

Celebrity Influence and Young People’s Attitudes Toward Cosmetic Surgery in Singapore: The Role of Parasocial Relationships and Identification

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There is concern that young people worldwide are undergoing an increasing number of cosmetic surgeries that are associated with physical and psychological risks. This study examined whether and how this trend of seeking cosmetic surgery was influenced by young people’s exposure to mediated celebrities in Singapore. This study employed two psychological concepts—parasocial relationships and identification—from the celebrity influence model to disentangle the media effects of celebrities. A survey of 555 college students showed that exposure to mediated celebrities directly and indirectly influenced young people’s attitudes toward cosmetic surgery. The indirect path was mediated by parasocial relationships and identification. Our findings contribute to the theory of celebrity influence and provide information that can inform future health communication.

Keywords: celebrity influence, parasocial relationship, identification, cosmetic surgery, youth

Cosmetic surgeries are elective medical procedures that aim to reshape healthy anatomical structures and appearances to approximate contemporary ideals (Sullivan, 2001). An increasing number of young people worldwide are developing favorable attitudes toward and opting for cosmetic surgery. For example, nearly 20% of the more than 12 million surgical and nonsurgical cosmetic procedures in the United States were performed on adolescents and young adults under 34 years of age (ASAPS, 2015). This phenomenon of cosmetic surgery is also observed among youth in Asia. Approximately half of South Korean women in their 20s were estimated to have had some form of cosmetic surgery (Scanlon, 2005), and approximately 35% of South Korean men in their 20s said that they would undergo cosmetic surgery (Kwon, 2009). Within the past few years, there has been an increase of approximately 30% in the number of cosmetic surgery clients under the age of 21 in Singapore (Xiong, 2011).

Cosmetic surgery, however, has inherent risks. Although the patient is usually healthy, the surgery itself may cause scars, numbness, nerve damage, necrosis, arthritis, muscle pains, or even death

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(Marcus, 2007; Ryan, 2005). The dangers of cosmetic surgery lie not only in the medical risks involved but also in the psychiatric complications that may follow the procedures. Research shows that some cosmetic surgery patients have experienced psychopathic disorder, personality disorder, and body dysmorphic disorder (Vargel & Ulusahin, 2001). Young people who are not fully developed—physically or psychologically—are particularly vulnerable to the risks of cosmetic surgery.

Recently, media critics and social scientists have attributed the increasing frequency of cosmetic surgery among young people to their media exposure (Nabi, 2009; Slevic & Tiggemann, 2010; Wen, Chia, & Hao, 2016). For example, Nabi (2009) found that viewing of cosmetic surgery makeover programs, such as *Famous Face*, was positively associated with the likelihood of undergoing invasive cosmetic procedures among undergraduate students. In addition, a significant proportion of media to which young people are exposed usually feature their admired celebrities who have idealized appearances and body images. Recently, Singapore has joined the global trend in witnessing the rise of pop culture, which is accompanied by an increasing amount of TV dramas, movies, pop music, and their associated celebrities. Young people in this city-state have demonstrated an increasingly high level of involvement with entertainment celebrities (Chia & Poo, 2009). In a high power distance culture like Singapore, young people may be particularly vulnerable to the influence of mediated celebrities, and they may adopt the celebrities' behavior of undergoing cosmetic surgery or seek cosmetic surgery in an attempt to achieve a look similar to that of the celebrities. In this context, we aim to incorporate the celebrity influence model (Brown, Basil, & Bocarnea, 2003; Brown & Fraser, 2008) to explicate the media influence of celebrities on young people's attitudes toward cosmetic surgery in Singapore.

Media Exposure and Attitudes Toward Cosmetic Surgery

Much research has examined connections between audiences' exposure to idealized media figures (e.g., advertising models) and body-image-related attitudes and behaviors (see Barlett, Vowels, & Saucier, 2008, for a review on men; Grabe, Ward, & Hyde, 2008, on women). Media exposure has also been identified as a predictor of attitudes toward and behaviors of cosmetic surgery in particular. For example, Markey and Markey (2009) found that internalization of media messages about appearance issues was correlated with young women's interest in cosmetic surgery. Harrison (2003) found that exposure to the thin and ideal body images on television predicted young people's acceptance of cosmetic surgery to achieve ideal proportions. Swami et al. (2008) found that exposure to media messages of cosmetic surgery, such as advertisements, news articles, and TV programs, led to awareness and the likelihood of having cosmetic surgery. In addition, celebrities are consistently depicted in the media as special talents of attractive physical appearance and abundant material possessions. Thus, we infer that young people's exposure to these idealized celebrity images may predict their favorable attitudes toward cosmetic surgery.

H1: For young people in Singapore, exposure to the mediated celebrities will predict attitudes toward cosmetic surgery.

