

Effect of Appearance Instrumentality on the Acceptance of Cosmetic Surgery: Moderated Mediation Effects of Ambivalent Emotions toward Attractive Friends and Appearance Appreciation

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Abstract This study examined the moderated mediation effect of appearance appreciation on the mediated relationship among appearance instrumentality, ambivalent emotions toward attractive friends, and the acceptance of cosmetic surgery. The research model included four hypotheses to examine this moderated mediation effect. Data were collected through an online survey, and a final sample of 651 Korean women in their 20s to 40s was analyzed. The data were analyzed using Baron and Kenny's method and a moderated mediation method with SPSS Macro. The results showed that the awareness of appearance instrumentality influenced the acceptance of cosmetic surgery, and ambivalent emotions toward attractive friends mediated this influence. Additionally, the effect of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery was mediated by the degree of appearance appreciation indicating that high levels of appearance appreciation counterbalanced the effect, and low levels of appearance appreciation reinforced the effect. This study verifies that one's the degree appearance appreciation could offset the social influence of accepting cosmetic surgery.

Keywords Appearance instrumentality, Acceptance of cosmetic surgery, Ambivalent emotions toward attractive friends, Appearance appreciation, Moderated mediation

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Introduction

Cosmetic surgery, an appearance management behavior that adopts ideal social standards and permanently modifies appearance in a short period of time, has become popular for people who want quick and dramatic changes to their appearance (Son, 2012). However, cosmetic surgery can have numerous side effects such as (1) infections and scars from surgical procedures, (2) addiction to cosmetic surgery when individuals are dissatisfied with surgical results, (3) physical disabilities and cosmetic problems from repeated surgeries, and (4) financial burden of surgical procedures to modify appearance for only aesthetic purposes (Henderson-King &

Henderson-King, 2005; Lim, 2004; Son, 2012). This study focuses on South Korea since it ranks high in the acceptance of cosmetic surgery, with the highest number of cosmetic surgery procedures per capita (National Evidence-based Healthcare Collaborating Agency, 2014). Therefore, appropriate ways to eliminate the diverse side effects of cosmetic surgery should be developed and influencing factors of cosmetic surgery should be verified to establish appropriate perspectives. In particular, the present study

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investigated the psychological and social influencing factors affecting the acceptance of cosmetic surgery in South Korea.

Appearance instrumentality is defined as a belief that beautiful and attractive appearance is instrumental in interpersonal relationships, romantic relationships, and professional success, as a social factor. This appearance instrumentality affects the acceptance of cosmetic surgery (Gim, Kwon, & Yeon, 2010; Sung, Park, Lee, & Kim, 2009). A contributing factor may be the desire to create a social advantage through cosmetic surgery in a highly competitive modern society where beautiful and attractive appearance may experience more social success. South Koreans particularly tend to consider appearance instrumentality as a social competitive advantage since a beautiful and attractive appearance can ensure social benefits (Gim et al., 2010; S. Kim & Lee, 2012, 2018; Sung et al., 2009). Thus, to take advantage of such benefits, the number of cosmetic surgery operations per capita in South Korea is the highest in the world.

In addition to this social factor, psychological factors also influence the acceptance of cosmetic surgery. The results of a positive perception of appearance, such as the acceptance of cosmetic surgery, are affected by both psychological factors and social environmental factors (Kaiser, 1990). Among the psychological factors influencing the acceptance of cosmetic surgery, this study focused on ambivalent emotions, which means feeling both positive and negative emotions at once for one object, or feeling complex emotions (more than one type of emotion) at once (Bauman, 1991; Otness, Lowrey, & Shrum, 1997). Intense ambivalent emotions are triggered when the object causing the emotions intensifies social pressure and stress (Mongrain & Zuroff, 1994). Ordinary-looking people whose appearance is far from the social ideal tend to experience social discrimination due to their appearance especially in South Korea where appearance instrumentality is prevalent (Gim et al., 2010; Lim, 2004; Sung et al., 2009). This social discrimination leads to pressure and stress to have an ideal appearance, which intensifies the ambivalent emotions toward beautiful and attractive appearance. Since strong ambivalent emotions are known to cause distorted behaviors (Bauman, 1991), ambivalent emotions toward appearance could be a

psychological factor that leads to increased acceptance of cosmetic surgery.

In contrast to the ambivalent emotions toward appearance are the result of stress and an obsession with appearance, positive psychological characteristics regarding appearance are antecedents that reduce the acceptance of cosmetic surgery. Positive psychology has been a recent area of interest in the field of psychology. Scholars have examined how to increase ordinary people's happiness without pathological problems by investigating positive psychological aspects (Seligman & Csikszentmihalyi, 2000). Appearance appreciation, an emerging concept, indicates that individuals build a positive body image by accepting their physical characteristics. This concept has been investigated from a variety of perspectives in psychology-based disciplines related to appearance perception (Avalos, Tylka, & Wood-Barcalow, 2005; Tylka & Wood-Barcalow, 2015). However, few studies have focused on this concept in the clothing and textiles discipline. Therefore, this study explores the differences in influences of the antecedents affecting the acceptance of cosmetic surgery based on the degree of appearance appreciation.

