Attitudes Toward Cosmetic Surgery Patients: The Role of Culture and Social Contact

KIM-PONG TAM
The Hong Kong University of Science and Technology

HENRY KIN-SHING NG
Hong Kong

YOUNG-HOON KIM
Yonsei University

VICTORIA WAI-LAN YEUNG
FRANCIS YUE-LOK CHEUNG
Lingnan University

ABSTRACT. Cosmetic surgery is increasingly popular globally, but how cosmetic surgery patients are socially evaluated is largely unknown. The present research documents attitudes toward these patients in multiple cultures (Hong Kong, Japan, and the United States). Across these cultures, attitudes toward cosmetic surgery patients were predominantly negative: Participants ascribed more negative attributes to cosmetic surgery patients and found cosmetic surgery not acceptable. Also, participants in Hong Kong and Japan were not willing to form social relationships, particularly intimate ones, with these patients. These attitudes were less negative in the United States than in Hong Kong and Japan, partly because social contact, which reduced negativity in attitudes toward cosmetic surgery patients, was more prevalent in the United States. These findings bear important implications for the subjective well-being of cosmetic surgery patients, who very often expect improvement in their social relationships through the surgery.

Keywords: attitudes, cosmetic surgery, culture, social contact, stereotype

"I THINK COSMETIC SURGERY IS TERRIFYING. It never looks good. Those women look weird. They look in the mirror and think they look great, but they don't

Address correspondence to Kim-Pong Tam, The Hong Kong University of Science and Technology, Division of Social Science, Room 3383, Academic Building, HKUST, Clear Water Bay, Hong Kong; kevintam@ust.hk (e-mail).

see what we see . . . I think it's hideous. They scare small children." (Jerry Hall, *London Evening Standard*, 2007)

Cosmetic surgery is increasingly popular globally. For example, in the United States, in 2009 alone, members of the American Society of Plastic Surgeons (ASPS) performed 12.5 million procedures, a 69% increase from 2000 (ASPS, 2010a). A similar trend has been observed in Asia. For instance, *Time* magazine reported that in Taiwan, a million procedures were performed in 2001, doubling the number in 1996 (Cullen, 2002). A survey in Korea revealed that eight out of 10 Korean women aged over 18 felt a need for cosmetic surgery, and one out of two had undergone cosmetic surgery at least once (Digital Chosunilbo, 2007).

Some have speculated that one reason for the increasing popularity of cosmetic surgery is that it has already lost the stigma previously attached to it (e.g., Thorpe, Ahmed, & Steer, 2004). However, as the opening quote hints, this speculation needs to be scrutinized empirically. The present research documents attitudes toward cosmetic surgery patients, and examines the role of culture and social contact in explaining such attitudes. Because many cosmetic surgery patients expect improvement in their social relationships, these findings bear important implications for their subjective well-being.

Attitudes Toward Cosmetic Surgery Patients

Cosmetic surgery is often considered to be a means to improve social relationships. For instance, in Davies and Sadgrove's (1996) study, some cosmetic surgery patients reported that they underwent cosmetic surgery because they wanted to secure a partner or a job (see also Thorpe et al., 2004). Also, Park, Calogero, Harwin and DiRaddo (2009) showed that other people's negative comments on one's appearance trigger interest in cosmetic surgery, especially for individuals who are sensitive to social rejection. Similarly, Sherry, Hewitt, Lee-Baggley, Flett, and Besser (2004) reported that cosmetic surgery is considered by some people to be a way to fulfill other people's expectations and to garner attention or admiration.

These studies have suggested that the hope for improving social relationships underlies cosmetic surgery. However, whether cosmetic surgery patients can really attain this improvement depends largely on how favorably they, and cosmetic surgery in general, are socially evaluated. As Reich (1969) nicely put, "acceptance of the body image . . . depends on the reflections of it which he observes in the attitudes of those around him." After all, if there are widely shared negative attitudes, not only are these patients unable to experience the expected improvement in social relationships, their subjective well-being may also suffer.

There have been some studies on attitudes toward cosmetic surgery. For instance, Henderson-King and Henderson-King (2005) found that older women, individuals with lower self-esteem, and those with stronger appearance concern show stronger approval of cosmetic surgery (see also Swami, Chamorro-Premuzic, Bridges, & Furnham, 2009). However, to date, attitudes toward cosmetic surgery patients have largely been unexplored. The only known study on this issue is Delinsky's (2005), which reported that female undergraduate participants in the United States perceived cosmetic surgery patients as maladjusted or unhealthy and attributed some negative personality traits to them.

The first objective of the present research is to document people's attitudes toward cosmetic surgery patients with a comprehensive set of measures: stereotype content (i.e., what attributes are commonly perceived to be characteristic of these patients), stereotype valence (i.e., overall valence of attributes ascribed to these patients), and social relationship willingness (i.e., willingness to form social relationships with these patients).

According to Stangor and Lange (1994), stereotype content can be documented by free listing, adjective checklists, or rating scales. In free listing, respondents spontaneously list attributes that they think can characterize a social group. This method can identify stereotypical attributes that are readily available in respondents' mind. However, it may result in incomplete assessment of stereotype: respondents may fail to completely recall or proficiently report all the attributes they stereotypically associate with a social group. In adjective checklists or rating scales, respondents read a predetermined list of attributes and select attributes thatare stereotypical of a social group or give stereotypicality ratings. This method can include a broad range of attributes, allowing comprehensive assessment of stereotype content. Also, it can quantify the stereotypical association of certain attributes with a social group. However, because the attribute list used is predetermined, it is possible that some attributes central to the stereotype are missed.

As Stangor and Lange (1994) suggested, these methods complement each other and therefore can be combined into a two-phase approach. In Phase 1, free listing is used to document attributes that are central to the respondents' stereotype and readily available in their mind. In Phase 2, the attributes identified in Phase 1 are combined with an extensive predetermined list of attributes; a separate group of respondents then rates the stereotypicality of each attribute on this combined list. This two-phase approach allows comprehensive documentation of stereotype content (Stangor & Lange, 1994) and has been proven effective in studies documenting sex-role stereotype (Rosenkrantz, Vogel, Bee, Broverman, & Broverman, 1968) and gay stereotype (Madon, 1997). Unlike Delinksy's study (2005), which used the checklist method only; the present research adopts this complementary approach.