The Celebrity Influence Model and Parasocial Relationships

The celebrity influence model proposed by Brown and colleagues (e.g., Brown et al., 2003; Brown & de Matviuk, 2010; Brown & Fraser, 2008) can further explain the possible link between exposure to mediated celebrities and attitudes toward cosmetic surgery. The celebrity influence model examines the potential power of mediated personalities in predicting a variety of cognitive, emotional, attitudinal, and behavioral outcomes. This model is largely based on two psychological concepts—parasocial relationships and identification. A parasocial relationship is an intimate relationship that an individual perceives himself or herself to have with mediated figures (Hartmann & Goldhoorn, 2011; Horton & Strauss, 1957; Horton & Wohl, 1956), whereas identification refers to a psychological process through which an individual adopts the perspectives or behavior of another person to establish and maintain a desired relationship with that person (Kelman, 1958).

The celebrity influence model consists of four propositions: (1) exposure to the mediated celebrity induces the audience's parasocial relationships with the celebrity; (2) parasocial relationships with the celebrity cause the audience to identify with the celebrity; (3) identification with the celebrity then motivates the audience to align their attitudes and behavior with the celebrity; and (4) further identification with the celebrity leads to more adoption of the celebrity's beliefs and behaviors among the audience. Each of the four propositions is illustrated below.

The celebrity influence model first proposed that media exposure is an antecedent of parasocial relationships. Young people have rare chances to meet celebrities face to face, and they are usually connected to celebrities through the media. They actively seek information about celebrities by following the latest celebrity news, gossip, and photos, watching TV shows and movies starring the celebrity, and listening to the celebrity's music (Redmond & Holmes, 2007). More frequently, young fans choose to follow their idols' updates on Twitter and other social media (Pew Internet & American Life Project, 2009).

While the parasocial relationships that audiences have with media celebrities resemble typical interpersonal social relationships, they are not based on direct social interaction. Instead, parasocial relationships are formed through vicarious interaction, such as media consumption (Perse & Rubin, 1989). Media figures usually create their audiences' illusions of social relationships through various techniques, such as facing their heads in the audience's direction as if they are talking to the audience directly through the camera, using first-person narratives, adjusting their use of words and tone of voice, engaging in monologues that require the audience's participation, and adopting the audience's perspective and showing empathy (Hartmann & Goldhoorn, 2011; Levy, 1979; Nodelman, 1991). Through such exposure to celebrities in the media, viewers tend to perceive themselves as having higher levels of intimacy with media figures (Brown et al., 2003; Brown & de Matviuk, 2010; Kosenko, Binder, & Hurley, 2016). Previous research suggested that the link between exposure to mediated celebrities and parasocial relationships has been well established (e.g., Brown et al., 2003; Brown & de Matviuk, 2010; Kosenko et al., 2016). However, the audience's perceived close relationship with media figures is no more than an illusion because it is initiated and maintained only by the viewer, without the celebrities' awareness (Giles, 2002). Therefore, we propose the second hypothesis to examine the relationship between exposure to mediated celebrities and parasocial relationships with the celebrities among young people in Singapore.

H2: For young people in Singapore, exposure to the mediated celebrities will predict parasocial relationships with the celebrities.

The Celebrity Influence Model and Identification

The celebrity influence model argues that parasocial relationships with celebrities in the media can further cause audiences to develop liking toward celebrities and may even lead audiences to aspire to look, think, or even behave like celebrities—namely, it may cause identification with celebrities (Chia & Poo, 2009; Fraser & Brown, 2002). While identification has been defined in many ways (e.g., Hoffner, 1996; Hoffner, Levine, & Toohey, 2008; Kelman, 1958), Cohen (2001, 2006) specifically give a definition for identification with media characters that describes a process through which an individual takes on the media character's perspectives and temporarily aligns with that character. Through the process of identification, an audience member may come to believe that the self and the media character have something in common and adopt the identity and role of that character (Cheney, 1983; Cohen, 2001).

An imagined friendship with a celebrity is likely to motivate the audience to identify with the celebrity, especially when the audience perceives a celebrity as an idol—unlike regular media figures who appear transiently in the media—and becomes connected to the celebrity through repeated media consumption. Empirical evidence has shown that an audience member's identification with a media celebrity often increases as the audience member's parasocial relationship with the celebrity develops (Brown et al., 2003; Brown & de Matviuk, 2010). More recent research has provided robust support for this causal relationship between parasocial relationships and identification. For example, Kosenko and colleagues (2016) found that parasocial relationships with Angelina Jolie² would cause audiences to identify with her, which would in turn motivate them to seek genetic testing. An integration of the two concepts of parasocial relationships and identification as process variables has been viewed as an advancement in examining the mediated media effects of celebrities (Cohen, 2009). We thus propose the following hypothesis:

H3: For young people in Singapore, parasocial relationships with the mediated celebrities will predict identification with the celebrities.