This study also examines the impact of appearance instrumentality as a social factor, and ambivalent emotions toward beautiful people and appearance appreciation as psychological factors on the acceptance of cosmetic surgery. Through this examination, this study suggests how to reduce the acceptance of cosmetic surgery by identifying social and psychological factors affecting the acceptance of cosmetic surgery. This study also provides significant implications for future studies in the clothing textiles discipline.

Literature Review and Hypothesis Development

Appearance Instrumentality and the Acceptance of Cosmetic Surgery

Appearance instrumentality refers to the belief or perception that appearance is an "Instrument of Social Achievement" (M.-S. Lee, 2012). To clarify this concept, it is necessary to establish the meaning of "instrumentality." Instrumentality

indicates the use of a specific object for a secondary purpose to achieve desired goals, and the human body and appearance meet this purpose (Gim et al., 2010). In recent years, the instrumentality of the human body has gradually decreased with diverse and advanced technologies and have replaced the abilities of physical body (Gim et al., 2010). In contrast, appearance instrumentality has intensified because people increasingly developed an appearance orientation in modern society. Appearance orientation means that people value and pay attention to appearance, and “lookism,” and believe that appearance superiority decides social success or failure (M-S. Lee, 2012; Sun & Lee, 2018). Numerous relevant studies have explored enhanced appearance instrumentality in modern society and demonstrated that beautiful and attractive people often accomplish social achievements, enjoy better jobs, have higher income levels (Frieze, Olson, & Russell, 1991; Mulford, Orbell, Shatto, & Stockard, 1998; Roszell, Kennedy, & Grabb, 1989), are more popular socially based on broad social interpersonal relationships, and can easily receive help from others when needed (Mulford et al., 1998), than those who are less beautiful and attractive.

Intensified appearance instrumentality in modern society has contributed to an increased acceptance of cosmetic surgery. Cosmetic surgery is an irreversible method of managing one’s appearance so it is closer to socially ideal beauty through surgery for solely for cosmetic purposes (Henderson-King & Henderson-King, 2005; Son, 2012). Cosmetic surgery can drastically change one’s appearance in a short period of time using surgical methods, but it also has several side effects such as infection, scarring, body distortion, and cosmetic surgery addiction (National Evidence-based Healthcare Collaborating Agency, 2014). Nevertheless, people, who believe that beautiful people are socially favored in social domains (e.g., employment, promotion, and choice of spouses) accept cosmetic surgery to change their appearance so it is closer to the social ideal (Lim, 2004). Korean people are more generous in their acceptance of cosmetic surgery than people in other cultures because they believe that beautiful looks lead to social competitiveness (S. Kim & Lee, 2018). According to the National Evident-based Healthcare Collaborating Agency (2014), Korea ranked seventh in the world in terms of

cosmetic surgery procedures and ranked number one in the number of procedures per 10,000 people. Thus, we derived Hypothesis 1:

- H1.** Appearance instrumentality has positive effect on the acceptance of cosmetic surgery.

Ambivalent Emotions toward Attractive Friends

Ambivalent emotions means feeling both positive and negative emotions toward a particular object or simultaneously feeling complex emotions instead of dichotomous emotions such as like or dislike (Losada, Pillemer, Márquez-González, Romeo-Moreno, & Gallego-Alberto, 2017; Otness et al., 1997). Since ambivalence reflects the complex psychology of modern society seeking uncertainty and heterogeneity, diverse studies have focused on ambivalence as the main research topics to understand consumers’ clothing behaviors in the clothing and textiles discipline (J. Kim & Rhee, 2007; Moon & Choo, 2008). Furthermore, family studies and psychology disciplines have regarded ambivalent emotions as emotional responses promoted by extremely stressful situations (I. J. Kim, Lee, & Lee, 2010; S. Lee & Oh, 2006; Park, Kim, Hyun, & Yu, 2008). However, few studies in the clothing and textiles discipline have focused on ambivalence from an emotional perspective.

Since humans generally feel aesthetic pleasure when encountering beautiful objects, people whose appearance meets ideal social standards trigger positive emotions such as pleasure and arousal (Armstrong & Detweiler-Bedell, 2008). Langlois et al. (1987) support this argument by showing that even less socially stereotyped infants gaze at beautiful and attractive people longer time than ordinary-looking ones. However, in modern society, many ordinary-looking people feel negative emotions such as jealousy, hate, anger, and annoyance towards attractive people (S. Kim & Lee, 2010, 2018) whose socially advantageous appearance helps them gain a competitive edge in social competition (Reilly & Rudd, 2009). Thus, people feel both positive and negative emotions or mixed emotions at once toward beautiful and attractive people whose appearance satisfies social requirements.