The second measure in the present research is stereotype valence. Participants in Phase 2 also rate the valence of the attributes on the combined list. Within each

participant, the correlation between stereotypicality and valence can be computed. This correlation indicates the extent to which a participant ascribes negative attributes to cosmetic surgery patients. This measure was impossible in Delinsky's study (2005) because valence ratings were absent.

The third measure concerns people's social relationship willingness. Unlike the previous two measures, which assess cognitive beliefs, this measure explicitly assesses participants' intention to socially reject and keep distance from cosmetic surgery patients.

In sum, the present research documents people's attitudes toward cosmetic surgery patients by measuring the content and valence of their stereotype about these patients and their willingness to relate to them. Hinted by the opening quote, and based on the only known study on this topic (Delinsky, 2005), it is hypothesized that people's attitudes toward cosmetic surgery patients are largely negative: Stereotype toward cosmetic surgery patients contains more negative attributes, and willingness to form social relationships with them falls into the negative side (*Hypothesis 1*).

The Role of Culture and Social Contact

Most past research about attitudes toward cosmetic surgery or cosmetic surgery patients (e.g., Delinsky, 2005; Henderson-King & Henderson-King, 2005) studied one cultural group only (very often the United States). It is uncertain whether findings from these studies can be generalized to other cultures. Another objective of the present research is therefore to identify the role of culture in attitudes toward cosmetic surgery patients.

There are some theoretical reasons to expect that attitudes toward cosmetic surgery patients are more negative in some cultures than in others. Cosmetic surgery, as a means of artificially altering the body, may violate some important values in some cultures. For instance, the *Book of Filial Piety*, a Chinese classic text, states that the fundamental way to be filial to parents is to maintain the body intact as it has been granted by parents. In addition, although past research has demonstrated that people universally prefer natural things over unnatural things (e.g., Rozin, 2006), some studies have suggested that such preference is stronger in some cultures such as the Chinese (e.g., Lin, 1981). Accordingly, it is hypothesized that attitudes toward cosmetic surgery and cosmetic surgery patients are more negative in Chinese or other Asian cultures than in Western cultures (*Hypothesis 2*).

Another reason why attitudes toward cosmetic surgery patients differ across cultures concerns the concept of social contact. The contact hypothesis states that contact among members of different groups improves intergroup attitudes (Allport, 1954). This hypothesis has received much empirical support (see Pettigrew & Tropp, 2006 for a meta-analytic review) with respect to a wide range of groups (e.g., ethnic groups, homosexuals, the elderly). It is possible that

individuals who have contact with cosmetic surgery patients hold less negative attitudes toward them than do people who do not have this contact. Furthermore, if social contact with cosmetic surgery patients is more likely in some cultures, then attitudes toward them should be less negative in these cultures. It is thus hypothesized that social contact mediates the cultural difference in attitudes toward cosmetic surgery patients (*Hypothesis 3*).

One apparent reason why social contact is more likely in some cultures is the fact that prevalence of cosmetic surgery varies across cultures. Up to date, the only known reliable source of data comparing cosmetic surgery prevalence across cultures is the Biennial Global Survey conducted by the International Society of Aesthetic Plastic Surgery (ISAPS), a society founded at the United Nations with members from 91 countries. According to this survey, the United States tops the world in terms of number of procedures performed in 2009 (ISAPS, 2010). Consequently, it is possible that social contact with cosmetic surgery patients is more likely, and attitudes toward them are less negative, in the United States than other countries. This reasoning, however, needs to be qualified by the fact that cosmetic surgery patients may choose to conceal their surgery history from others. Therefore, the likelihood of having social contact with cosmetic surgery patients is also determined by the likelihood of patients disclosing their surgery history. There has been no systematic research regarding this disclosure. However, cross-cultural studies have consistently shown that East Asian people are less likely than Western people to disclose sensitive personal information (e.g., Asai & Barnlund, 1998; Barnlund, 1989; Chen, 1995; Kito, 2005). For example, Kito (2005) found that across relationship types, the Japanese disclose less to others than do Americans (see also Barnlund, 1989). More important, Chen (1995) found that Chinese self-disclose less than the Americans do in various conversation topics, including their body (see also Barnlund, 1989). These findings implicate that, even if cosmetic surgery is equally prevalent across Western and Asian cultures, social contact is still less likely in Asian cultures because Asian cosmetic surgery patients are less likely to disclose their surgery history to others.

Overview

To reiterate, the first objective of the present research is to document people's attitudes toward cosmetic surgery patients (through measuring stereotype content, stereotype valence, and social relationship willingness). It is hypothesized that these attitudes are largely negative (*Hypothesis 1*). The second objective is to identify the role of culture in these attitudes. It is hypothesized that these attitudes are more negative in Asian cultures than in Western cultures (*Hypothesis 2*). Also, because social contact with cosmetic surgery patients reduces the negativity in attitudes toward these patients, and its likelihood varies across cultures, it is hypothesized that social contact mediates the cultural difference in attitudes toward these patients (*Hypothesis 3*).

The present research examines three cultures—the United States, Hong Kong and Japan. The United States is considered a Western culture, and Hong Kong and Japan are considered Asian cultures. These cultures are comparable in terms of wealth and technology. Also, cosmetic surgery services are available and generally affordable in these regions. According to the International Society of Aesthetic Plastic Surgery (ISAPS), the United States ranks first (Japan, sixth) in terms of number of surgeons available in 2009 (ISAPS, 2010). Although such formal statistics about Hong Kong are not available, a plastic surgery specialist in Hong Kong reported that cosmetic surgery in Hong Kong is often considered by both local and overseas Chinese to be one of the highest qualities and best valued in the world (King, 2009). These statistics evidence the relevance of cosmetic surgery to the peoples in these cultures.

PHASE 1

Method

A hundred and fourteen undergraduates from Hong Kong (40 men, 74 women, $M_{age} = 20.68$ years, $SD_{age} = 1.36$ years), 100 from Japan (50 men, 50 women, $M_{age} = 20.41$ years, $SD_{age} = 3.46$ years), and 123 from the Midwestern United States (46 men, 76 women, $M_{age} = 19.28$ years, $SD_{age} = 1.07$ years) participated. These participants did the stereotype content free listing only. They were instructed to list 5 attributes that in their view best characterize cosmetic surgery patients. This task took about 5 minutes.