In addition, while the celebrity influence model did not specifically propose a link between media exposure and identification, previous research provided ample evidence to buttress this prediction. For example, Basil (1996) found that people who depended more heavily on television were more likely to have feelings for Magic Johnson,³ feel related to Magic Johnson, and see Magic Johnson as a personal role model. Fraser and Brown (2002) showed that fans of Elvis Presley usually immersed themselves in Elvis-related media, selectively incorporated the values and behaviors of Elvis Presley, and adopted these values and behaviors into their own lives, resulting in powerful forms of personal and social transformation. Based on prior research, we propose the following hypothesis:

² Angelina Jolie is an American actress. She announced to the public in 2013 that she had a *BRCA1* gene mutation that increased her risk of developing breast and ovarian cancers.

³ Magic Johnson, whose full name is Earvin Johnson Jr., is an American professional basketball player.

H4: For young people in Singapore, exposure to the mediated celebrities will predict identification with the celebrities.

According to the celebrity influence model, young people's favorable attitudes toward cosmetic surgery may originate from their sharing and adopting perspectives with the idealized celebrities in the media, namely, identification with the celebrities. Previous research has shown that identification with a celebrity influences the audience's values, beliefs, and behaviors so that they are aligned with what the celebrity promotes across diverse sociocultural contexts (e.g., raising public awareness of drug use prevention, Brown & de Matviuk, 2010; addressing public concerns about child abuse, Brown et al., 2003; and increasing public concerns about AIDS and reducing intentions to engage in risky sexual behaviors, Brown & Basil, 1995). In this light, identification with celebrities may also cause changes in attitudes and behavior toward one's own body (Harrison, 1997). In particular, the desire to resemble media characters' appearances has been revealed as an important predictor of body image concerns (Thomsen, McCoy, Gustafson, & Williams, 2002) and has been considered, in part, as a factor influencing people's adoption of sociocultural attitudes toward appearance (Thompson, van den Berg, Roehrig, Guarda, & Heinberg, 2004). For example, Harrison (1997) revealed that women who experienced increased interpersonal attraction to female media celebrities—namely, a composite of adoring, feeling similar to, and wanting to be like thin female media celebrities—tended to report eating disorder symptoms, which involved high levels of body dissatisfaction and a strong desire to change one's body image.

Similarly, identification with celebrities is likely to be associated with young people's approval of cosmetic surgery and intention or behavior of engaging in cosmetic surgery. Swami, Taylor, and Carvalho (2009) and Maltby and Day (2011) both showed that the intense personal dimension of celebrity worship, which resembles identification in that it is characterized by intensive and compulsive feelings for media figures with a diminished sense of self-identity, was a positive predictor of experiences or likelihood of having cosmetic surgery. Elliot (2010) suggested that patients resort to cosmetic surgery because they want an appearance that is similar to idealized celebrity images. Young people may also emulate the celebrity's behavior of having cosmetic surgery simply because of the benefits they might gain from a better appearance (e.g., fortune, fame, popularity). Alternatively, they may perceive themselves as sharing values and beliefs with celebrities. For example, when celebrities publicly support the idea of having cosmetic surgery as a free choice, one that is liberating and empowering for women, audiences may identify with this belief and develop favorable attitudes toward cosmetic surgery. Based on this logic, we propose the last hypothesis:

H5: For young people in Singapore, identification with the mediated celebrities will predict attitudes toward cosmetic surgery.

As such, these hypotheses constitute our hypothetical path model (see Figure 1). The celebrity influence model is particularly helpful for us to understand the influence of mediated celebrities on young people in an Asian context like Singapore. Singapore is categorized as a high power distance culture because of its Confucian background (Hofstede, 1980; Hofstede & Bond, 1988). Compared with low power distance cultures, people in high power distance cultures tend to expect and accept unequal power

distribution between people, defer to authority and other high-status figures (e.g., parents, teachers, bosses, celebrities), and follow their advice. Singaporean young people from a high power distance background may be particularly subject to the influence of mediated celebrities who are always seen as beautiful, glamorous, and successful—namely, the high-status group—and respond to the celebrity influence by adopting the behavior of the celebrities (e.g., undergoing cosmetic surgery).