Psychologically close friends, who are beautiful and attractive appearance so meet the social ideal, may trigger stronger ambivalent emotions than famous people like celebrities. Trope and Liberman (2003) proposed the construal level theory, which posits that the psychological distance that people feel about a particular object changes their judgments, behaviors, attitudes, and emotions. People perceive objects whose psychological distance is close to them as low-level construal, whereas they perceive objects whose psychological distance is far from them as high-level construal (Trope & Liberman, 2010, 2012). This psychological distance in construal level theory is determined by temporal, spatial, social, and hyperthermal distance (Trope & Liberman, 2010, 2012), of which social distance is determined by the degree of social similarity to the object (Liviatan, Trope, & Liberman, 2008). From the perspective of social distance, friends are perceived as psychologically closer when they are similar or closely related, and they have greater influence than people who have no personal relationship (Karakayali, 2009). Therefore, attractive friends, whose social distance is closer than that of celebrities, would serve as the criterion for comparing appearance. In addition, ordinary-looking people would feel ambivalent emotions toward attractive friends who are close to the social ideal when they compare their appearance to these attractive friends. Karakayali (2009) indicated that socially close people do not always induce positive emotions, whereas distant ones may induce more feelings of respect and love than close ones. Hence, attractive friends may induce stronger ambivalent emotions than distant celebrities. Furthermore, Bleske-Rechek and Lighthall (2010) demonstrated that attractive friends are perceived as strong competitors in social competition, such as competition for a spouse, and they simultaneously trigger both negative emotions such as jealousy and conformity to imitate their attractive appearance. For these reasons, among those whose attractive appearance fits the social ideal, close friends could cause more intense ambivalent emotions than socially distant celebrities. In particular, Korean people may feel ambivalent emotions toward attractive friends when they perceive that their attractive friends whose appearance is close to the social ideal have a competitive edge in social competition based on

the social instrumentality of their appearance.

According to S. Kim and Lee (2018), who proposed the concept of human beauty values in a qualitative study in Korean, Chinese, Japanese cultures, Korean culture tends to pursue superiority among human beauty values since appearance serves as a powerful tool for social success. Pursuing this superiority value implies a strong perception of appearance instrumentality in Korean culture. In this situation where appearance instrumentality is quite prevalent, ordinary-looking people who do not come close to an ideal appearance suffer from an obsession and stress, which will lead to ambivalent emotions toward attractive friends who meet this ideal appearance standard. In addition, the ambivalent emotions caused by these friends will increase the acceptance of cosmetic surgery. Since ambivalent emotions are more amplified and distorted in situations where there is a strong obsession and stress with emotion-inducing objects (Calinescu, 1987), ambivalent emotions toward attractive friends whose appearance satisfies social idealism could strengthen the desire to change appearance, even by artificial means involving side effects and risk. Therefore, Hypothesis 2 was derived:

- H2.** Ambivalent emotions toward attractive friends mediates the positive influence of appearance instrumentality on the acceptance of cosmetic surgery.
- H2-1.** Appearance instrumentality has a positive effect on ambivalent emotions toward attractive friends.
- H2-2.** Ambivalent emotions toward attractive friends has a positive effect on the acceptance of cosmetic surgery.

Appearance Appreciation

The recent research trend to study positive psychology (Seligman & Csikszentmihalyi, 2000) and has prompted more studies dealing with positive perceptions of appearance (i.e., “appearance appreciation”) (Avalos et al., 2005; Halliwell, 2013; M. Lee & Son, 2015; Rudd & Carter, 2006; Seo, 2018; Swami, 2009; Swami, Hadji-Michael, & Furnham, 2008; Tylka & Wood-Barcalow, 2015).

Appearance appreciation refers to a positive perception of appearance that accepts and acknowledges one's natural appearance without demeaning it based on social ideal beauty standards (Avalos et al., 2005; M. Lee & Son, 2015; Tylka & Wood-barcalow, 2015). Numerous previous studies investigating the perception of appearance or the body have focused on dissatisfaction, shame, and distortion of appearance or the body, as well as the negative consequences of this perception. In particular, these studies have explored excessive dieting (Jung & Lee, 2006), eating disorders (Boroughs & Thompson, 2002; J. H. Kim & Lennon, 2007; Martz, Handley, & Eisler, 1995), dangerous appearance management behaviors (Rudd & Lennon, 2000), appearance-oriented consumption behaviors (H. Kim & Damhorst, 2010), and the acceptance of cosmetic surgery (Slevec & Tiggemann, 2010; Xu et al., 2010). These studies are significant in that they have identified the consequences of negative perceptions of appearance and sought solutions for the consequences. However, since low scores on a scale that measures negative psychological characteristics cannot be interpreted as a positive psychological state (Tylka & Wilcox, 2006), these studies have been unable to measure positive perceptions of appearance or the body.

Studies on appearance appreciation have found that attitudes and behaviors related to appearance differ depending on the degree of one's appearance appreciation. These studies have also found that people feel happier when their appearance appreciation levels are higher (Stokes & Frederick-Recascino, 2003), have a more positive self-esteem (Gim, 2007), and show lower acceptance of distorted appearance management behaviors such as cosmetic surgery (Swami, 2009) than people with lower appearance appreciation levels. In addition, the degree of appearance appreciation moderates the effect of attitudes and behaviors related to body or appearance based on socially distorted standards. For example, women with higher appearance appreciation were less affected by distorted ideal beauty standards in the media (Halliwell, 2013), and had lower body dissatisfaction based on their internalization of distorted social beauty standards (Wang, Fardouly, Vartanian, & Lei, 2019), than women with a lower degree of appearance

appreciation. Furthermore, the degree of appearance appreciation moderated the effect of body shame on increased eating disorders. This result indicates a decrease in the positive influence of body shame on eating disorders in the group with high levels of appearance appreciation (Yao, Niu, & Sun, 2021).

