,  $TLI = .952$ ,  $CFI = .959$ ,  $RMSEA = .048$   
 2<sup>nd</sup> order model fit indexes:  $\chi^2 = 773.632$ ,  $df = 309$ ,  $p < .001$ ,  $RMR = .042$ ,  $GFI = .916$ ,  $NFI = .933$ ,  $RFI = .924$ ,  $TLI = .953$ ,  $CFI = .958$ ,  $RMSEA = .048$

N = 651; UAC, upward appearance comparison; AEBI, awareness of an emphasis on beauty ideals; IBI, internalization of beauty ideals; BS, body surveillance; ACS-I, acceptance of cosmetic surgery: intrapersonal; ACS-S, acceptance of cosmetic surgery: social; ACS-C, acceptance of cosmetic surgery: consider

whereas the influence was not significant in the no cosmetic surgery group (H1b:  $\beta = 0.088$ ,  $p = 0.313$ ). In terms of the influence of awareness of an emphasis on beauty ideals on cosmetic surgery acceptance, the influence was significant in the cosmetic surgery group (H2a:  $\beta = 0.308$ ,  $p = 0.000$ ), but not in the no cosmetic surgery group (H1b:  $\beta = -0.014$ ,  $p = 0.818$ ). Internalization of beauty ideals did not have a significant impact on cosmetic surgery acceptance in the cosmetic surgery group (H3a:  $\beta = -0.089$ ,  $p = 0.360$ ), while the impact was significant in the no cosmetic surgery group (H3b:  $\beta = 0.205$ ,  $p = 0.005$ ). Lastly, the influence of body surveillance on cosmetic surgery acceptance was significant in both groups (H4a:  $\beta = 0.228$ ,  $p = 0.015$  in the cosmetic surgery group; H4b:  $\beta = 0.252$ ,  $p = 0.003$  in the no cosmetic surgery group). Table 6 presents the results of the hypothesis testing from H1 to H4.

As the last step, this study analyzed H5 to verify the differences in the path coefficients of the hypothesized influences from H1 to H4 for both groups. The focal effects were constrained to be invariant across the two groups, and this study estimated the differences in chi-square values obtained from the constrained and unconstrained models. Three pairs of influences of H1, H2, and H3 were statistically distinct (see Table 7). The impact of upward appearance comparison on cosmetic surgery acceptance (the relationship of H1:  $\Delta\chi^2(1) = 2.884$ ,  $p < 0.1$ ) and the influence of awareness of an emphasis on beauty ideals on cosmetic surgery acceptance (the relationship of H2:  $\Delta\chi^2(1) = 8.719$ ,

**Table 5** Inter-construct correlation estimates

	UAC	AEBI	IBI	BS	ACS-I	ACS-S	ACS-C
UAC	.726 <sup>a</sup>						
AEBI	.213 <sup>b</sup>	.643					
IBI	.409	.188	.609				
BS	.464	.183	.288	.628			
ACS-I	.089	.082	.070	.073	.569		
ACS-S	.173	.109	.135	.182	.361	.643	
ACS-C	.174	.072	.149	.166	.424	.537	.658

a: Average variance extracted (AVE) for constructs are displayed on the diagonal

b: Numbers below the diagonal are squared correlation estimates of two variables

UAC, upward appearance comparison; AEBI, awareness of an emphasis on beauty ideals; IBI, internalization of beauty ideals; BS, body surveillance; ACS-I, acceptance of cosmetic surgery: intrapersonal; ACS-S, acceptance of cosmetic surgery: social; ACS-C, acceptance of cosmetic surgery: consider

$p < 0.01$ ) were statistically stronger in the cosmetic surgery group than in the no cosmetic surgery group. In contrast, the impact of internalization of beauty ideals on cosmetic surgery acceptance (the relationship of H3:  $\Delta X^2(1) = 6.160$ ,  $p < 0.05$ ) was stronger in the no cosmetic surgery group than in the cosmetic surgery group. There was no significant difference between the two groups in terms of the influence of body surveillance on cosmetic surgery acceptance (H4). Table 7 summarizes the findings of the comparisons in the hypothesized influence pairs for the two groups. Figure 2 presents the overall findings of this study.

## Discussion and Conclusions

### Sociopsychological influences on the acceptance of cosmetic surgery based on prior cosmetic surgery experience

This study investigated sociopsychological influences on cosmetic surgery acceptance, including upward appearance comparison, awareness of an emphasis on beauty ideals, internalization of beauty ideals, and body surveillance with 651 South Korean women in their 20 s to 40 s. This study also examined the group differences in the influences by applying prior cosmetic surgery experience as a moderating variable. The results provide several meaningful findings, especially on the differences in the influencing factors on cosmetic surgery acceptance based on prior cosmetic surgery experience.

For the cosmetic surgery group, the results showed that the acceptance of cosmetic surgery increased when the respondents (1) compared their appearance with more attractive social members, (2) were aware of the importance of an ideal appearance for social success, and (3) perceived their bodies as objects to be observed by other social members. Few studies have directly examined the differences in these sociopsychological influences contingent upon prior cosmetic surgery experience. Thus, for rigorous interpretation, the results of this study need to be discussed in light of previous studies examining diverse aspects of cosmetic surgery. Numerous studies have found that upward appearance comparison (e.g., Kim & Lee, 2018; Matera et al., 2018; Nerini et al., 2014; O'Brien et al., 2009; Sarwer et al., 1998), awareness of an emphasis on beauty ideals (e.g., Kim & Chung, 2014; Sarwer et al., 1998), and body surveillance (e.g., Lyu et al., 2021; Wang et al., 2021) are sociopsychological influences that increase the acceptance