Results and Discussion

Coding of the responses was performed with reference to past research that also used free listing (e.g., Fehr, 1988; Madon, 1997). In each culture, a panel of two judges (who were born locally and proficient in the native language) coded the responses according to the following steps. First, the judges used discussion to determine which responses were semantically identical and then grouped these responses into a category. Responses were judged to be semantically identical when they were just different grammatical forms of the same word (e.g., "good-looking" and "looking good"; "attention-seeking" and "seeking attention"), or when they were judged to carry the same meaning (e.g., "low self-esteem" and "lack of self-esteem"; "striving for perfection" and "perfectionist"). This step was meant to be conservative; the whole purpose was not to treat redundant attributes as separate. Second, the judges generated an attribute label for each category to reflect the shared meaning of the responses in the category. Third, frequency of mention was counted for each attribute. These steps yielded 119 attributes in Hong Kong, 77 in Japan, and 90 in the United States.

Table 1 shows the attributes frequently mentioned (by at least 10% of the participants in a culture) in Phase 1. There is a certain degree of similarities across

TABLE 1. Frequently Mentioned Attributes in Phase 1

Hong Kong Attribute	% of participants who mentioned	Japan Attribute	% of participants who mentioned	The U.S. Attribute	% of participants who mentioned
Low self-esteem**	57.89	Low self-esteem**	37.00	Low self-esteem**	44.55
Wanting to be beautiful*	57.02	Confident**	33.00	Economically well-off**	43.56
Concerned about others' evaluation*	22.81	Concerned about others' evaluation*	28.00	Insecure	28.71
Attention-seeking*	16.67	Unnatural*	28.00	Confident**	24.75
Good-looking**	15.79	Bright	25.00	Concerned about appearance*	17.82
Concealing their surgery history*	14.91	Economically well-off**	24.00	Unhappy	17.82
Liking grooming*	14.04	Good-looking**	23.00	Good-looking**	16.83
Confident**	13.16	Sociable	21.00	Self-conscious*	14.85
Courageous*	13.16	Concealing their surgery history*	19.00	Wanting changes	13.86
Unnatural*	12.28	Self-conscious*	14.00	Unsatisfied with their appearance	
Perfectionist*	10.53	Concerned about appearance*	13.00	Fake*	11.88
Fake*	10.53	Courageous*	12.00	Attention-seeking*	11.88
Economically well-off**	10.53	Wanting to be beautiful*	12.00	Perfectionist*	11.88
		Active*	11.00	Physically unattractive*	10.89
		Liking grooming*	10.00		

Notes. Only attributes mentioned by at least 10% of the participants in a culture were listed here. * Attitudes common in two cultures. ** Attitudes common in all three cultures. Attributes are ranked according to frequency of mention, with the most frequent ones on the top.

the cultures. For instance, "low self-esteem" ranked top in all three cultures. "Confident," "economically well-off," and "good-looking" were also frequently mentioned in all three cultures. There are some cultural differences as well. For instance, some attributes were frequently mentioned in two cultures only (e.g., "unnatural," "perfectionist," "courageous"). One cultural difference is worth particular discussion: "Concealing their surgery history" was frequently mentioned in Hong Kong and Japan only; no participant in the U.S. sample mentioned this attribute. The Hong Kong and Japan participants stereotypically expected that cosmetic surgery patients conceal their surgery history. This is consistent with the theoretical analysis introduced earlier that East Asians are less likely to disclose personal sensitive information, including information about their body (e.g., Barnlund, 1989; Chen, 1995). This cultural difference lends some indirect credence to the hypothesized lower likelihood of social contact with cosmetic surgery patients in Asian cultures than in Western cultures.

As discussed, the free listing method used in Phase 1 is effective in identifying attributes that are central to people's stereotype (Stangor & Lange, 1994) but may lead to incomplete documentation. To complement this method, as Stangor and Lange (1994) suggested, the attributes identified in Phase 1 were added to a more extensive predetermined list in Phase 2. The Gough and Heilbrun (1983) adjective checklist, which contains an extensive set of 300 attributes, was adopted (see Madon, 1997). Participants in Phase 2 rated the extent to which each attribute on the combined list characterizes cosmetic surgery patients.

PHASE 2

Method

Two hundred and forty two undergraduates from Hong Kong (131 men, 111 women, $M_{age} = 21.00$ years, $SD_{age} = 1.04$ years), 64 from Japan (46 men, 18 women, $M_{age} = 19.05$ years, $SD_{age} = 1.23$ years), and 71 from the Midwest U.S. (23 men, 48 women, $M_{age} = 18.56$ years, $SD_{age} = 2.30$ years) participated. All participants in Phase 2 had not taken part in Phase 1. Participants in the United States and Hong Kong participated for partial course fulfillment, while participants in Japan were compensated monetarily. All materials were administered in participants' native language. Standard translation and back-translation procedures were performed. Participants gave stereotypicality and valence ratings, and completed the measures of social relationship willingness, general acceptance of cosmetic surgery, and social contact. These procedures took about 40 minutes.

Stereotypicality

Attributes identified in Phase 1 were added to the Gough and Heilbrun (1983) adjective checklist, with those attributes overlapping with this checklist

or those mentioned by one participant only discarded. The final combined list comprised 366 attributes in Hong Kong, 319 in Japan, and 344 in the United States. Participants were asked "In your opinion, to what extent is each of these attributes characteristic of people who have undergone cosmetic surgery?" They rated each attribute on a 5-point scale (1 = *very uncharacteristic* to 5 = *very characteristic*). Attributes with higher ratings are more stereotypical attributes.

Stereotype Valence

Participants were asked "In your opinion, how positive or negative is each of these attributes?" They responded on a 5-point scale (1 = *very negative* to 5 = *very positive*). Afterward, within each participant, the correlation between stereotypicality and valence was computed. A negative correlation indicates negative stereotype valence.

Social Relationship Willingness

Participants completed a measure modified from the Bogardus' Scale of Social Distance (1932). They indicated how willing they were to have social relationships of varying intimacy level (neighbor, co-worker, friend, romantic partner, marriage partner) with a cosmetic surgery patient on a 6-point scale (1 = *strongly unwilling* to 6 = *strongly willing*). An overall social relationship willingness score was obtained by averaging the scores across relationship types. Higher scores indicate stronger willingness. The reliability of this scale was .88 in Hong Kong, .91 in Japan, and .87 in the United States.

General Acceptance

Participants' general acceptance of cosmetic surgery was also measured. Participants responded to the 15 items (e.g., "If cosmetic surgery can make someone happier with the way they look, then they should try it.") in the Acceptance of Cosmetic Surgery Scale (Henderson-King & Henderson-King, 2005) on a 7-point scale (1 = *strongly disagree* to 7 = *strongly agree*). Higher scores indicate stronger acceptance. The reliability of this scale was .93 in Hong Kong, .92 in Japan, and .95 in the United States.