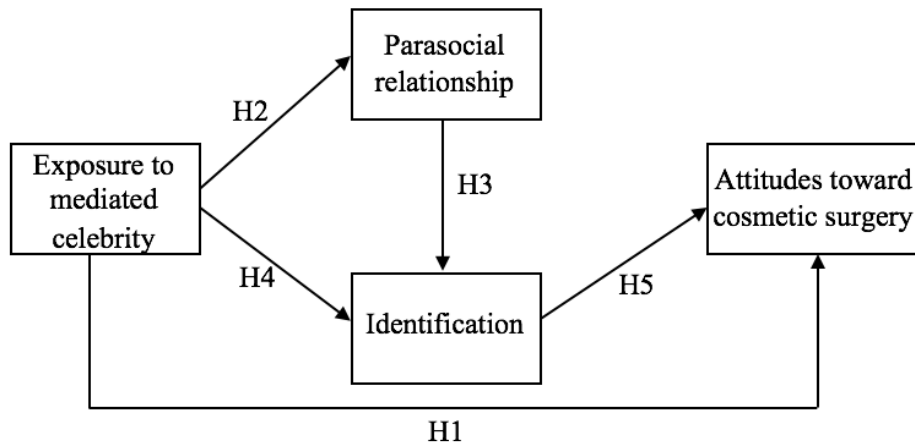


Figure 1. Proposed hypothetical model of the effects of exposure to mediated celebrity on attitudes toward cosmetic surgery.

Method

To test our hypotheses, we conducted an anonymous survey using a probability sample drawn from a comprehensive university in Singapore, which was representative of the population parameter of the university. We generated, with the assistance of the university’s administrative office, a sample of 3,000 students using simple random sampling. We sent an e-mail to the students’ school e-mail accounts and invited them to participate in a paper-and-pencil survey set up at the campus canteens with an incentive of a shopping voucher worth 10 Singapore dollars (equal to U.S.\$8). We sent out an e-mail invitation and then four e-mail reminders to the selected students to encourage responses (Dillman, Christenson, Carpenter, & Brooks, 1974). In the third and the fourth e-mails, students were provided a link to the online survey as an alternative to the on-site paper-and-pencil survey. Previous studies (e.g., Chang, Southwell, Lee, & Hong, 2012) suggest that this combination of a paper-and-pencil survey and an online survey can increase response rate significantly.

Participants

We ultimately obtained 555 valid responses (paper-and-pencil survey: $N = 273$; online survey: $N = 282$). We compared the two groups in terms of their age, gender, and ethnicity, and results showed no significant differences between the two groups. We therefore combined responses from the two groups for later analyses. The ultimate response rate was 18.93%. The respondents were between 20 and 35 years of age ($M = 22.71$, $SD = 2.54$). Nearly 58% of the respondents were female ($n = 320$). In terms of ethnicity, the majority of the respondents were Chinese (87.6%), whereas 5.6% were Indian, 2.2% Malay, and 1.4% others.

Measures

The survey first asked participants to identify a same-sex celebrity who they considered to be "good-looking." For male participants, the most popular male celebrities included Brad Pitt (4.9%, $n = 27$), Tom Cruise (4.3%, $n = 24$), David Beckham (2.7%, $n = 15$), Singaporean male celebrities (2.9%, $n = 16$), Wang Leehom (1.3%, $n = 7$),⁴ and Andy Lau (1.3%, $n = 7$).⁵ Among female participants, the most popular female celebrities were South Korean female celebrities (6.7%, $n = 37$), Angelina Jolie (3.4%, $n = 19$), Rui En (3.1%, $n = 17$),⁶ Taylor Swift (2.9%, $n = 16$), and Jessica Alba (2.3%, $n = 13$). Then, the participants were asked to focus on the celebrity they identified and report their exposure to the mediated celebrity, parasocial relationships, identification, and attitudes toward cosmetic surgery. Measures for each variable are described below.

Exposure to the mediated celebrity. Based on measures we adopted and revised from previous studies (e.g., Chia & Poo, 2009; Wen et al., 2016), we asked participants to report how frequently they were exposed to the celebrity they identified on a variety of media, including television, magazines, newspapers, the Internet, and social network sites. Answers were given on a 5-point scale ranging from 1 = *never* to 5 = *always*. The participants' answers were averaged to form the variable of exposure to the mediated celebrity (Cronbach's $\alpha = .75$, $M = 2.98$, $SD = 0.72$).

Parasocial relationship. We adopted 20 questions from the Celebrity-Persona Parasocial Interaction Scale (CPPI; Bocarnea & Brown, 2007) to measure parasocial relationship, such as "I feel that I understand the emotions the celebrity experiences," and "I sometimes make remarks to the celebrity while watching television." Answers were given on a 6-point scale ranging from 1 = *strongly disagree* to 6 = *strongly agree*. The 20 items constituted a reliable composite measure (Cronbach's $\alpha = .93$). The responses were then averaged to form the variable of parasocial relationship ($M = 3.34$, $SD = 0.79$).

Identification. To measure respondents' identification with the celebrity they identified, we adopted the Celebrity-Persona Identification Scale (CPI; Brown & Bocarnea, 2007), which included 20 questions, such as "The celebrity and I share many of the same values," and "I aspire to become the kind

⁴ Wang Leehom is a Chinese American singer, songwriter, and record producer.