This study posits that the influence of appearance instrumentality on the acceptance of cosmetic surgery through ambivalent emotions toward attractive friends will be moderated by the degree of appearance appreciation. Ambivalent emotions for attractive friends are triggered by the social context of increased appearance usefulness, and the consequences of individuals' emotions may vary from group to group based on their psychological characteristics (Shiota & Kalat, 2017). The present study also posits that higher appearance appreciation levels offset the influence of ambivalent emotions toward attractive friends on acceptance of cosmetic surgery, while lower appearance appreciation levels intensify that influence. Consequently, Hypotheses 3 and 4 were derived, and a research model reflecting the hypotheses was developed, as shown in Figure 1.

- H3.** The effect of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery varies based on the degree of appearance appreciation.
- H3-1.** High levels of appearance appreciation offset the influence of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery.
- H3-2.** Low levels of appearance appreciation intensify the influence of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery.
- H4.** The influence of appearance instrumentality on the acceptance of cosmetic surgery through ambivalent emotions toward attractive friends varies depending on the degree of appearance appreciation.

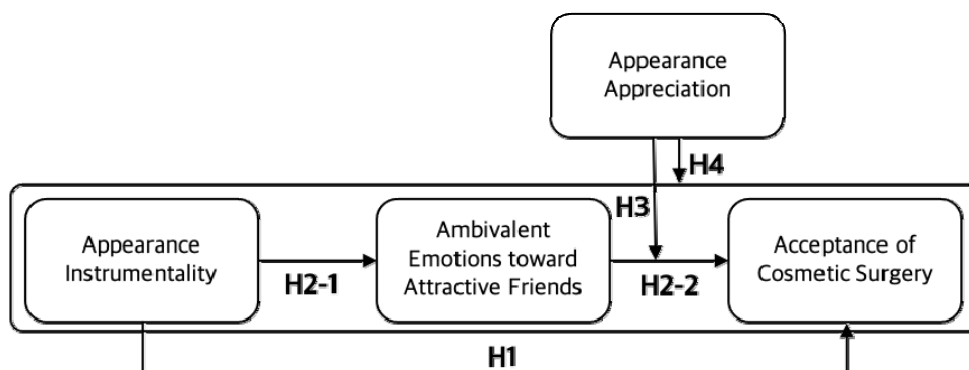


Figure 1. Research model and hypothesis development

Methodology

Research Design and Sample Characteristics

This study explored the moderated mediation effect of determining whether the mediate effect of ambivalent emotions toward attractive friends on the relationship of appearance instrumentality and the acceptance of cosmetic surgery is moderated by appearance appreciation. The data were collected through an online survey with a panel of a Korean online consumer research company. The survey was sent to 813 Korean women in their 20s to 40s, and 651 responses were used for the final analysis after removing inconsistent responses. Korean women in their 20s to 40s are appropriate for the sample since appearance instrumentality is more prevalent in Korean culture than other East Asian countries (S. Kim & Lee, 2018), and women in their 20s to 40s are more sensitive to appearance and more exposed to cosmetic surgery than other gender or age groups (Son, 2012). The average age of the survey respondents was 34.58, with 213 people (32.7%) in their 20s, 220 people (33.8%) in their 30s, and 218 people (33.5%) in their 40s. The marital status of the survey participants was 382 unmarried (58.7 percent), 256 married (39.3 percent), and 13 reported other status (i.e., engaged, cohabiting, divorced, widowed, and separated; 2.0 percent). In terms of education levels, there were 89 high school graduates (16.0 percent), 104 community college graduates (16.0 percent), 48 university students (7.4 percent), 345 university graduates (53.0

percent), and 65 graduate students or more (10.0 percent). These results indicate that 86.3 percent of the respondents received higher education including community college. Although 193 (29.6%) and 188 (28.9%), respectively, were residents in Seoul and Gyeonggi Province, Korean nationwide data were collected because this study did not exclude residents from certain areas in Korea. In terms of occupations of the respondents, the highest proportion was office workers (28.7 percent) and housewives (18.7 percent). With respect to cosmetic surgery experience, 268 (41.2 percent) respondents reported that they had had at least one cosmetic surgery.

Instruments

The survey was developed by modifying and supplementing scales from relevant previous studies to fit the context of this study. Appearance instrumentality was measured by modifying and supplementing seven appearance instrumentality items used in Sun and Lee's (2018) study, which examined the influence of Chinese male consumers' perceptions of appearance instrumentality on cosmetic purchasing behavior. In the present study, the coefficient of internal consistency (Cronbach's α) was .893 for the seven items measuring appearance instrumentality. The ambivalent emotions toward attractive friends were measured by modifying items in Losada et al.'s (2017) study identifying ambivalent emotions of caregiving family members who took care of dementia patients in their own homes. Cronbach's α

of these four items was .933, which it satisfied the statistical standard. Appearance appreciation was measured using seven items of the Appearance Appreciation Scale by M. Lee and Son (2015) considering the cultural context in South Korea by modifying the Body Appreciation Scale (BAS) developed by Tylka and Wood-Barcalow (2015). Cronbach's α of these seven items measuring appearance appreciation was .890, which fit the statistical standard. Lastly, the acceptance of cosmetic surgery was measured by 15 items of the acceptance of cosmetic surgery scale (ACS), which was developed by Henderson-King and Henderson-King (2005). Cronbach's α was .866. All questions were measured on a five-point Likert scale. The correlations, means, and standard deviations of the main research variables are presented in Table 1.