**Table 6** Results of multi-group structural equation modeling

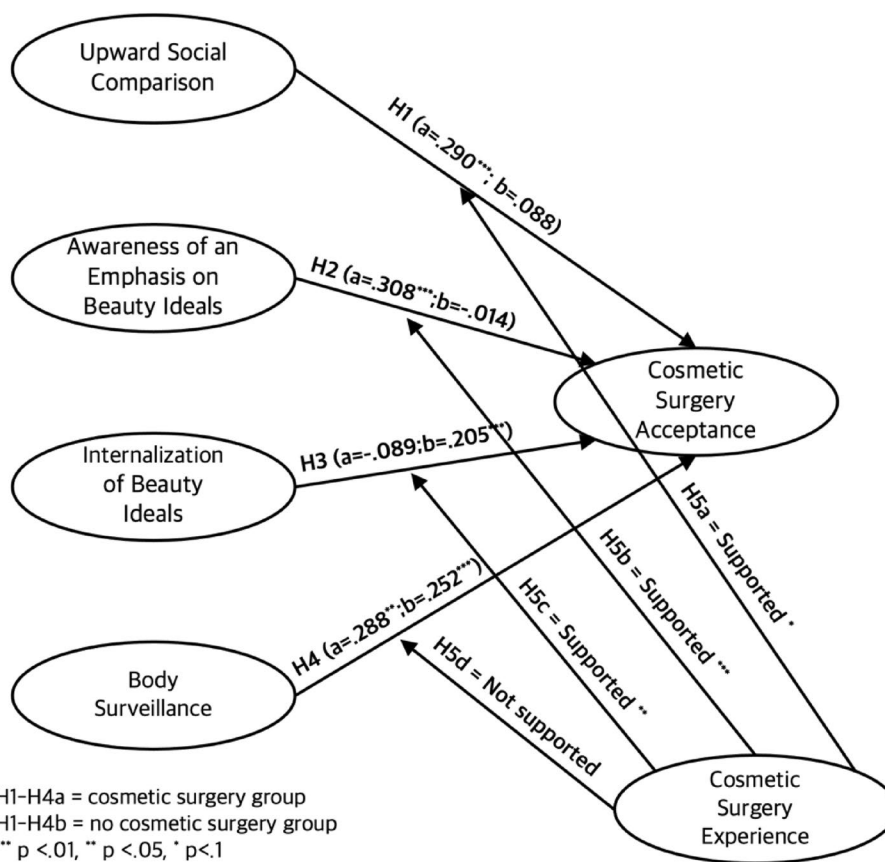
Structural path	Cosmetic surgery group (n = 268)				No cosmetic surgery group (n = 383)				Test result
	Std estimate	SE	CR	p	Std estimate	SE	CR	p	
H1 Upward appearance comparison → Acceptance of cosmetic surgery	<b>.290</b>	.084	2.939	.003	.088	.087	1.009	.313	Rejected
H2 Awareness of an emphasis on beauty ideals → Acceptance of cosmetic surgery	<b>.308</b>	.087	3.913	.000	-.014	.086	-.230	.818	Rejected
H3 Internalization of beauty ideals → Acceptance of cosmetic surgery	-.089	.084	-.916	.360	<b>.205</b>	.071	2.792	.005	<b>Supported</b>
H4 Body surveillance → Acceptance of cosmetic surgery	<b>.228</b>	.085	2.429	.015	<b>.252</b>	.098	2.991	.003	<b>Supported</b>

$\chi^2 = 1155.052$ ,  $df = 618$ ,  $\chi^2/df = 1.869$ ,  $p < 0.000$ ,  $RMR = 0.049$ ,  $GFI = 0.902$ ,  $NFI = 0.919$ ,  $IFI = 0.950$ ,  $TLI = 0.943$ ,  $RFI = 0.915$ ,  $CFI = 0.950$ ,  $RMSEA = 0.037$

**Table 7** Results of testing hypothesis 5

Constrained path	H5			
	$\chi^2$	df	$\Delta\chi^2, \Delta df$	Sig
Free model	1155.052	618		
H1: Upward appearance comparison → Acceptance of cosmetic surgery	1157.936	619	2.884, 1	S*
H2: Awareness of an emphasis on beauty ideals → Acceptance of cosmetic surgery	1163.771	619	8.719, 1	S***
H3: Internalization of beauty ideals → Acceptance of cosmetic surgery	1161.212	619	6.160, 1	S**
H4: Body surveillance → Acceptance of cosmetic surgery	1155.469	619	0.417, 1	NS

\*\*\*  $p < 0.01, \Delta\chi > 6.635$ ; \*\*  $p < 0.05, \Delta\chi > 3.841$ ; \*  $p < 0.10, \Delta\chi > 2.706$



**Fig. 2** Results of hypothesis testing

of cosmetic surgery. The findings of the current study are consistent with these prior results. However, previous studies have not considered prior cosmetic surgery experience. Instead, they collected data from general samples without considering respondents' prior cosmetic surgery experience. Hence, to compensate for whether respondents had prior cosmetic surgery experience, this study referred to the results of previous studies on various aspects of cosmetic surgery.

Previous studies have confirmed that sociopsychological influences on the acceptance of cosmetic surgery, including upward appearance comparison, awareness of an

emphasis of beauty ideals, and body surveillance, can lead to psychological issues such as the deterioration of self-esteem and body satisfaction (Ching & Xu, 2019; Kim & Lee, 2018; Lee & Lee, 2019; Lyu et al., 2021; Patrick et al., 2004; Son, 2011; Swami et al., 2009; Wang et al., 2021). These psychological issues can ultimately lead to risky compensatory behaviors, such as cosmetic surgery, to relieve those issues (Arnocky et al., 2016). In addition, previous studies have found that prior cosmetic surgery experience increases cosmetic surgery acceptance (Lee, 2014; Seo & Kim, 2020; Swami et al., 2008), and this acceptance can lead to actual cosmetic surgery behaviors, particularly among people who have already had cosmetic surgery (Richetin et al., 2020). Furthermore, repeated cosmetic surgery procedures may also lead to cosmetic surgery addiction. Specifically, previous studies have indicated that past cosmetic surgery experience is a crucial factor leading to cosmetic surgery addiction (Kim & Chung, 2014). Individuals who have already undergone cosmetic surgery may believe that the risk of cosmetic surgery is negligible, and thus, they may not hesitate to have additional procedures (Richetin et al., 2020; Seo & Kim, 2020). This generous acceptance of cosmetic surgery in the cosmetic surgery group could be a potential factor in promoting cosmetic surgery addiction. Given this discussion, this study suggests that cosmetic surgery acceptance in the cosmetic surgery group could lead to additional cosmetic surgery procedures, which could trigger cosmetic surgery addiction. Therefore, this study concludes that upward appearance comparison, awareness of an emphasis on beauty ideals, and body surveillance could be triggers for cosmetic surgery addiction in the cosmetic surgery group.