⁵ Andy Lau is a Hong Kong singer and actor.

⁶ Rui En is a Singaporean singer and actress.

of person the celebrity is." Answers were given on a 6-point scale ranging from 1 = *strongly disagree* to 6 = *strongly agree*. The 20 items constituted a reliable composite measure (Cronbach's $\alpha = .97$). The responses were then averaged to form the variable of identification ($M = 2.82, SD = 1.02$).

Attitudes toward cosmetic surgery. Based on previous research (e.g., Henderson-King & Henderson-King, 2005; Nabi, 2009; Sarwer et al., 2005), we measured attitudes toward cosmetic surgery along three subdimensions—acceptance of cosmetic surgery, intention of undergoing general cosmetic surgery, and intention of undergoing specific cosmetic surgery. First, we adopted seven questions from previous scales (Henderson-King & Henderson-King, 2005; Sarwer et al., 2005) to measure the acceptance of cosmetic surgery, which pertains to one's approval or evaluation of cosmetic surgery. Questions included "I approve of people surgically changing their appearance to feel better about themselves" and "It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look." Answers were given on a 6-point scale ranging from 1 = *strongly disagree* to 6 = *strongly agree* (Cronbach's $\alpha = .90$). We then created the variable of acceptance of cosmetic surgery ($M = 3.77, SD = 0.88$).

Second, we used seven items from Sarwer and colleagues' (2005) scale and Henderson-King and Henderson-King's (2005) scale to measure participants' intention to undergo general cosmetic surgery, which describes one's likelihood of seeking cosmetic surgery in general terms under various circumstances. Questions included "I think I might have cosmetic surgery when I reach middle-age" and "If I knew there would be no negative side effects or pain, I would like to try cosmetic surgery." Answers were given on a 6-point scale ranging from 1 = *strongly disagree* to 6 = *strongly agree* (Cronbach's $\alpha = .93$). We then created the variable of intention of undergoing general cosmetic surgery ($M = 2.89, SD = 1.13$).

Finally, we asked participants to report their intention to undergo specific cosmetic surgery procedures. We provided participants with a list of 15 types of cosmetic surgery procedures and asked them to rate their likelihood of undergoing each procedure (Nabi, 2009). The 15 types of cosmetic surgical procedures ranged from minimally invasive procedures, such as Botox injection, to more surgically invasive procedures, such as breast surgery (augmentation for women and reduction for men). The participants were asked, "If cost were not an issue, how likely would you be to do each of the following surgeries to improve your appearance?" The responses were measured on a scale from 1 = *never* to 4 = *very likely*, and 5 = *already had it* (Cronbach's $\alpha = .90$). We then created the variable of intention of undergoing specific cosmetic surgery ($M = 1.76, SD = 0.65$).⁷

Control variables. Other variables we measured that may also affect the dependent variables (DVs) include age, sex, race, and BMI (calculated based on height and weight, $M = 20.99, SD = 3.35$). In

⁷ Among the participants, 11.7% reported to have undergone orthodontics ($n = 65$); 2.5%, laser hair removal ($n = 14$); 1.4%, skin peel ($n = 8$); 0.5%, collagen injection ($n = 3$); 0.4%, eyelid surgery ($n = 2$); 0.7%, nose job ($n = 4$); 0.5%, facelift ($n = 3$); 0.4%, cheek implant ($n = 2$); 0.2%, ear surgery ($n = 1$); 0.9%, tummy tuck ($n = 5$); 0.9%, liposuction ($n = 5$); 4.7%, LASIK eye surgery ($n = 26$); 0.9%, breast surgery ($n = 5$); and 0.2%, pectoral implants ($n = 1$).

addition, we used five items to measure respondents' body/appearance dissatisfaction, such as "I am physically unattractive" and "I like the way I look without my clothes on" (reverse coded). The responses were given on a 5-point scale. The five items formed a reliable composite measure for body/appearance dissatisfaction ($M = 2.86$, $SD = 0.68$, Cronbach's $\alpha = .82$). We controlled these variables in later analyses.