Data Collection and Analysis

The collected data were analyzed using SPSS 23.0 and SPSS Macro. First, descriptive analysis was conducted to identify the demographic characteristics of the respondents. Subsequently, this study conducted reliability analysis with Cronbach's α to verify the reliability of the instrument items. In addition, descriptive analysis with means and standard deviations of the main variables and Pearson's correlation analysis were conducted to investigate the relationships among the main variables. Moderated mediation effect

analysis was applied based on Preacher, Rucker and Hayes' (2007) study presenting a three-step analysis method: mediate effect analysis, moderate effect analysis, and moderated mediation effect analysis. As a first step, Baron and Kenny's (1986) method for analysis mediation effect was used to investigate the mediation effect of ambivalent emotions toward attractive friends on the relationship between appearance instrumentality and the acceptance of cosmetic surgery. The statistical significance of the mediation effect was also confirmed using SPSS Macro's bootstrapping method. In the second step, hierarchical regression analysis was conducted to determine the moderation effect of appearance appreciation on the influence of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery. As the last step, the moderated mediated effect was verified using Hayes' (2013) SPSS Macro to determine whether appearance appreciation moderated the influence of ambivalent emotions toward attractive friends in the path where appearance instrumentality affects the acceptance of cosmetic surgery through the ambivalent emotions toward attractive friends. After confirming the moderation effect and the moderated mediation effect, simple slope analyses presented by Aiken and West (1991) were performed to determine the differences in the interaction effects based on the changes in the values of the moderating variable (i.e., appearance appreciation) in the second and third steps.

Table 1. Correlations, means, standard deviations of the main variables

	Appearance Instrumentality (7 items)	Ambivalent Emotions toward Attractive Friends (4 items)	Appearance Appreciation (7 items)	Acceptance of Cosmetic Surgery (15 items)
Appearance Instrumentality	1.00			
Ambivalent Emotions toward Attractive Friends	.295***	1.00		
Appearance Appreciation	-.108***	-.166***	1.00	
Acceptance of Cosmetic Surgery	.291***	.341***	-.089**	1.00
M (SD)	26.776 (4.490)	10.748 (3.897)	24.849 (4.437)	48.549 (11.143)
Minimum	13	4	9	15
Maximum	35	20	35	75

Note. *** $p < .01$, ** $p < .05$; N = 651; SD = standard deviation

Results

Mediate Effect of Ambivalent Emotions toward Attractive Friends on the Relationship between Appearance Instrumentality and the Acceptance of Cosmetic Surgery

The three-step analysis presented by Baron and Kenny (1986) was applied to verify the mediation effect that the perceptions of appearance instrumentality would affect the acceptance of cosmetic surgery through ambivalent emotions towards attractive friends. The results supported Hypotheses 1 and 2. The first step analysis demonstrated a significant influence of appearance instrumentality on the acceptance of cosmetic surgery with the standardized regression coefficient ($\beta = .291$), which was statistically significant ($p < .01$). This result implies that acceptance of cosmetic surgery increases when the perception that appearance plays a crucial role in social success is reinforced. Thus, Hypothesis 1 was supported. In the second step analysis, this study confirmed the influence of appearance instrumentality on the mediation variable, which is ambivalent emotions toward attractive friends, and a statistically significant effect was identified ($\beta = .295$, $p < .01$). The third step analysis identified the influence of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery while controlling for the influence of appearance instrumentality. In this influence, the standardized regression coefficient was .279, and the value was statistically significant ($p < .01$). In addition, given the

influence of a mediation effect (i.e., ambivalent emotions toward attractive friends), the influence of appearance instrumentality on the acceptance of cosmetic surgery was statistically significant based on the standardized regression coefficient value ($\beta = .208$, $p < .01$). This value decreased compared to the value when the mediation effect was not considered ($\beta = .291$, $p < .01$), demonstrating that the ambivalent emotions toward attractive friends partially mediates the relationship between appearance instrumentality and the acceptance of cosmetic surgery. Therefore, Hypothesis 2 was supported. The results are presented in Table 2.

The method proposed by Baron and Kenny (1986) only verifies the presence or absence of a mediated effect, but it does not confirm the statistical significance of the mediated effect size. Hence, a bootstrapping method was utilized to verify the statistical significance of the mediation effect by generating hypothetical random samples, which do not assume the normality of the sample distribution and confirms that the significance of the mediation effect is not a result of a statistical random error (Shrout & Bolger, 2002). This method is known to have higher verification power than a conventional Sobel test (Shrout & Bolger, 2002). Bootstrapping re-extracted 5,000 samples, and the coefficient of the indirect effect was .205. In addition, at a 99% confidence level, the mediation effect was located in intervals of .105 and .318 where zero was not included, thus verifying the statistical significance of the mediation effect.