For the no cosmetic surgery group, the results demonstrated that cosmetic surgery acceptance increased when the respondents tended to (1) internalize social beauty standards to determine their aesthetic values or preferences related to appearance and (2) more strongly perceive their bodies as objects to be observed by other social members. Numerous studies have found that internalization of beauty ideals (e.g., Lee & Johnson, 2009; Lunde, 2013; Nerini et al., 2014) and body surveillance (e.g., Lyu et al., 2021; Wang et al., 2021) increase cosmetic surgery acceptance. The results of the present study confirm the results of these prior studies. However, those previous studies have not considered how respondents' prior cosmetic surgery experience influences cosmetic surgery acceptance. Therefore, as indicated by the results of the cosmetic surgery group in this study, the results of previous studies related to various areas of cosmetic surgery need to be considered more extensively for a rigorous understanding of the results in the no cosmetic surgery group.

The results of the no cosmetic surgery group in this study may explain why many South Korean women (about 70%) reported positive acceptance of cosmetic surgery, but only about 26% of them had actually undergone cosmetic surgery in Son's (2011) study. In addition, Kim and Lee (2018) found that South Korean women who have never undergone cosmetic surgery tend to have a favorable attitude toward it. Hence, based on the preceding discussion, this study suggests that internalization of beauty ideals and body surveillance may be the primary influences underpinning the results of Son's (2011) and Kim and Lee's (2018) studies. Furthermore, Richetin et al. (2020) found that a positive attitude toward cosmetic surgery rarely leads to actual cosmetic surgery procedures in the no cosmetic surgery group since individuals who have not undergone cosmetic surgery tend to perceive the risk associated with cosmetic

surgery as more dangerous than those who have experienced cosmetic surgery. Thus, this study expects that the no cosmetic surgery group would have a lower possibility of becoming addicted to cosmetic surgery compared to the cosmetic surgery group. In addition, previous studies have found that a positive attitude toward cosmetic surgery is negatively associated with body appreciation (Meskó & Láng, 2021; Swami, 2010), which means that individuals accept and respect their bodies as they are (Tylka & Wood-Barcalow, 2015). Consequently, this study concludes that the increased internalization of beauty ideals and body surveillance in the no cosmetic surgery group may be related to low levels of body appreciation, but not to excessive cosmetic surgery.

In addition to discussing the group differences based on the prior experience of cosmetic surgery, the findings of this study can be discussed in the cultural contexts as well. Among the sociopsychological influences in the present study, upward appearance comparison and awareness of an emphasis on beauty ideals showed positive influences on cosmetic surgery acceptance only in the cosmetic surgery group but not in the no cosmetic surgery group. Some studies have explored sociopsychological mechanisms that trigger cosmetic surgery behaviors in South Korea (Kim & Lee, 2018; Lee et al., 2017; Lim, 2019; Park et al., 2019). In particular, Kim and Lee's (2018) cross-cultural study on South Korean, Chinese, and Japanese cultures found that South Korean women tend to compare their appearance with attractive social members who match social beauty standards to a greater extent than Chinese and Japanese women. They argued that this tendency leads to actual cosmetic surgery procedures to overcome their damaged self-esteem and body satisfaction. Kim and Lee (2018) also highlighted that the greater upward appearance comparison in South Korea is attributable to the fact that an attractive appearance fulfilling ideal beauty standards creates social power in South Korean culture. Their claim is related to "the power of beauty," which was mentioned in Nahai's (2018) study to characterize the phenomenon that attractive appearance approaching ideal beauty standards has competitive power in diverse social domains such as job hunting, promotions, and romantic relationships. Additionally, Lee et al. (2017) suggested that South Korean women's tendency to be aware of the importance of ideal beauty in diverse social domains increases their risky appearance management behaviors, including cosmetic surgery. These assertions have been supported by numerous previous studies (Kim & Lee, 2018; Lim, 2019; Park et al., 2019). Thus, the current study concludes that "the power of beauty" may increase upward appearance comparison and awareness of an emphasis on beauty ideals and can eventually lead to actual cosmetic surgery procedures.

In contrast to the results on upward appearance comparison and awareness of an emphasis on beauty ideals, the results of this study indicated that internalization of beauty ideals promoted cosmetic surgery acceptance only in the no cosmetic surgery group but not in the cosmetic surgery group. Although the mean total score for internalization of beauty ideals in the cosmetic surgery group was greater than that in the no cosmetic surgery group, internalization of beauty ideals was not a determinant to increase cosmetic surgery acceptance for those who had prior cosmetic surgery. Previous studies have found that internalization of beauty ideals plays an important role in

intensifying cosmetic surgery acceptance (Lee & Johnson, 2009; Lunde, 2013; Nerini et al., 2014). However, cosmetic surgery acceptance does not always lead to actual cosmetic surgery behavior because the risk associated with cosmetic surgery is perceived differently (Richetin et al., 2020). Richetin et al. (2020) also asserted that the perceived risk of cosmetic surgery is one of the most decisive hindrance factors for actual cosmetic surgery procedures, and people decide to have cosmetic surgery only when the benefits of cosmetic surgery outweigh the perceived risk. Therefore, the results of this study suggest that the benefits of satisfying aesthetic values or tastes determined by the internalization of beauty ideals may not be enough to offset the risk of cosmetic surgery in the South Korean culture, unlike the benefits of acquiring the power of beauty by meeting ideal beauty standards. In addition, the result in the no cosmetic surgery group that internalization of beauty ideals increases cosmetic surgery acceptance may confirm the results of Son's (2011) and Kim and Lee's (2018) studies that some South Korean women have a favorable attitude toward cosmetic surgery even though they have never had it.