Social Contact

Allport (1954) noted that mere intergroup contact may not guarantee reduction of prejudice. He outlined several optimal conditions for the success of contact, one of which is that the contact is sufficiently frequent and close for development of meaningful relationships. Cook (1978) named such contact as

having high acquaintance potential, which should be contrasted with infrequent and casual contact. Therefore, in the present research, the social contact measure specified cosmetic surgery patients to be someone in participants' family or someone they knew in person. Participants answered two Yes-No questions ("Is there anyone in your family who has had cosmetic surgery?" and "Is there anyone you know in person who has had cosmetic surgery?"). Participants answering "No" to both questions were considered having no social contact with cosmetic surgery patients, while participants otherwise were considered having such contact. Social contact is thus a dichotomous variable.

Results and Discussion

Stereotype Content

Table 2 shows the most stereotypical attributes in Phase 2. For the sake of brevity, only attributes with a stereotypicality rating of 4 or above (i.e., clearly considered to be stereotypical on a 5-point scale) were examined. Overall, there was a certain degree of overlap among the cultures in terms of stereotype content. One discernible pattern is that participants typically expected that cosmetic surgery patients have strong appearance concern. For instance, "concerned about their appearance," "unsatisfied about their appearance," and "wanting more surgery" were considered to be stereotypical in two cultures. Indeed, past studies have shown that cosmetic surgery patients or individuals who want to have cosmetic surgery have stronger appearance concern than do people who are not seeking cosmetic surgery (Sarwer, LaRossa, Bartlett et al., 2003; Sarwer et al., 2005).

More important, participants apparently understood very well what motivates people to undergo cosmetic surgery. "Concerned about others' evaluation" was considered stereotypical in all three cultures, and "attention-seeking" was considered stereotypical in two cultures. As discussed, many cosmetic surgery patients want to undergo the surgery because they are concerned about how they are treated and evaluated by other people (Davies & Sadgrove, 1996; Park et al., 2009; Sherry et al., 2004; Thorpe et al., 2004). In addition, "low self-esteem" was considered stereotypical in all three cultures. This is consistent with the finding that people often regard cosmetic surgery as a means to improved self-esteem. For instance, the ASPS defines cosmetic surgery as a means "to reshape normal structures of the body in order to improve the patient's appearance and self-esteem" (2010b). Also, some studies on cosmetic surgery patients have shown that many of them want to improve their self-esteem (Cash, Duel, & Perkins, 2002; see also Özgür, Tuncali, & Gürsu, 1998; Thorpe et al., 2004).

Another important finding is that, like Phase 1, "concealing their surgery history" was considered stereotypical in Hong Kong and Japan. This finding is consistent with the fact that East Asians are less likely to disclose personal

TABLE 2. Most Stereotypical Attributes in Phase 2

Hong Kong		Japan		The U.S.	
Attribute	Stereotypicality	Attribute	Stereotypicality	Attribute	Stereotypicality
Concerned about others' evaluation[†]**	4.71	Concerned about others' evaluation[†]**	4.70	Concerned about appearance[†]*	4.65
Wanting to be beautiful[†]	4.63	Low self-esteem[†]**	4.69	Unsatisfied with their appearance[†]*	4.55
Attention-seeking[†]*	4.60	Idealistic	4.45	Wanting changes[†]*	4.51
Accepting artificial beauty[†]	4.60	Wanting changes[†]*	4.41	Self-conscious[†]	4.41
Liking grooming[†]	4.51	Sensitive about the surgical body part[†]	4.28	Concerned about others' evaluation[†]**	4.38
Praise-seeking[†]	4.44	Concealing their surgery history[†]*	4.19	Insecure[†]	4.37
Unsatisfied with their appearance[†]*	4.42	Ambitious	4.14	Dissatisfied*	4.17
Adventurous*	4.40	Adventurous*	4.11	Low self-esteem[†]**	4.15
Wanting more surgery[†]*	4.36	Active	4.11	Wanting more surgery[†]*	4.14
Concerned about appearance[†]*	4.32	Greedy	4.02	Unhappy[†]	4.14
Liking to compare to others[†]	4.27			Attention-seeking[†]*	4.13
				Fault-finding	4.13
				Changeable	4.11

Attribute	Rating	Attribute	Rating
Daring	4.26	Self-centered	4.10
Dissatisfied*	4.21	Showbiz celebrities†	4.08
Concealing their surgery history†*	4.20	Susceptible to social norms†	4.07
Looking into mirror often†	4.20	Economically well-off†	4.06
Perfectionist†	4.18	Materialistic†	4.06
Having been teased by others†	4.12	Pleasure-seeking	4.06
Hating criticism†	4.10	Vain†	4.04
Fearing aging†	4.10		
Open-minded†	4.06		
Low self-esteem†**	4.04		

Notes. Only attributes with a stereotypicality rating of 4 or above are listed here. Attributes with a cross were obtained from Phase 1; those without a cross were from the Gough and Heilbrun (1983) adjective checklist. *Attributes were common in two cultures. **Attributes were common in all three cultures. Attributes are ranked according to mean stereotypicality ratings, with the highest ones on the top.

sensitive information (e.g., Barnlund, 1989; Chen, 1995). Again, it implies a lower likelihood of social contact with cosmetic surgery patients in Asian cultures than in Western cultures.

As shown by comparing Table 1 and Table 2, attributes frequently mentioned in Phase 1 did not necessarily receive high stereotypicality ratings in Phase 2. For instance, "low self-esteem" was most frequently mentioned in Phase 1, but was not considered most stereotypical in Phase 2. Also, some frequently mentioned attributes in Phase 1 did not even appear to be stereotypical in Phase 2 (e.g., "confident," "good-looking," "liking grooming," "fake"). Some attributes mentioned by less than 10% of the participants in Phase 1, however, were considered to be very stereotypical in Phase 2 (e.g., "praise-seeking" in Hong Kong, "wanting changes" in Japan, and "concerned about others' evaluation" in the U.S.). On the contrary, some attributes in the Gough and Heilbrun (1983) adjective checklist, though not identified through Phase 1, were considered to be stereotypical in Phase 2 (e.g., "adventurous" and "daring" in Hong Kong, "idealistic" and "ambitious" in Japan, and "dissatisfied" and "fault-finding" in the U.S.). All these observations evidence the advantages of using the two-phase complementary approach (Madon, 1997; Stangor & Lange, 1994). Some infrequently mentioned attributes and some attributes not even mentioned at all in Phase 1 were considered to be stereotypical in Phase 2, wherein participants were provided with a predetermined list of attributes and rated their stereotypicality. The use of this complementary method and the adoption of an extensive checklist (Gough & Heilbrun, 1983) in Phase 2 were therefore empirically justified.