Table 2. Results of the mediation analysis (Baron and Kenny's method)

Dependent Variable	Step 1 Acceptance of Cosmetic Surgery			Step 2 Ambivalent Emotions toward Attractive Friends			Step 3 Acceptance of Cosmetic Surgery		
	<i>b</i> (SE)	<i>B</i>	<i>t</i>	<i>b</i> (SE)	<i>B</i>	<i>t</i>	<i>b</i> (SE)	<i>B</i>	<i>t</i>
Appearance Instrumentality	.722 (.093)	.291	7.746***	.256 (.033)	.295	7.864***	.517 (.094)	.208	5.520***
Ambivalent Emotions toward Attractive Friends							.799 (.108)	.279	7.399***
Model Summary	R = .291, Adj. R ² = .085, F(1, 649) = 60.004, p < .001			R = .295, Adj. R ² = .086, F(1, 649) = 61.844, p < .001			R = .395, Adj. R ² = .156, F(2, 648) = 59.859, p < .001		

Note. *** $p < .01$; N = 651; SE = standard error

Moderate Effect of Appearance Appreciation on the Relationship between Ambivalent Emotions toward Attractive Friends and the Acceptance of Cosmetic Surgery

Hierarchical regression was conducted to determine whether the effect of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery was moderated by appearance appreciation. In addition, a simple slope analysis was executed to verify the statistical significance of the moderate effect. In the first step, the age and cosmetic surgery experience of the respondents was implemented as covariates to analyze their influence on the acceptance of cosmetic surgery. As a result, these covariates accounted for 15.7% (Adj. $R^2 = .157$) of the total variance in the acceptance of cosmetic surgery. As the respondents' age increased ($\beta = .086, p < .05$) and they experienced cosmetic surgery ($\beta = .394, p < .01$), their acceptance of cosmetic surgery also increased. Therefore, these variables were injected as control variables in the following analytical steps. In the second step, a mediating variable (i.e., ambivalent emotions toward attractive friends) was added, and the result showed a

statistically significant influence on the acceptance of cosmetic surgery ($\beta = .314, p < .01$). The explanation power of the variance significantly increased by 9.6% compared to the first step in which only two covariates were inserted ($\Delta F = 84.881^{***}, p < .01$). The third step added a moderating variable (i.e., appearance appreciation), which did not present a statistically significant influence on the acceptance of cosmetic surgery ($\beta = -.029$).

In the fourth step, the present study confirmed the moderating effect of appearance appreciation on the relationship between ambivalent emotions toward attractive friends and the acceptance of cosmetic surgery by inserting an interaction term between ambivalent emotions toward attractive friends and appearance appreciation. The interaction term illustrated a statistically significant effect ($\beta = -.585, p < .01$) and the explanation power of variance increased by 1.1% compared to the previous step ($\Delta F = 10.365^{***}, p < .01$). The results verified the moderating effect of appearance appreciation on the influence of ambivalent emotions towards attractive friends on acceptance of cosmetic surgery (see Table 3).

Table 3. Results of the hierarchical regression analysis

Variables	Dependent variable: Acceptance of Cosmetic Surgery											
	Step 1			Step 2			Step 3			Step 4		
	b (SE)	B	t	b (SE)	B	t	b (SE)	B	t	b (SE)	B	t
(Constant)	40.747 (1.821)		22.373***	32.306 (1.943)		16.630***	34.317 (3.045)		11.269***	16.687 (6.256)		2.667***
Age	.120 (.050)	.086	2.396**	.090 (.047)	.065	1.919*	.090 (.047)	.065	1.907*	.100 (.047)	.072	2.140**
Cosmetic Surgery Experience	8.921 (.816)	.394	10.931***	8.454 (.770)	.374	10.985***	8.447 (.770)	.373	10.975***	8.341 (.765)	.369	10.903***
Ambivalent Emotions toward Attractive Friends (A)				.897 (.097)	.314	9.213***	.883 (.099)	.309	8.946***	2.465 (.501)	.862	4.949***
Appearance Appreciation (B)							-.074 (.086)	-.029	-.858	.611 (.229)	.243	2.663***
A x B										0.063 (.020)	-.585	-3.219***
Model Summary	Adj. $R^2 = .157$			Adj. $R^2 = .253$ $\Delta R = .096$ ($\Delta F = 84.881^{***}$)			Adj. $R^2 = .253$ $\Delta R = .000$ ($\Delta F = .736$)			Adj. $R^2 = .264$ $\Delta R = .011$ ($\Delta F = 10.365^{***}$)		
	$F(2, 648) = 61.382^{***}$			$F(3, 647) = 74.512^{***}$			$F(4, 646) = 56.045^{***}$			$F(5, 645) = 47.559^{***}$		

Note. *** $p < .01$, ** $p < .05$, * $p < .10$; N = 651; SE = standard error

Table 4. Results of the simple slope differences in the moderate effect

Moderate Variable	Conditional Effects of the Focal Predictor at Values of the Moderator					
	<i>b</i>	Boot SE	<i>t</i>	Boot LLCI	Boot ULCI	
Appearance Appreciation	-1 SD 20.412	1.283	.145	8.877***	1.000	1.567
	Mean 24.849	.971	.106	9.134***	.762	1.179
	1 SD 29.287	.658	.140	4.702***	.383	.933