In terms of body surveillance, a perception of an objectified body (i.e., one's body is being monitored from a third-party perspective) increased cosmetic surgery acceptance, and this influence was identical and significant in both groups. Since body surveillance is generally considered a sociopsychological factor that increases cosmetic surgery acceptance, these findings confirm the findings of a number of previous studies (Ching & Xu, 2019; Lyu et al., 2021; Wang et al., 2021). However, in contrast to the three sociopsychological influences that had a significant effect on cosmetic surgery acceptance in only one group, body surveillance increased cosmetic surgery acceptance in both groups. These findings indicate that body surveillance is an underlying facilitator for the generally positive attitude toward cosmetic surgery in South Korea, where the number of cosmetic surgery procedures and plastic surgeons per capita is high (Bonell et al., 2021; Jee et al., 2014), regardless of people's prior cosmetic surgery experience. With its collectivism and Confucian traditions emphasizing the maintenance of social face and adherence to collective principles, South Korean culture has tended to be sensitive to the assessments of social members (Oetzel & Ting-Toomey, 2003; Ting-Toomey & Kurogi, 1998). Therefore, the findings regarding body surveillance may reflect this cultural characteristic. However, cross-cultural studies empirically analyzing the cultural influences between collective and individualistic cultures should be conducted to determine whether this argument is accurate.

Even though the results of this study were discussed in the cultural contexts, it is not easy to affirm whether the differences in the four sociopsychological influences on cosmetic surgery acceptance are unique to South Korean culture or whether the findings of this study can be applied to other cultural contexts due to the fact that few previous studies employed a similar research design to this study. However, this study anticipates that the main findings of this study (i.e., the four sociopsychological influences on cosmetic surgery acceptance vary depending on the experience of cosmetic surgery) could be applied to various cultural contexts for the following reasons; (1) individuals' perceptions, attitudes, and behaviors regarding appearance are cultural products that are influenced by diverse sociopsychological components, including the four sociopsychological factors in this study (Heinberg et al., 1995; Lee & Cho, 2014); (2) those cultural products are decisive determinants of cosmetic surgery acceptance (Lee & Cho, 2014);

and therefore, (3) the four sociopsychological influences on cosmetic surgery acceptance would be meaningful not only in South Korea but also in other cultural contexts. Nevertheless, future studies should extend the findings of this study to different cultural contexts to determine whether there are cultural differences in the sociopsychological influences on cosmetic surgery acceptance based on the prior experience of cosmetic surgery.

#### **Implications for academia and future studies**

Numerous studies have revealed that several sociopsychological factors influence cosmetic surgery acceptance. However, it has been difficult to determine differences in sociopsychological influences on cosmetic surgery acceptance contingent upon prior cosmetic surgery experience. The present study identifies which influences contribute to cosmetic surgery acceptance in the cosmetic surgery group and no cosmetic surgery group, as well as the group differences in four sociopsychological influences on cosmetic surgery acceptance. The findings of this study suggest which factors are critical antecedents of additional cosmetic surgery in the cosmetic surgery group and which factors are fundamental reasons for the widespread acceptance of cosmetic surgery in South Korea. These findings could help practitioners design programs to prevent cosmetic surgery addiction and increase body appreciation.

Individuals who have already undergone cosmetic surgery may be easily persuaded to have additional procedures, and a series of cosmetic surgery may lead to cosmetic surgery addiction (Kim & Chung, 2014; Swami et al., 2008). To decrease the risk of the addiction, it is critical to address the sociopsychological influences that motivate individuals to seek repeated procedures of cosmetic surgery rather than simply focusing on the act of undergoing cosmetic surgery (Suissa, 2008). This reasoning is supported by the adversity-belief-consequence (ABC) theory (Ellis, 1991), as a core theory of cognitive-behavioral therapy. The ABC theory states that undesirable and problematic behaviors can be fixed by correcting irrational belief systems that cause the behaviors (Ellis, 1991). The term “irrational belief system” refers to a psychological system that is logically contradictory, inconsistent with reality, and produces undesirable emotions or behaviors (Ellis, 1991). The sociopsychological influences investigated in this study could be regarded as the irrational belief system that leads to or promotes cosmetic surgery addiction. Therefore, belief systems that increase the risk of cosmetic surgery addiction may include upward appearance comparison, awareness of an emphasis on beauty ideals, and body surveillance, as these factors increased cosmetic surgery acceptance among women in the cosmetic surgery group. These women may be more susceptible to developing cosmetic surgery addiction than the general population due to their tendency to perceive less risk associated with cosmetic surgery (Richetin et al., 2020), and prior cosmetic surgery experience could facilitate cosmetic surgery addiction (Kim & Chung, 2014; Swami et al., 2008). Thus, when designing therapeutic programs to prevent and treat cosmetic surgery addiction, it would be reasonable to include information to reduce upward appearance comparisons, awareness of an emphasis on beauty ideals, and body surveillance.

The current study showed that internalization of beauty ideals and body surveillance increases cosmetic surgery acceptance among women with no prior cosmetic surgery



experience. To reduce the negative consequences of cosmetic surgery acceptance in the no cosmetic surgery group, educational programs for the public should counteract the desire to approach ideal beauty standards and the obsession to believe one's body is socially monitored. Admittedly, not all cosmetic surgery leads to social problems. For example, both physical and psychological problems due to physical deformities or disabilities can be addressed with cosmetic surgery (Garvill et al., 1992). However, public acceptance and encouragement of excessive cosmetic surgery (i.e., not for medical purposes but to only meet unattainable aesthetic standards) can lead to social problems that should be addressed because the popularization of cosmetic surgery can lead to lower body appreciation in individuals with ordinary appearances (Park et al., 2019).