Hypothesis 1

Hypothesis 1 states that attitudes toward cosmetic surgery patients are predominantly negative. This was tested by checking if stereotype valence was significantly smaller than zero, and if social relationship willingness and general acceptance of cosmetic surgery were significantly smaller than the scale midpoint. Table 3 shows the descriptive statistics of these attitude measures.

A one-sample t-test comparing stereotype valence to zero was performed for each culture. These analyses showed that stereotype valence was significantly negative in Hong Kong, $t(241) = -13.54$, $p < .001$, Japan, $t(62) = -5.19$, $p < .001$, and the U.S, $t(70) = -7.42$, $p < .001$. Another analysis showed that within each culture, the correlation between sample mean stereotypicality ratings and valence ratings was significantly negative ($r(240) = -.40$, $p < .001$ in Hong Kong, $r(62) = -.44$, $p < .001$ in Japan, and $r(69) = -.43$, $p < .001$ in the U.S.).

A one-sample *t*-tests comparing overall social relationship willingness to the scale midpoint was performed for each culture. Participants in the United

TABLE 2. Descriptive Statistics of Attitudes by Culture

	Hong Kong	Japan	The U.S.
Stereotype valence	−.19 (.21)[1]	−.16 (.24)[1]	−.20 (.23)[1]
Overall social relationship willingness[a]	3.86 (.87)[2]	2.93 (.82)[3]	4.76 (.90)[1]
Willingness of being a neighbor[a]	4.67 (.83)[2]	3.25 (.85)[3]	5.32 (.82)[1]
Willingness of being a co-worker[a]	4.60 (.90)[2]	3.23 (.90)[3]	5.28 (.83)[1]
Willingness of being a friend[a]	4.45 (.99)[2]	3.31 (.97)[3]	5.17 (.85)[1]
Willingness of being a romantic partner[a]	2.91 (1.25)[2]	2.47 (.99)[3]	4.04 (1.42)[1]
Willingness of being a marriage partner[a]	2.66 (1.26)[2]	2.38 (1.05)[2]	4.00 (1.45)[1]
General acceptance[b]	3.10 (1.07)[2]	3.00 (1.00)[2]	3.46 (1.25)[1]
Social contact	11.20%[2]	3.13%[2]	38.03%[1]

Notes. N = 242 in Hong Kong, 64 in Japan, and 71 in US. Standard deviations in parentheses. Numbers with different superscripts in a row are significantly different at *p* < .05. [a]Responses were made on a 6-point scale: Responses >3.5 indicate willingness, while responses < 3.5 indicate unwillingness. [b]Responses were made on a 7-point scale: Responses >4 indicate acceptance, while responses <4 indicate rejection.

States indicated overall willingness (i.e., larger than the midpoint), $t(70) = 44.42$, $p < .001$. The Hong Kong participants indicated overall unwillingness (i.e., smaller than the midpoint), $t(241) = 68.78$, $p < .001$; the same was true for the Japan participants, $t(63) = 28.44$, $p < .001$. There was another interesting finding regarding social relationship willingness. A contrast analysis comparing willingness for casual relationships (neighbor, co-worker, friend) to willingness for intimate ones (romantic partner, marriage partner) revealed that willingness was consistently lower for intimate relationships than for casual ones ($p < .001$ in every culture).

A one-sample *t*-tests comparing general acceptance with the scale midpoint was performed for each culture. These analyses revealed that general acceptance was significantly lower than the scale midpoint in Hong Kong, $t(241) = 45.07$, $p < .001$, Japan, $t(62) = 24.07$, $p < .001$, and the U.S, $t(70) = 23.37$, $p < .001$. This indicates that cosmetic surgery was commonly considered not acceptable.

In sum, Hypothesis 1 receives support. The participants in all three cultures consistently held negative stereotype toward cosmetic surgery patients and considered cosmetic surgery to be unacceptable. Also, these participants, except those

in the United States, were not willing to form social relationships, particularly intimate ones, with cosmetic surgery patients.

Hypothesis 2

Hypothesis 2 states that attitudes toward cosmetic surgery patients are more negative in Hong Kong and Japan than in the United States. This was tested by comparing stereotype valence, social relationship willingness, and general acceptance across the cultures.

A one-way ANOVA comparing stereotype valence across the three cultures was performed. This analysis however did not reveal any cultural difference ($p > .55$).

Another one-way ANOVA was performed to compare social relationship willingness across the cultures. This analysis revealed a significant cultural difference, $F(2,374) = 74.09$, $p < .001$. Bonferroni post-hoc analyses showed that overall willingness was significantly higher in the U.S. than in Hong Kong ($p < .0001$), followed by Japan ($p < .0001$).

Another one-way ANOVA was performed to compare general acceptance across the cultures. This analysis revealed a significant cultural difference, $F(2,374) = 3.79$, $p < .05$. Bonferroni post-hoc analyses showed that general acceptance was significantly higher in the United States than in Hong Kong ($p < .05$) and Japan ($p < .05$); no significant difference was found between Hong Kong and Japan.