Note. *** $p < .01$; N = 651; SE = standard error; LLCI = lower limit confidence interval; ULCI = upper limit confidence interval

After confirming the moderating effect through hierarchical regression, the present study performed a simple slope analysis using SPSS Macro's bootstrapping method to identify the changing pattern of the interaction effect based on the conditions of the moderating variable. As suggested by Aiken and West, (1991), the effect of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery was identified based on the mean and ± 1 standard deviation of the moderating variable: appearance appreciation. Bootstrapping re-extracted 5,000 samples, and the influence of ambivalent emotions toward attractive friends on the acceptance of cosmetic surgery statistically decreased when appearance appreciation increased. The coefficient of the moderate effect decreased when the value of the moderate variable increased based on a -1 standard deviation ($b = 1.283$, $p < .01$), mean ($b = .971$, $p < .01$), and +1 standard deviation ($b = .658$, $p < .01$). Therefore,

Hypothesis 3 was supported. The results are described in Table 4.

Moderated Mediation Effect of Appearance Appreciation

A moderated mediation effect is a combination of a mediate effect and a moderate effect, which means that the mediate effect between an independent variable and a dependent variable varies depending on the values of the moderating variable (Preacher et al., 2007). This study examined whether the mediate effect of ambivalent emotions toward attractive friends on the relationship between appearance instrumentality and the acceptance of cosmetic surgery is moderated by the degrees of appearance appreciation using SPSS Macro. The results are as follows. First, as with the previously conducted moderate effect analysis, the age and

Table 5. Results of the moderated mediation effect analysis

Variables	Dependent Variable							
	Ambivalent Emotion toward Attractive Friends				Acceptance of Cosmetic Surgery			
	<i>b</i>	SE	B	<i>t</i>	<i>b</i>	SE	B	<i>t</i>
(Constant)	2.753	1.082		2.546**	8.380	6.325		1.325
Age	.030	.018	.082	1.679*	.100	.046	.072	2.175**
Cosmetic Surgery Experience	.399	.297	.380	1.345	8.244	.750	.363	10.968***
Appearance Instrumentality Ambivalent Emotions toward Attractive Friends (A)	.253	.033	.270	7.777***	.458	.086	.184	5.301***
Appearance Appreciation (B)					2.043	.497	.715	4.108***
A X B					-.052	.019	-.484	-2.705***
Model Summary	R = .305, Adj. R ² = .093, F(3, 647) = 22.156 $p < .001$				R = .548, Adj. R ² = .300, F(6, 644) = 45.982 $p < .001$			

Note. *** $p < .01$, ** $p < .05$, * $p < .10$; N=651; SE=standard error

cosmetic surgery experience of the respondents were inserted as covariate variables. Appearance instrumentality had a significant influence on ambivalent emotions towards attractive friends ($\beta = .270, p < .01$), implying that a greater perception of appearance instrumentality causes stronger ambivalent emotions toward attractive friends. Additionally, several variables showed a statistically significant influence on the acceptance of cosmetic surgery: appearance instrumentality ($\beta = .184; p < .01$), ambivalent emotions toward attractive friends ($\beta = .715, p < .01$), appearance appreciation ($\beta = .208, p < .05$), and the interaction effects of ambivalent emotions toward attractive friends and appearance appreciation ($\beta = -.484, p < .01$). In particular, the interaction effect showed a negative influence, which means that increased levels of appearance appreciation reduced the influence of appearance instrumentality on the acceptance of cosmetic surgery through ambivalent emotions toward attractive friends. Table 5 shows the detailed results.

To verify the significance of the moderated mediation effect, a simple slope analysis was conducted using SPSS Macro's bootstrapping method, which determines changing patterns of the moderated mediation effect under the conditions of the moderating variable (i.e., appearance appreciation) (Aiken & West, 1991). As previously shown in the verification of the significance of the moderating effect, this study confirmed changes in the indirect effect coefficients from the mean and ± 1 standard deviation value of appearance appreciation. The results showed that the moderated mediation effect decreased when the values of appearance appreciation were higher: the indirect effect coefficient was .974 at the -1 standard deviation of appearance appreciation ($p < .01$), .742 at the mean of

appearance appreciation ($p < .01$), and .509 at the +1 standard deviation of appearance appreciation ($p < .01$). Therefore, the statistical significance of the moderated mediation effect in this study was confirmed, and Hypothesis 4 was supported. Table 6 presents these results.

Conclusions and Implications

Conclusions

This study investigated the moderated mediation effect using an online survey with South Korean women in their 20s to 40s. The results indicate that the mediating effect of ambivalent emotions toward attractive friends on the relationship between appearance instrumentality and the acceptance of cosmetic surgery is moderated by appearance appreciation. The results of this study and the conclusions drawn based on the results are as follows.