Despite these meaningful implications, this study has limitations that need to be addressed in future studies. First, it is difficult to generalize the results of this study since the data were collected from only South Korean women in their 20 s to 40 s. Additional research should gather data from samples with more diverse characteristics. Cross-cultural studies and cross-gender studies could contribute significantly to a more profound understanding of the sociopsychological influences on cosmetic surgery acceptance. In addition, this study divided the sample into two groups and examined four sociopsychological influences on cosmetic surgery acceptance. The results of this study highlighted potential risk factors for cosmetic surgery addiction, but the conclusions should be supported by additional empirical studies. Thus, it is necessary to conduct follow-up studies employing a research design in which cosmetic surgery addiction is a dependent variable and influencing factors are independent variables. Despite its limitations, the significance of the present study lies in the fact that it is a preliminary study confirming the sociopsychological mechanism of cosmetic surgery acceptance contingent upon prior cosmetic surgery experience. In the field of fashion and textiles, follow-up studies should be undertaken to prevent social and psychological issues related to cosmetic surgery.

#### Abbreviations

ABC	Adversity-belief-consequence
ACSS	Acceptance of cosmetic surgery scale
AVE	Average variance extracted
CFA	Confirmatory factor analysis
CR	Composite reliability
OBCS	Objectified body consciousness scale
SATAQ	Sociocultural attitude toward appearance questionnaire
SEM	Structural equation modeling
UPACS	Upward physical appearance comparisons scale

#### Acknowledgements

Not applicable.

#### Author contributions

SK write alone the paper. The author read and approved the final manuscript.

#### Authors' information

SK is a research assistant professor in the Research Institute of Human Ecology at Seoul National University. She holds a Ph. D. in Clothing and Textiles from Seoul National University. Her research interests focus on social psychology of clothing, especially the aesthetic perception of appearance and fashion products.

#### Funding

This work was supported by Research Institute of Human Ecology, Seoul National University.

#### Availability of data and materials

The data used and/or analyzed in this study are available upon reasonable request from the corresponding author. The data are not publicly available because they contain information that could compromise the privacy of the participants.

## Declarations

### Competing interests

The author declares that she has no competing interests.

Received: 20 February 2022 Accepted: 4 October 2022

Published online: 05 December 2022

## References

- Ahern, A. L., Bennett, K. M., & Hetherington, M. M. (2008). Internalization of the ultra-thin ideal: Positive implicit associations with underweight fashion models are associated with drive for thinness in young women. *Eating Disorders*, 16(4), 294–307. <https://doi.org/10.1080/10640260802115852>
- Arnocky, S., Perilloux, C., Cloud, J. M., Bird, B. M., & Thomas, K. (2016). Envy mediates the link between social comparison and appearance enhancement in women. *Evolutionary Psychological Science*, 2(2), 71–83. <https://doi.org/10.1007/s40806-015-0037-1>
- Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, 40(1), 8–34. <https://doi.org/10.1007/s11747-011-0278-x>
- Bonell, S., Barlow, F. K., & Griffiths, S. (2021). The cosmetic surgery paradox: Toward a contemporary understanding of cosmetic surgery popularisation and attitudes. *Body Image*, 38, 230–240. <https://doi.org/10.1016/j.bodyim.2021.04.010>
- Bonell, S., Murphy, S. C., Austen, E., & Griffiths, S. (2022). When (fake) beauty turns ugly: Plastic surgery as a moral violation. *Current Psychology*, 41, 5444–5457. <https://doi.org/10.1007/s12144-020-01060-0>
- Brown, Z., & Tiggemann, M. (2016). Attractive celebrity and peer images on Instagram: Effect on women's mood and body image. *Body Image*, 19, 37–43. <https://doi.org/10.1016/j.bodyim.2016.08.007>