In sum, Hypothesis 2 receives support. The Hong Kong and Japan participants held more negative stereotype toward cosmetic surgery patients than did the U.S. participants. Also, the Hong Kong and Japan participants considered cosmetic surgery to be more unacceptable, and were less willing to form social relationships with cosmetic surgery patients.
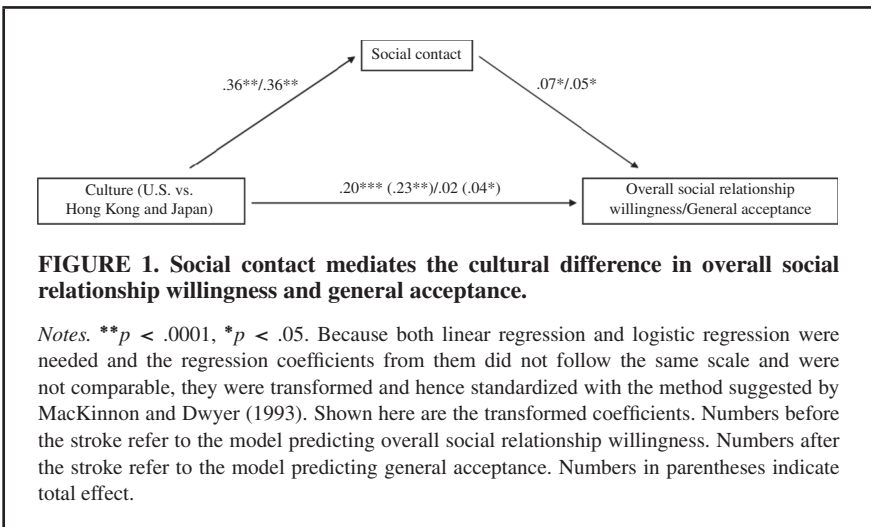
Although stereotype valence, social relationship willingness, and general acceptance were all regarded as indicators of participants' attitudes toward cosmetic surgery, it remains to be tested if these measures are indeed inter-correlated. The zero-order correlations among the various measures based on the whole sample were computed. All inter-correlations were significant. Participants who reported less negative stereotype valence reported stronger overall social relationship willingness, $r(374) = .26$, $p < .001$. Participants who reported less negative stereotype valence also reported stronger general acceptance, $r(374) = .35$, $p < .001$. In addition, participants who reported stronger overall social relationship willingness reported stronger general acceptance, $r(375) = .39$, $p < .001$. This pattern of inter-correlations was replicated within each culture. Furthermore, a factor analysis of the three attitude measures revealed a clear one-factor solution (eigenvalue = 1.67, 55.80% of variance explained). This one-factor solution was replicated within each culture. These findings strongly evidence the convergent validity of the three attitude measures.

Hypothesis 3

Hypothesis 3 states that social contact with cosmetic surgery patients mediates the cultural difference in attitudes toward these patients. Following the approach recommended by Baron and Kenny (1986), a series of analysis was performed.

As the first step, the cultural difference in attitudes was demonstrated earlier already. The next step is to examine if social contact differs across cultures. Table 3 shows the proportion of participants who reported social contact with cosmetic surgery patients. A chi-square test revealed that social contact significantly differed across cultures, $\chi^2(2, N = 376) = 35.31$, $p < .0001$. The third step is to establish that social contact predicts attitudes. Compared to those who did not have social contact with cosmetic surgery patients, participants who had this contact reported significantly stronger overall social relationship willingness ($M = 4.47$ and $SD = 1.03$ vs. $M = 3.77$ and $SD = .99$), $t(374) = 4.88$, $p < .001$, and general acceptance ($M = 3.42$ and $SD = 1.30$ vs. $M = 3.10$ and $SD = 1.06$), $t(374) = 1.97$, $p < .05$. The two groups did not significantly differ in terms of stereotype valence ($M = -.19$ and $SD = .23$ vs. $M = -.17$ and $SD = .19$), $p > .61$. Overall, participants who had social contact with cosmetic surgery patients, compared to those who did not, reported less negative attitudes.

As the last step, mediational analyses were performed to test if social contact mediates the cultural difference. For easier contrast, the United States was compared to Hong Kong and Japan combined, because the latter two cultures did not differ in social contact. Figure 1 summarizes the results from these analyses. Culture significantly predicted social contact, $\beta = .36$, $p < 0001$. Social

FIGURE 1. Social contact mediates the cultural difference in overall social relationship willingness and general acceptance.

Notes. **$p < .0001$, *$p < .05$. Because both linear regression and logistic regression were needed and the regression coefficients from them did not follow the same scale and were not comparable, they were transformed and hence standardized with the method suggested by MacKinnon and Dwyer (1993). Shown here are the transformed coefficients. Numbers before the stroke refer to the model predicting overall social relationship willingness. Numbers after the stroke refer to the model predicting general acceptance. Numbers in parentheses indicate total effect.

contact significant predicted social relationship willingness, $\beta = .07$, $p < 05$, and general acceptance, $\beta = .05$, $p < 05$. Most important, the direct effect of culture on social relationship willingness was reduced (from $\beta = .23$, $p < .0001$, to $\beta = .20$, $p < 0001$) when social contact was taken into account. The same was true for general acceptance (from $\beta = .04$ $p < .05$, to $\beta = .02$, *ns*). Sobel tests revealed that such reduction was significant for social relationship willingness ($Z = 2.33$, $p < .05$) and marginally significant for general acceptance ($Z = 1.77$, $p < .07$).[1]

Overall, Hypothesis 3 is supported. The cultural difference in attitudes toward cosmetic surgery patients was partially mediated by social contact. Social relationship willingness and general acceptance were less negative in the U.S than in Hong Kong and Japan, partly because social contact with cosmetic surgery patients was more prevalent in the United States than in Hong Kong and Japan. It is worth noting that social contact only partially accounts for the cultural difference; culture still has a significant direct effect on attitudes.

General Discussion

Negative Attitudes Toward Cosmetic Surgery Patients

The present research is one of the first attempts to systematically document attitudes toward cosmetic surgery patients. As hypothesized, such attitudes are predominantly negative across cultures. People ascribe negative attributes to these patients. This is consistent with what the only known study on this topic (Delinsky, 2005) found. Also, people consider cosmetic surgery generally not acceptable. In addition, except in the United States, people are not willing to form relationships, especially intimate ones, with these patients. Unlike what some researchers speculated (e.g., Thorpe et al., 2004), a stigma is still attached to cosmetic surgery patients. What the opening quote expresses is seemingly widely shared.

People typically perceive cosmetic surgery patients as good-looking (see Table 1). According to the prevalent physical attractiveness stereotype, beautiful individuals should be perceived to be kind and competent (Dion, Berschied, & Walster, 1972; Eagly, Ashmore, Makhijani, & Longo, 1991). In addition, people generally prefer physically attractive mates (Buss, 1989) because beauty signals health, youth, and fertility. It is paradoxical as to why people hold negative attitudes toward cosmetic surgery patients and are generally unwilling to form intimate relationships with them. One explanation could be that people believe that individuals who pursue cosmetic surgery must be old and in poor health, which offsets the benefits of having a good look. This can be tested by measuring this belief directly and examining if it predicts people's attitudes toward cosmetic surgery patients. Another explanation is that an essential component in lay people's conceptualization of beauty is naturalness: What is considered beautiful

must be natural; cosmetic surgery violates this naturalness (Fraser, 2001). This account can be tested by directly examining lay people's conceptualization of beauty.