This study confirmed that appearance instrumentality (i.e., that appearance plays a socially useful role) in South Korean culture has the effect of increasing the acceptance of cosmetic surgery. This result corresponds with a study by S. Kim and Lee (2018) that argued that South Korean women pursue a superior human beauty value for social success, and that this pursuit leads to generous acceptance of cosmetic surgery. With the number of cosmetic surgeries in South Korea ranked first per capita in the world (National Evidence-based Healthcare Collaborating Agency, 2014), this study verifies that lookism and social discrimination based on appearance in South Korean society are social triggers of this phenomenon.

Table 6. Results of simple slope differences in the moderated mediation effect

Moderate Variable	Conditional Effects of the Focal Predictor at Values of the Moderator				
	<i>b</i>	Boot SE	<i>t</i>	Boot LLCI	Boot ULCI
-1 SD 20.412	.974	.136	7.717***	.707	1.241
Mean 24.849	.742	.100	7.404***	.545	.938
1 SD 29.287	.509	.128	3.977***	.258	.761

Note. *** $p < .01$; N = 651; SE = standard error; LLCI = lower limit confidence interval; ULCI = upper limit confidence interval

This study also showed that ambivalent emotions toward attractive friends—caused by the combination of basic human nature in favor of attractive appearance and negative emotions about various social benefits for beauty—mediates the relationship between appearance instrumentality and the acceptance of cosmetic surgery. This result implies that South Korean women have an intense obsession and stress related to attractive appearance since appearance tends to provide social benefits to attractive people in South Korean culture. Ambivalent emotions are reinforced by this obsession and stress on the object causing the emotions (Calinescu, 1987). This result implies that Korean women are under intense stress and obsession given that Korean society highly perceives the social instrumentality of appearance in that beauty creates a competitive edge in social competitions. The study also infers that such stress and obsession lead to the acceptance of cosmetic surgery to change one's appearance into socially ideal standards despite the risks and side effects. This acceptance, in turn, increases the number of cosmetic surgery procedures in South Korea.

Lastly, this study found that the influence of appearance instrumentality on the acceptance of cosmetic surgery through the ambivalent emotions toward attractive friends differs depending on the degree of appearance appreciation. In other words, when people feel ambivalent emotions toward attractive friends due to the perception of appearance instrumentality, it leads to the acceptance of cosmetic surgery. In contrast, acceptance decreases when people strongly accept their natural appearance without the influence of distorted social standards regarding appearance. These results imply that despite the prevalence of the social usefulness of appearance, the negative consequences of stress and obsession with appearance could be offset when there is an increased positive perception of appearance that accepts one's natural appearance.

Implications

This study is significant in that positive perceptions of appearance offset the negative results related to appearance (e.g., acceptance of cosmetic surgery) based on positive psychology. Several previous studies related to appearance perception in the clothing and textiles discipline have

focused on exploring negative perceptions of appearance (Boroughs & Thompson, 2002; Jung & Lee, 2006; J. H. Kim & Lennon, 2007; H. Kim & Damhorst, 2010; Martz et al., 1995; Slevic & Tigemann, 2010; Xu et al., 2010). However, these studies have underrated the positive perceptions of appearance since lower scores of the items measuring negative perceptions do not imply positive perceptions (Tylka & Wilcox, 2006). Thus, recently, scholars have argued that academic interests should focus on positive psychology, which can help people lead happier lives rather than focusing on the pathological consequences of a small number of people (Seligman & Csikszentmihalyi, 2000). Reflecting this argument, this study demonstrates that appearance appreciation has the effect of decreasing distorted perceptions and behaviors regarding appearance formed by socio-psychological influences. Based on the results, this study recommends subsequent studies in the clothing and textiles discipline related to positive appearance perception and positive appearance perception improvement programs to reduce distorted appearance management behaviors such as cosmetic surgery addiction.

This study focused on enhanced ambivalent emotions in stressful and obsessive situations (Calinescu, 1987). The findings are significant in that they verify that the stress and obsession with appearance in Korean culture leads to distorted consequences such as acceptance of cosmetic surgery. In particular, it is noteworthy that this study examined the emotional aspects of ambivalence while previous studies in the clothing and textiles discipline have only concentrated on investigating consumers' behavioral aspects of ambivalence (J. Kim & Rhee, 2007; Moon & Choo, 2008). Furthermore, this study was able to further observe the impact of social characteristics regarding beauty (i.e., appearance instrumentality) on distorted outcomes (i.e., acceptance of cosmetic surgery) by including ambivalent emotions as a mediating role in the research model since human emotions triggered by specific objects or situational stimuli have a mediating effect on subsequent perceptions and behaviors (Shiota & Kalat, 2017). In addition, among the various ambivalent emotions associated with appearance, this study focused on emotions induced by attractive friends, but future studies should examine more diverse ambivalence

caused by other phenomena or objects associated with appearance.

This study was conducted on women in their 20s to 40s in South Korean culture. Since perceptions, emotions, and consequences of appearance vary based on cultural backgrounds, gender, and age (Kaiser, 1990), the results from the same research model but different cultures, genders, and age groups may differ from the findings of this study. Therefore, future studies should explore more diverse subjects. In particular, it will greatly help supplement the findings of this study if future studies are conducted on teenagers or older people, not in their 20s to 40s, not on men, and in cultures with significant differences in appearance perceptions and backgrounds compared to Korean culture.

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