- Chen, F. F., Sousa, K. H., & West, S. G. (2005). Testing measurement invariance of second-order factor models. *Structural Equation Modeling*, 12(3), 471–492. [https://doi.org/10.1207/s15328007sem1203\\_7](https://doi.org/10.1207/s15328007sem1203_7)
- Ching, B. H. H., & Xu, J. T. (2019). Understanding cosmetic surgery consideration in Chinese adolescent girls: Contributions of materialism and sexual objectification. *Body Image*, 28, 6–15. <https://doi.org/10.1016/j.bodyim.2018.11.001>
- Drasgow, F., & Kanfer, R. (1985). Equivalence of psychological measurement in heterogeneous populations. *Journal of Applied Psychology*, 70(4), 662–680. <https://doi.org/10.1037/0021-9010.70.4.662>
- Ellis, A. (1991). The revised ABC's of rational-emotive therapy (PET). *Journal of Rational-Emotive & Cognitive-Behavior Therapy*, 9(3), 139–172. <https://doi.org/10.1007/BF01061227>
- Festinger, L. (1954). A theory of social comparison process. *Human Relations*, 7(2), 117–140. <https://doi.org/10.1177/00187267540070>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, 21(2), 173–206. <https://doi.org/10.1111/j.1471-6402.1997.tb00108.x>
- Frieze, I. H., Olson, J. E., & Russell, J. (1991). Attractiveness and income for men and women in management. *Journal of Applied Social Psychology*, 21(13), 1039–1057. <https://doi.org/10.1111/j.1559-1816.1991.tb00458.x>
- Gallup Korea. (2015, April 15). 외모와 성형수술에 대한 인식 조사: 1994/2004/2015년 비교 [A survey on the perception of appearance and cosmetic surgery: Comparison among 1994, 2004, and 2015]. <https://www.gallup.co.kr/gallupdb/reportContent.asp?seqNo=656>
- Gapinski, K., Brownell, K., & LaFrance, M. (2003). Body objectification and “Fat talk”: Effects on emotion, motivation, and cognitive performance. *Sex Roles*, 48(9/10), 377–388. <https://doi.org/10.1023/A:1023516209973>
- Garvill, J., Garvill, H., Kahnberg, K.-E., & Lundgren, S. (1992). Psychological factors in orthognathic surgery. *Journal of Cranio-Maxillofacial Surgery*, 20(1), 28–33. [https://doi.org/10.1016/S1010-5182\(05\)80193-3](https://doi.org/10.1016/S1010-5182(05)80193-3)
- Hair, J. F., Black, J., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data analysis* (6th ed.). New York: Pearson Prentice Hall
- Harrison, K., & Cantor, J. (1997). The relationship between media consumption and eating disorders. *Journal of Communication*, 47(1), 40–67. <https://doi.org/10.1111/j.1460-2466.1997.tb02692.x>
- Heinberg, L. J., Thompson, J. K., & Stormer, S. (1995). Development and validation of the sociocultural attitudes towards appearance questionnaire. *The International Journal of Eating Disorders*, 17(1), 81–89. [https://doi.org/10.1002/1098-108X\(199501\)17:1%3C81::AID-EAT2260170111%3E3.0.CO;2-Y](https://doi.org/10.1002/1098-108X(199501)17:1%3C81::AID-EAT2260170111%3E3.0.CO;2-Y)
- Henderson-King, D., & Henderson-King, E. (2005). Acceptance of cosmetic surgery: Scale development and validation. *Body Image*, 2(2), 137–149. <https://doi.org/10.1016/j.bodyim.2005.03.003>
- Hogue, J. V., & Mills, J. S. (2019). The effects of active social media engagement with peers on body image in young women. *Body Image*, 28, 1–5. <https://doi.org/10.1016/j.bodyim.2018.11.002>
- Hossain, F. M. A., & Ali, M. K. (2014). Relation between individual and society. *Open Journal of Social Sciences*, 2(8), 130–137. <https://doi.org/10.4236/jss.2014.28019>
- International Society of Aesthetic Plastic Surgery. (2019). *ISAPS Global Survey Results 2018*. <https://www.isaps.org/wp-content/uploads/2020/10/ISAPS-Global-Survey-Results-2018-1.pdf>
- International Society of Aesthetic Plastic Surgery. (2020, December 9). *ISAPS Global Survey Results 2019*. <https://www.isaps.org/wp-content/uploads/2020/12/Global-Survey-2019.pdf>
- Jee, S.-M., Lee, S., Park, E., Park, J., & Kim, J. (2013, December 31). 미용성형수술의 현황 파악과 이용자 정보집 개발 [Determine the status of cosmetic plastic procedure and the development of information booklet for the users]. National Evidence-based Healthcare Collaborating Agency. [https://www.neca.re.kr/SKIN\\_DIR/doc.html?fn=9284320140818103043.pdf&rs=/upload/synap/202101/](https://www.neca.re.kr/SKIN_DIR/doc.html?fn=9284320140818103043.pdf&rs=/upload/synap/202101/)