Results

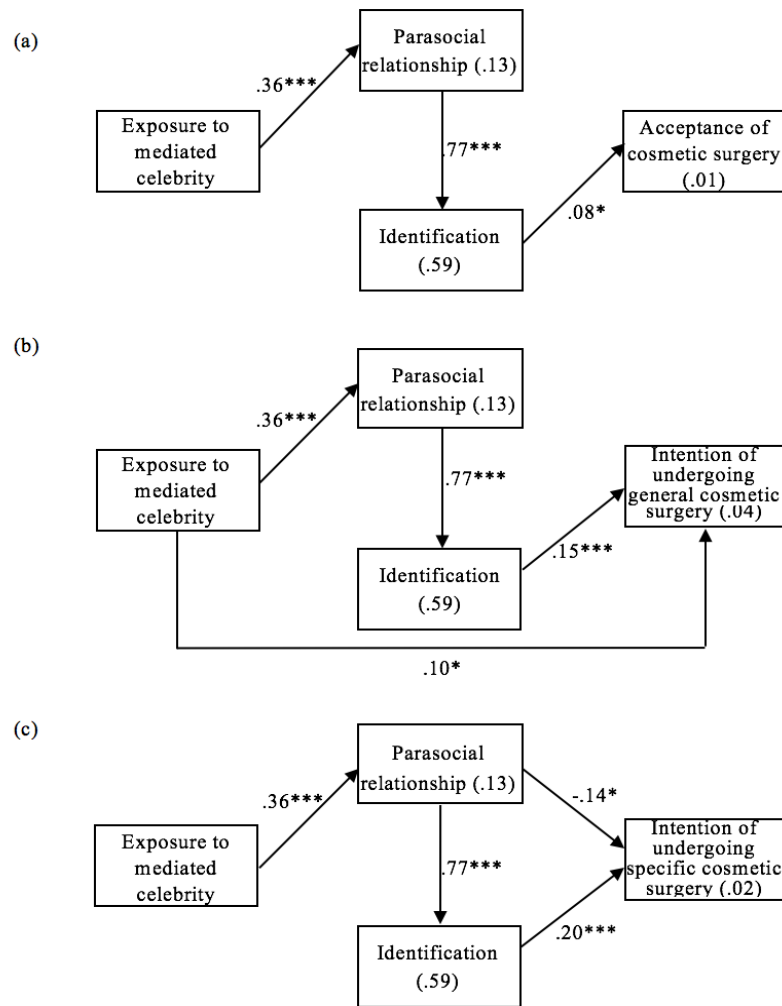
We first conducted partial correlation analyses among the variables after controlling for age, sex, race, BMI, and body/appearance dissatisfaction (see Table 1). The results showed that exposure to mediated celebrities was not significantly associated with intention to undergo specific cosmetic surgery procedures ($p = .167$). Parasocial relationship was not significantly associated with the three variables of attitudes toward cosmetic surgery (acceptance: $p = .922$; general intention: $p = .135$; specific intention: $p = .970$). In addition, identification was not significantly associated with acceptance of cosmetic surgery ($p = .208$) or intention to have specific cosmetic surgery ($p = .149$).

Table 1. Correlation Matrix for Study Variables, After Controlling for Age, Sex, Race, BMI, and Body/Appearance Dissatisfaction.

	2	3	4	5	6
1. Exposure to mediated celebrity	.34***	.25***	.10*	.13**	.06
2. Parasocial relationship	-	.76***	.01	.07	.002
3. Identification	-	-	.06	.13**	.07
4. Acceptance of cosmetic surgery	-	-	-	.60***	.37***
5. Intention of undergoing general cosmetic surgery	-	-	-	-	.56***
6. Intention of undergoing specific cosmetic surgery	-	-	-	-	-

* $p < .05$. ** $p < .01$. *** $p < .001$.

To further test the hypothetical model, we performed path analyses using LISREL (Jöreskog & Sörbom, 1996). We performed the path analyses three times so that we could separately evaluate the media influence of celebrities on different dimensions of attitudes toward cosmetic surgery: acceptance of cosmetic surgery (Figure 2a), intention of undergoing general cosmetic surgery (Figure 2b), and intention of undergoing specific cosmetic surgery (Figure 2c). We regressed all of the study variables (i.e., exposure to the mediated celebrity, parasocial relationships (PSR), identification, acceptance of cosmetic surgery, intention of undergoing general cosmetic surgery, and intention of undergoing specific cosmetic surgery) on the control variables (i.e., age, sex, race, BMI, and body/appearance dissatisfaction) and used the standardized residuals of the study variables in the path analyses.



Model a: $\chi^2 = 4.62$, $df = 3$, $p = .20$, RMSEA = .03, NFI = .99, NNFI = .99, CFI = 1.00, IFI = 1.00, GFI = 1.00.

Model b: $\chi^2 = 2.13$, $df = 2$, $p = .34$, RMSEA = .01, NFI = 1.00, NNFI = 1.00, CFI = 1.00, IFI = 1.00, GFI = 1.00.

Model c: $\chi^2 = 2.61$, $df = 2$, $p = .27$, RMSEA = .02, NFI = 1.00, NNFI = 1.00, CFI = 1.00, IFI = 1.00, GFI = 1.00.

Note: Age, sex, race, BMI, and body/appearance dissatisfaction are controlled. The coefficients are standardized. All solid-line arrows are significant at $p < .05$ or better. All nonsignificant associations are removed. R^2 values are reported in parentheses. RMSEA: Root Mean Square Error of Approximation; NFI: Normed Fit Index; NNFI: Non-Normed Fit Index; CFI: Comparative Fit Index; IFI: Incremental Fit Index; GFI: Goodness of Fit Index.