All in all, to individuals who want to improve their social relationships, romantic ones in particular (e.g., Davies & Sadgrove, 1996; Thorpe et al., 2004), the findings in the present research represent an alert about the potential social cost underlying cosmetic surgery.

The Role of Culture

As hypothesized, cultures differ in attitudes toward cosmetic surgery patients. In particular, such attitudes are less negative in Western cultures than in Asian cultures. Previous studies very often examined one culture only; the cross-cultural comparisons in the present research make an important leap in research on cosmetic surgery attitudes. The present research offers a theoretically and empirically informed explanation for the cultural difference identified. The likelihood of social contact with cosmetic surgery patients varies across cultures, possibly due to different prevalence of cosmetic surgery (ISAPS, 2010) and different likelihood of patients' self-disclosure (e.g., Barnlund, 1989; Chen, 1995; Kito, 2006). In cultures wherein social contact with these patients is more likely, attitudes toward them are less negative. Nevertheless, as noted earlier, culture still has a direct effect on attitudes after social contact is controlled for. Future research should examine other potential mediators (e.g., naturalness preference).

The Role of Social Contact

The study of social contact also renders the present research distinctive from previous studies on cosmetic surgery attitudes, which typically examined demographic and personality factors (e.g., Henderson-King & Henderson-King, 2005; Swami et al., 2009). Also, the present research provides further support to the contact hypothesis (Allport, 1954; Pettigrew & Tropp, 2006) with reference to a novel target group—cosmetic surgery patients.

One point concerning the social contact measure in the present research should be noted. Participants were asked to report whether someone in their family or someone they knew in person had had cosmetic surgery. This measure was designed with reference to the high acquaintance potential condition (Cook, 1978). It was assumed that such social contact was frequent and close enough to be meaningful. However, direct measures of frequency and quality of social contact are needed in future research.

Cosmetic Surgery Patients' Subjective Well-Being

Many cosmetic surgery patients expect improvement in social relationships through the surgery. The negative attitudes identified in the present research

suggest that such expectation may be difficult to meet. As Reich (1969) identified, patients' subjective well-being can be improved through cosmetic surgery only when other people's attitudes toward these patients are also improved. The findings reported in the present research imply that cosmetic surgery patients may face an obstacle in achieving improvement in social relationships and enhancing their subjective well-being. These findings also imply that cosmetic surgery patients may face a dilemma—to disclose or not to disclose their surgery history. On the one hand, disclosure may trigger negative attitudes by other people. On the other hand, disclosure is the first step to allow other people to have meaningful social contact with them; this may improve other people's attitudes toward them. In addition, concealment or non-disclosure is often associated with worse psychological adjustment (e.g., Griffith & Hebl, 2002; Zea, Reisen, Poppen, Bianchi, & Echeverry, 2005). One promising future research direction is to examine the prevalence of disclosure among cosmetic surgery patients and the factors underlying disclosure (e.g., culture). More important, future research should investigate how disclosure of surgery history affects the subjective well-being of cosmetic surgery patients and the attitudes toward them held by other people in the society.

Limitations

It should be noted that both the present research and Delinsky's (2005) used only undergraduate students as participants. Whether the findings obtained and the conclusions made based on these studies are valid across people of different backgrounds is yet to be tested. For instance, statistical figures have shown that cosmetic surgery is more popular among older adults. In 2009, in the United States, people who aged 20–29 constituted only 6% of the total cosmetic procedures: The numbers for the "30–39", "40–54", and "55 or above" age groups were 19%, 47%, and 26%, respectively (ASPS, 2010a). One possible explanation for this phenomenon is that because older adults' appearance becomes more discrepant from the cultural standards, they feel stronger normative pressure to shorten this distance (see Tam, in press). Because the present research included young participants only, future research should examine attitudes toward cosmetic surgery patients in older populations (e.g., working adults, elderly).

Concluding Remarks

As technology is increasingly advanced, it is no longer a dream for anyone to artificially construct his or her beauty. However, doing so may incur some social costs. How these costs vary across cultures, how cosmetic surgery patients manage these social costs, and how these costs affect these patients' subjective well-being are important topics for future research.

NOTE

1. MacKinnon, Lockwood, Hoffman, West, and Sheets (2002) showed that the typical Sobel test statistic is not normally distributed; this makes the Sobel test having less statistical power. They further demonstrated that the empirically appropriate critical value at the .05 level of significance should be approximately .97 (rather than 1.96) for the standard Sobel test. Using this critical value instead, the mediation effect regarding general acceptance is considered significant. We thank an anonymous reviewer for raising this point.

AUTHOR NOTES

Kim-Pong Tam is affiliated with The Hong Kong University of Science and Technology. **Henry Kin-Shing Ng** is an independent researcher in Hong Kong. **Young-Hoon Kim** is affiliated with Yonsei University. **Victoria Wai-Lan Yeung** and **Francis Yue-Lok Cheung** are affiliated with Lingnan University.

REFERENCES

Allport, G. (1954). *The nature of prejudice*. Reading, MA: Addison-Wesley.

American Society of Plastic Surgeons. (2010a). *2010 report of the 2009 statistics.* Retrieved from http://www.plasticsurgery.org/Media/Statistics.html

American Society of Plastic Surgeons. (2010b). *Plastic surgery procedures.* Retrieved from http://www.plasticsurgery.org/Patients_and_Consumers/Procedures.html

Asai, A., & Barnlund, D. C. (1998). Boundaries of the unconscious, private, and public self in Japanese and Americans: A cross-cultural comparison. *International Journal of Intercultural Relations*, *22*, 431–452.

Barnlund, D. C. (1989). *Communicative styles of Japanese and Americans: Images and realities*. Belmont, CA: Wadsworth Thomson Learning.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*, 1173–1182.

Bogardus, E. S. (1932). Social distance scale. *Sociology and Social Research*, *17*, 265–271.

Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, *12*, 1–49.

Cash, T. F., Duel, L. A., & Perkiins, L. L. (2002). Women's psychosocial outcomes of breast augmentation with silicone gel-filled implants: A 2-year prospective study. *Plastic and Reconstructive Surgery*, *109*, 2112–2121.

Chen, G. (1995). Differences in self-disclosure patterns among Americans versus Chinese: A comparative study. *Journal of Cross-Cultural Psychology*, *26*, 84–91.