- Julander, C., & Julander, C.-R. (2009). Physical attractiveness of the service worker in the moment of truth and its effects on customer satisfaction. *Journal of Retailing and Consumer Services*, 16(3), 216–226. <https://doi.org/10.1016/j.jretconser.2008.11.008>
- Jung, J., & Hwang, C. S. (2016). Associations between attitudes toward cosmetic surgery, celebrity worship, and body image among South Korean and US female college students. *Fashion and Textiles*, 3, Article 17. <https://doi.org/10.1186/s40691-016-0069-6>
- Kim, S. (2016). Understanding the ideal female beauty on advertisement images in modern Korean society through the iconological comprehension of Renaissance portraits. *International Journal of Costume and Fashion*, 16(2), 1–24. <https://doi.org/10.7233/ijcf.2016.16.2.001>
- Kim, S. (2021). Effect of appearance instrumentality on the acceptance of cosmetic surgery: Moderated mediation effects of ambivalent emotions toward attractive friends and appearance appreciation. *International Journal of Costume and Fashion*, 21(1), 38–53. <https://doi.org/10.7233/ijcf.2021.21.1.038>
- Kim, S., & Lee, Y. (2018). Why do women want to be beautiful? A qualitative study proposing a new “human beauty values” concept. *PLoS ONE*, 13(8), Article e0201347. <https://doi.org/10.1371/journal.pone.0201347>
- Kim, Y. A., & Chung, H.-I. (2014). Factors affecting plastic surgery addiction tendency among undergraduate women. *Journal of Digital Convergence*, 12(12), 621–631. <https://doi.org/10.14400/jdc.2014.12.12.621>
- Koufteros, X., Babbar, S., & Kaighobadi, M. (2009). A paradigm for examining second-order factor models employing structural equation modeling. *International Journal of Production Economics*, 120(2), 633–652. <https://doi.org/10.1016/j.ijpe.2009.04.010>
- Lee, H. (2013). Predictor of wish to undergo cosmetic surgery according to experience of cosmetic surgery in female college students. *Journal of the Korean Academia-Industrial Cooperation Society*, 14(1), 285–293. <https://doi.org/10.5762/kais.2013.14.1.285>
- Lee, H., Son, I., Yoon, J., & Kim, S. S. (2017). Lookism hurts: Appearance discrimination and self-rated health in South Korea. *International Journal for Equity in Health*, 16(1), 1–7. <https://doi.org/10.1186/s12939-017-0678-8>
- Lee, J., & Johnson, K. K. P. (2009). Factors related to engagement in risky appearance management behaviors. *Clothing and Textiles Research Journal*, 27(3), 163–178. <https://doi.org/10.1177/0887302x08327200>
- Lee, M., & Lee, H. H. (2019). Effects of family, friends, and social media pressures on acceptance of cosmetic surgical procedures via internalization and appearance satisfaction. *Journal of the Korean Society of Clothing and Textiles*, 43(5), 620–633. <https://doi.org/10.5850/JKSC.2019.43.5.620>
- Lee, S. G., & Cho, H. (2014). Influence of self-construal on sociocultural attitude toward physical appearance, body satisfactions, and appearance management behavior. *Journal of the Korean Society of Clothing and Textiles*, 38(4), 528–539. <https://doi.org/10.5850/jksct.2014.38.4.528>
- Lim, I.-S. (2019). Discussion on legalization of photo-information abolition for preventing discrimination against women appearance in the recruitment process. *Journal of Korean Women's Studies*, 35(2), 37–74. <https://doi.org/10.30719/JKWS.2019.06.35.2.37>
- Lin, L., & McFerran, B. (2016). The (ironic) dove effect: Use of acceptance cues for larger body types increases unhealthy behaviors. *Journal of Public Policy and Marketing*, 35(1), 76–90. <https://doi.org/10.1509/jppm.14.020>
- Lunde, C. (2013). Acceptance of cosmetic surgery, body appreciation, body ideal internalization, and fashion blog reading among late adolescents in Sweden. *Body Image*, 10(4), 632–635. <https://doi.org/10.1016/j.bodyim.2013.06.007>
- Lyu, Z., Jiao, Y., Zheng, P., & Zhong, J. (2021). Why do selfies increase young women's willingness to consider cosmetic surgery in China? The mediating roles of body surveillance and body shame. *Journal of Health Psychology*, 27(5), 1205–1217. <https://doi.org/10.1177/1359105321990802>
- Matera, C., Nerini, A., & Stefanile, C. (2018). Why are men interested in cosmetic surgery procedures? Examining the role of different forms of peer influence, social comparison, internalization, and body dissatisfaction. *Body Image*, 26, 74–77. <https://doi.org/10.1016/j.bodyim.2018.06.003>
- McKinley, N. M., & Hyde, J. S. (1996). The objectified body consciousness scale: Development and validation. *Psychology of Women*, 20(2), 181–215. <https://doi.org/10.1111/j.1471-6402.1996.tb00467.x>
- Meskó, N., & Láng, A. (2021). Acceptance of cosmetic surgery among Hungarian women in a global context: The Hungarian version of the acceptance of cosmetic surgery scale (ACSS). *Current Psychology*, 40(12), 5822–5833. <https://doi.org/10.1007/s12144-019-00519-z>
- Mulford, M., Orbell, J., Shatto, C., & Stockard, J. (1998). Physical attractiveness, opportunity, and success in everyday exchange. *American Journal of Sociology*, 103(6), 1565–1592. <https://doi.org/10.1086/231401>
- Nahai, F. (2018). The power of beauty. *Aesthetic Surgery Journal*, 38(9), 1039–1041. <https://doi.org/10.1093/asj/sjy038>
- Nerini, A., Matera, C., & Stefanile, C. (2014). Psychosocial predictors in consideration of cosmetic surgery among women. *Aesthetic Plastic Surgery*, 38(2), 461–466. <https://doi.org/10.1007/s00266-014-0294-6>
- O'Brien, K. S., Caputi, P., Minto, R., Peoples, G., Hooper, C., Kell, S., & Sawley, E. (2009). Upward and downward physical appearance comparisons: Development of scales and examination of predictive qualities. *Body Image*, 6(3), 201–206. <https://doi.org/10.1016/j.bodyim.2009.03.003>
- Oetzel, J. G., & Ting-Toomey, S. (2003). Face concerns in interpersonal conflict: A cross-cultural empirical test of the face negotiation theory. *Communication Research*, 30(6), 599–624. <https://doi.org/10.1177/0093650203257841>
- Ormond, A. T. (1991). The social individual. *Psychological Review*, 8(1), 27–41. <https://doi.org/10.1037/h0073045>
- Park, K.-H. (2012). Correlations among cognitive age, sociocultural attitudes towards appearance, and appearance management behavior. *Journal of the Korean Society of Clothing and Textiles*, 36(7), 756–766. <https://doi.org/10.5850/jksct.2012.36.7.756>
- Park, R. H., Myers, P. L., & Langstein, H. N. (2019). Beliefs and trends of aesthetic surgery in South Korean young adults. *Archives of Plastic Surgery*, 46(6), 612–616. <https://doi.org/10.5999/aps.2018.01172>
- Patrick, H., Neighbors, C., & Knee, C. R. (2004). Appearance-related social comparisons: The role of contingent self-esteem and self-perceptions of attractiveness. *Personality and Social Psychology Bulletin*, 30(4), 501–514. <https://doi.org/10.1177/0146167203261891>
- Radloff, R. (1966). Social comparison and ability evaluation. *Journal of Experimental Social Psychology*, 1, 6–26. [https://doi.org/10.1016/0022-1031\(66\)90061-8](https://doi.org/10.1016/0022-1031(66)90061-8)