Figure 2. Path analyses for the influence of exposure to mediated celebrity on attitudes toward cosmetic surgery: acceptance of cosmetic surgery (a), intention of undergoing general cosmetic surgery (b), and intention of undergoing specific cosmetic surgery (c).

H1 predicted a positive association between exposure to the mediated celebrity and attitudes toward cosmetic surgery. Results showed that the path coefficient was only significant for intention of undergoing general cosmetic surgery ($\beta = .10, p = .028$). H1 was partially supported. H2 predicted a positive association between exposure to mediated celebrities and parasocial relationship. Indeed, the path coefficient was positive and statistically significant ($\beta = .36, p < .001$). H2 was supported. In addition, we found that PSR was significantly associated with identification ($\beta = .77, p < .001$), which was, in turn, significantly associated with (1) acceptance of cosmetic surgery ($\beta = .08, p = .046$; see Figure 2a), (2) intention of undergoing general cosmetic surgery ($\beta = .15, p < .001$; see Figure 2b), and (3) intention of undergoing specific cosmetic surgery ($\beta = .20, p < .001$; see Figure 2c). Thus, H3 and H5 were both supported. However, we did not find a positive association between exposure to mediated celebrities and identification ($\beta = .01, p = .839$). H4 was not supported. The chi-square, RMSEA, and other statistics all suggested good model fit. Overall, the proposed model accounted for 1% of the variance in the participants' acceptance of cosmetic surgery, 4% of the variance in intention of undergoing general cosmetic surgery, and 2% of the variance in intention of undergoing specific cosmetic surgery.

In addition to testing the proposed model, our results suggested an additional path. Parasocial relationship with the mediated celebrity was negatively associated with intention of undergoing specific cosmetic surgery ($\beta = -.14, p = .030$; see Figure 2c).

Discussion

The main goal of this study is to further our understanding of the underlying mechanisms of the worldwide phenomenon of undergoing cosmetic surgery among young people. We extend Brown's celebrity influence model, which has been used in the Western contexts to explicate the influence of celebrities on young people's attitudes toward cosmetic surgery in Singapore. Our findings generally support Brown's model, showing that exposure to mediated celebrities was directly and indirectly associated with young people's attitudes toward cosmetic surgery. The indirect path was mediated by parasocial relationships and identification.

First, the results of this study add to a growing number of studies showing the powerful influence of entertainment celebrities who are somehow created by the media and prominently featured in the media. Celebrities in the entertainment arena seem to enjoy the greatest popularity among young people around the world (Cheung & Yue, 2000; White, 1999). Exposure to celebrities through the expansion of media is increasing mass audiences' access to celebrities, thus extending these celebrities' social influence. Previous research suggests that celebrities not only are used to endorse brands and increase the sale of products but also are important social agents to influence public beliefs and behavior about issues such as HIV prevention (Brown & Basil, 1995), spousal abuse (Brown, Duane, & Fraser, 1997), child abuse (Brown et al., 2003), and drug prevention (Brown & de Matviuk, 2010). This study provides empirical evidence that mediated celebrities sometimes have a relationship—which is generally negative—with young fans in terms of body image. In response to their feelings toward the celebrity, young fans may consider cosmetic surgery as an option and embrace the associated risks.

By integrating the celebrity influence model, which revolves around the parasocial relationship theory and the identification theory, this study increases knowledge of both literatures. Previous parasocial interaction research has focused on two basic possible outcomes—viewers' strong commitment to norms as in real social situations (e.g., considering picking nose in front of a TV figure as inappropriate) and their enjoyment of the exposure situation (Hartmann & Goldhoorn, 2011). The two concepts describe processes how viewers immerse themselves in the exposure situation, which is limited within the boundaries of the audience's media consumption process. The theoretical framework proposed in this study examines another important psychological outcome of parasocial relationships, identification with media celebrities, and extends the examination of the consequences of parasocial relationships to a broader sociocultural context, such as the rise of celebrity culture and youth body image behavior. Moreover, this study furthers our understanding of audience identification with mediated celebrities by highlighting self-identity as an important intertwining element of identification. Cohen (2001) argues that for identification to occur, one needs to lose self-identity, take on the identity of the target of one's identification, and experience the world through someone else's point of view. This process is particularly important for adolescents and young adults, who depend heavily on other social agents, such as parents, peers, and media, to form stable personal identities. At this stage of life, identification with celebrity idols who engage in extreme behaviors, such as undergoing dangerous cosmetic surgery procedures, could have a grave and negative impact on adolescents' and young people's growth.