Cook, S.W. (1978). Interpersonal and attitudinal outcomes in cooperating interracial groups. *Journal of Research and Development in Education*, *12*, 97–113.

Cullen, L. T. (2002, July 29). Changing faces. *Time.* Retrieved from http://www.time.com/time/asia/covers/1101020805/story.html

Davies, D., & Sadgrove, J. (1996). *Safe cosmetic surgery: A complete guide*. London, UK: Metro Books.

Delinsky, S. S. (2005). Cosmetic surgery: A common and accepted form of self-improvement. *Journal of Applied Social Psychology*, *35*, 2012–2028.

Digital Chosunilbo. (2007, February 22). Half of Korean women have had cosmetic surgery. *Digital Chosunilbo*. Retrieved from http://english.chosun.com/w21data/html/news/200702/200702220030.html/

Dion, K., Berscheid, E., & Walster, E. (1972). What is beautiful is good. *Journal of Personality and Social Psychology*, *24*, 285–290.

Eagly, A. H., Ashmore, R. D., Makhijani, M. G., & Longo, L. C. (1991). What is beautiful is good, but . . . : A meta-analytic review of research on the physical attractiveness stereotype. *Psychological Bulletin*, *110*, 109–128.

Fehr, B. (1988). Prototype analysis of the concepts of love and commitment. *Journal of Personality and Social Psychology*, *55*, 557–579.

Fraser, S. (2001). Woman-made women: Mobilisations of nature in feminist accounts of cosmetic surgery. *Hecate*, *27*, 132–155.

Gough, H. G., & Heilbrun, A. B. (1983). In O. K. Buros (Ed.), *The adjective checklist manual*. Palo Alto, CA: Consulting Psychologists Press.

Griffith, K. H., & Hebl, M. R. (2002). The disclosure dilemma for gay men and lesbians: "Coming out" at work. *Journal of Applied Psychology*, *87*, 1191–1199.

Henderson-King, D., & Henderson-King, E. (2005). Acceptance of cosmetic surgery: Scale development and validation. *Body Image*, *2*, 137–149.

International Society of Aesthetic Plastic Surgery. (2010). *ISAPS international survey on aesthetic/cosmetic procedures performed in 2009*. Retrieved from http://www.isaps.org/stats.php

Jerry Hall: Jagger was tight and made me pay for everything. (2007, May 15). *London Evening Standard*. Retrieved from http://www.thisislondon.co.uk/showbiz/article-23396287-jerry-hall-jagger-was-tight-and-made-me-pay-for-everything.do

King, W. (2009). Cosmetic surgery in 2009. *The Hong Kong Medical Diary*, *14*, 14–16.

Kito, M. (2005). Self-disclosure in romantic relationships and friendships among American and Japanese college students. *The Journal of Social Psychology*, *145*, 127–140.

Lin, K-M. (1981). Traditional Chinese medical beliefs and their relevance for mental illness and psychiatry. In A. Kleinman, & T-Y. Lin (Eds.), *Normal and abnormal behavior in Chinese culture* (pp. 95–111). Dordrecht, Holland: D. Reidel Publishing Company.

MacKinnon, D. P., & Dwyer, J. H. (1993). Estimating mediated effects in prevention studies. *Evaluation Review*, *17*, 144–158.

MacKinnon, D. P., Lockwood, C. M., Hoffman, J. M., West, S. G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods*, *7*, 83–104.

Madon, S. (1997). What do people believe about gay males? A study of stereotype content and strength. *Sex Roles*, *37*, 663–685.

Özgür, F., Tuncali, D., & Gürsu, K. G. (1998). Life satisfaction, self-esteem, and body image: A psychosocial evaluation of aesthetic and reconstructive surgery candidates. *Aesthetic and Plastic Surgery*, *22*, 412–419.

Park, L. E., Calogero, R. M., Harwin, M. J., & DiRaddo, A. M. (2009). Predicting interest in cosmetic surgery: Interactive effects of appearance-based rejection sensitivity and negative appearance comments. *Body Image*, *6*, 186–193.

Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*, 751–783.

Reich, J. (1969). The surgery of appearance. *The Medical Journal of Australia*, *2*, 5.

Rosenkrantz, P, Vogel, S., Bee, H., Broverman, I., & Broverman, D. (1968). Sex-role stereotypes and self-concepts in college students. *Journal of Consulting and Clinical Psychology*, *32*, 287–295.

Rozin, P. (2006). Naturalness judgments by lay Americans: Process dominates content in judgments of food or water acceptability and naturalness. *Judgment and Decision Making*, *1*, 91–97.

Sarwer, D. B., Cash, T. F., Magee, L., Williams, E. F., Thompson, J. K., Roehrig, M., . . . Romanofski, M. (2005). Female college students and cosmetic surgery: An investigation of experiences, attitudes, and body image. *Plastic and Reconstructive Surgery*, *115*, 931–938.

Sarwer, D. B., LaRossa, D., Bartlett, S. P., Low, D. W., Bucky, L. P., & Whitaker, L. A. (2003). Body image concerns of breast augmentation patients. *Plastic and Reconstructive Surgery*, *112*, 83–90.

Sherry, S. B., Hewitt, P. L., Lee-Baggley, D. L., Flett, G. L., & Besser A. (2004). Perfectionism and thoughts about having cosmetic surgery performed. *Journal of Applied Biobehavioral Research*, *9*, 244–257.

Stangor, C., & Lange, J. E. (1994). Mental representations of social groups: Advances in understanding stereotypes and stereotyping. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 26, pp. 357–416). San Diego, CA: Academic Press.

Swami, V., Chamorro-Premuzic, T., Bridges, S., & Furnham, A. (2009). Acceptance of cosmetic surgery: Personality and individual difference predictors. *Body Image*, *6*, 7–13.

Tam, K-P. (in press). Existential motive underlying cosmetic surgery: A terror management analysis. *Journal of Applied Social Psychology*.

Thorpe, S. J., Ahmed, B., & Steer, K. (2004). Reasons for undergoing cosmetic surgery: A retrospective study. *Sexualities, Evolution and Gender*, *6*, 75–96.

Zea, M. C., Reisen, C. A., Poppen, P. J., Bianchi, F. T., & Echeverry, J. J. (2005). Disclosure of HIV status and psychological well-being among Latino gay and bisexual men. *AIDS and Behavior*, *9*, 15–26.