- Richetin, J., Osterini, D., & Conner, M. (2020). Predicting engaging in cosmetic surgery: A test of the role of doing and not doing cognitions. *Journal of Applied Social Psychology, 50*(1), 53–62. <https://doi.org/10.1111/jasp.12641>
- Roach-Higgins, M. E., & Eicher, J. B. (1992). Dress and Identity. *Clothing and Textiles Research Journal, 10*(4), 1–8. <https://doi.org/10.1177/0887302x9201000401>
- Roberts, T. A., & Gettman, J. Y. (2004). Mere exposure: Gender differences in the negative effects of priming a state of self-objectification. *Sex Roles, 51*(1–2), 17–27. <https://doi.org/10.1023/b:sers.0000032306.20462.22>
- Sarwer, D. B., Wadden, T. A., Pertschuk, M. J., & Whitaker, L. A. (1998). The psychology of cosmetic surgery: A review and reconceptualization. *Clinical Psychology Review, 18*(1), 1–22. [https://doi.org/10.1016/S0272-7358\(97\)00047-0](https://doi.org/10.1016/S0272-7358(97)00047-0)
- Seo, Y. A., & Kim, Y. A. (2020). Factors affecting acceptance of cosmetic surgery in adults in their 20s–30s. *Aesthetic Plastic Surgery, 44*(5), 1881–1888. <https://doi.org/10.1007/s00266-020-01761-8>
- Seo, Y. A., & Kim, Y. A. (2022). Predictors of acceptance of cosmetic surgery in South Korean women. *Aesthetic Plastic Surgery, 46*, 2031–2039. <https://doi.org/10.1007/s00266-022-02795-w>
- Silverstein, B., Perdue, L., Peterson, B., & Kelly, E. (1986). The role of the mass media in promoting a thin standard of bodily attractiveness for women. *Sex Roles, 14*(9/10), 519–532. <https://doi.org/10.1007/BF00287452>
- Slater, A., & Tiggemann, M. (2002). A test of objectification theory in adolescent girls. *Sex Roles, 46*(9–10), 343–349. <https://doi.org/10.1023/A:1020232714705>
- Son, E. (2011). The differences of psychosocial characteristics according to plastic surgery experience and satisfaction with the plastic surgery. *The Korean Journal of Woman Psychology, 16*(1), 23–42. <https://doi.org/10.18205/kpa.2011.16.1.002>
- Shin, Y., Park, J., & Kim, T. (Executive Directors) (2004, November 25). 잃어버린 얼굴 [A lost face] (Episode 317) [TV series episode]. In Y. Shin, J. Park, & T. Kim, (Executive Producers), 순간포착 세상에 이런일이 [Capturing the moment in the world, this is happening]. Seoul Broadcasting System. [https://programs.sbs.co.kr/culture/whato\\_nearth/vod/55718/22000002703](https://programs.sbs.co.kr/culture/whato_nearth/vod/55718/22000002703)
- Steiner-Adair, C., Sjoström, L., Franko, D. L., Pai, S., Tucker, R., Becker, A. E., & Herzog, D. B. (2002). Primary prevention of risk factors for eating disorders in adolescent girls: Learning from practice. *International Journal of Eating Disorders, 32*(4), 401–411. <https://doi.org/10.1002/eat.10089>
- Suissa, A. J. (2008). Addiction to cosmetic surgery: Representations and medicalization of the body. *International Journal of Mental Health and Addiction, 6*(4), 619–630. <https://doi.org/10.1007/s11469-008-9164-2>
- Swami, V. (2009). Body appreciation, media influence, and weight status predict consideration of cosmetic surgery among female undergraduates. *Body Image, 6*(4), 315–317. <https://doi.org/10.1016/j.bodyim.2009.07.001>
- Swami, V. (2010). Translation and validation of the Malay acceptance of cosmetic surgery scale. *Body Image, 7*(4), 372–375. <https://doi.org/10.1016/j.bodyim.2010.07.005>
- Swami, V., Artech, A., Chamorro-Premuzic, T., Furnham, A., Stieger, S., Haubner, T., & Voracek, M. (2008). Looking good: Factors affecting the likelihood of having cosmetic surgery. *European Journal of Plastic Surgery, 30*, 211–218. <https://doi.org/10.1007/s00238-007-0185-z>
- Swami, V., Taylor, R., & Carvalho, C. (2009). Acceptance of cosmetic surgery and celebrity worship: Evidence of associations among female undergraduates. *Personality and Individual Differences, 47*(8), 869–872. <https://doi.org/10.1016/j.paid.2009.07.006>
- Thompson, J. K., & Heinberg, L. J. (1999). The media's influence on body image disturbance and eating disorders: We've reviled them, now can we rehabilitate them? *Journal of Social Issues, 55*(2), 339–353. <https://doi.org/10.1111/0022-4537.00119>
- Tiggemann, M., & Lynch, J. E. (2001). Body image across the life span in adult women: The role of self-objectification. *Developmental Psychology, 37*(2), 243–253. <https://doi.org/10.1037//0012-1649.37.2.243>
- Ting-Toomey, S., & Kurogi, A. (1998). Facework competence intercultural conflict: An updated face-negotiation theory. *International Journal of Intercultural Relations, 22*(2), 187–225. [https://doi.org/10.1016/S0147-1767\(98\)00004-2](https://doi.org/10.1016/S0147-1767(98)00004-2)
- Tylka, T. L., & Wood-Barcalow, N. L. (2015). The body appreciation scale-2: Item refinement and psychometric evaluation. *Body Image, 12*, 53–67. <https://doi.org/10.1016/j.bodyim.2014.09.006>
- Tyner, K. E., & Ogle, J. P. (2009). Feminist theory of the dressed female body: A comparative analysis and applications for textiles and clothing scholarship. *Clothing and Textiles Research Journal, 27*(2), 98–121. <https://doi.org/10.1177/0887302x08322715>
- Walker, C. E., Krumhuber, E. G., Dayan, S., & Furnham, A. (2021). Effects of social media use on desire for cosmetic surgery among young women. *Current Psychology, 40*, 3355–3364. <https://doi.org/10.1007/s12144-019-00282-1>
- Wang, W., Zheng, X., Yue, X., & Zhong, N. (2021). The role of beauty as currency belief in acceptance of cosmetic surgery and career aspirations among Chinese young women. *Journal of Social Psychology, 161*(3), 351–362. <https://doi.org/10.1080/00224545.2020.1842314>
- Warren, C. S., Gleaves, D. H., Cepeda-Benito, A., Fernandez, M. D. C., & Rodriguez-Ruiz, S. (2005). Ethnicity as a protective factor against internalization of a thin ideal and body dissatisfaction. *International Journal of Eating Disorders, 37*(3), 241–249. <https://doi.org/10.1002/eat.20102>

## Publisher's Note

Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.