This study also expands our understanding of the underlying mechanism of the media's influence on young people's body image. This study provides support for Brown and colleagues' celebrity influence model and shows that the influence of exposure to mediated celebrities on young people's attitudes toward cosmetic surgery follows direct and indirect paths. First, our findings suggest that media exposure was directly associated with intention to undergo general cosmetic surgery (see Figure 2b). One plausible explanation is that the media today are increasingly diffused with celebrities' cosmetic-surgery-related stories and news (Wen, Chia, & Hao, 2015). According to the social learning theory (Bandura, 1977), exposure to such information could make young people believe that celebrities are open to the idea of cosmetic surgery, leading them to develop a general intention to seek cosmetic surgery accordingly, even though they do not research this information carefully and do not form close relationships with these celebrities. In addition to the direct path, exposure to mediated celebrities was indirectly associated with attitudes toward cosmetic surgery via the paths of parasocial relationships and identification. Young people are increasingly exposed to messages about celebrities through diverse media outlets, such as entertainment news, TV dramas, music videos, advertisements, and social media (Pew Internet & American Life Project, 2009; Redmond & Holmes, 2007). During media exposure to celebrities, young people may feel like they are in close relationships with these celebrities, despite the nonreciprocal exposure situation. Intimate feelings toward the attractive and glamorous celebrity foster identification, which results in young fans' adoption of the behavior promoted or modeled by the celebrity, such as undergoing cosmetic surgery.

Results of the path analyses in this study reveal two additional paths that were not originally suggested by the celebrity influence model and thus deserve further discussion. First, we propose that there will be a positive association between media exposure and identification. However, this link turns out to be nonsignificant. It seems that mere media exposure to the celebrity may not necessarily guarantee

identification with the celebrity. Identification requires elaborative processing of media information about the celebrity, such as actively seeking out information about the celebrity, carefully thinking about the content of the celebrity-related message, linking new information with preexisting knowledge about the celebrity, and looking for ways to use the acquired information about the celebrity. Therefore, identification is more likely to occur once the audience perceives themselves to have close relationships with celebrities (i.e., PSR), rather than being developed directly from media exposure.

Furthermore, we found that having a parasocial relationship with the celebrity was negatively associated with the intention to undergo specific cosmetic surgery, whereas identification was positively associated with the intention to undergo specific cosmetic surgery (see Figure 2c). This finding contributes to the current literature on parasocial relationships and identification by providing evidence that helps us conceptually distinguish the two concepts. Parasocial relationships with the idealized celebrity can transform into identification with the celebrity, which may in turn prompt favorable attitudes toward cosmetic surgery. Meanwhile, among those who do not perceive similarity with the celebrity or do not wish to become like the celebrity (i.e., identification), parasocial relationships would negatively influence their attitudes toward cosmetic surgery. In this scenario, the closer audiences feel to the celebrity, the more likely they would be to feel empathetic toward the celebrity's choice to have cosmetic surgery, and the less likely they would be to opt for specific cosmetic surgery.

Despite several important findings, this study includes a few caveats. The response rate of the paper-and-pencil and online surveys was not high, which might have resulted in response bias, though the sample statistics were by and large consistent with the university population's parameters. Next, although this research provides theoretical and empirical support for the celebrity influence model in the context of cosmetic surgery among young people, the variance explained by the proposed model is small, which suggests that other explanations for the phenomenon of cosmetic surgery among young people are worthy of future research efforts. Last, the cross-sectional data that we used are unable to help us determine cause and effect among the study variables. Future longitudinal and experimental studies will provide more insight in disentangling the correlational relationships we found in this study.

This study, while limited in its scope and findings, has sharpened insights into the influence of mediated celebrities on young people's development and well-being. It has also contributed to the building of a theoretical framework to disentangle the media effects of celebrities, which appear to cut across cultures. Young people in Eastern cultures display a lower level of body satisfaction and a higher level of concerns toward their appearance and body shape compared with their Western peers (Kennedy, Templeton, Gandhi, & Gorzalka, 2004). Ideal facial appearance and body image have traditionally carried more weight in Eastern cultures compared with Western cultures (Durvasula & Lysonski, 2008). As such, young people in Eastern cultures like Singapore may be particularly subject to the influence of idealized celebrity images in forming body-image-related attitudes and behaviors, and the theoretical framework tested in this study may be particularly useful in this context. Findings of this study also offer some practical implications for preventative interventions. For example, a media literacy program should include efforts to educate young people about focusing on the celebrities' capabilities and achievements rather than on their appearance and body image. Health professionals are encouraged to give talks and hold open discussions about the risks of dangerous cosmetic surgery procedures among young people.

Furthermore, communication practitioners and health professionals should collaborate to consider how celebrities should be involved in health-related communication campaigns given the potential of mediated celebrities to bring about social change.

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