

The role of media and peer influences in Australian women's attitudes towards cosmetic surgery



Gemma Sharp*, Marika Tiggemann, Julie Mattiske

School of Psychology, Flinders University, Adelaide, South Australia 5001, Australia

ARTICLE INFO

Article history:

Received 31 March 2014

Received in revised form 19 June 2014

Accepted 22 July 2014

Keywords:

Cosmetic surgery

Body dissatisfaction

Sociocultural

Media

Peers

Tripartite Influence Model

ABSTRACT

The study aimed to examine the influence of media and peers on attitudes towards cosmetic surgery using a sociocultural framework. A sample of 351 Australian women aged 18–69 years completed measures of media exposure, friend conversations, internalisation of appearance ideals, appearance comparison, body dissatisfaction, and attitudes towards cosmetic surgery. Correlational analysis showed that almost all media and friend variables were significantly correlated with positive attitudes towards cosmetic surgery. A structural equation model based on the sociocultural model showed a good level of fit to the data. The effects of media exposure and friend conversations on body dissatisfaction and attitudes towards cosmetic surgery were mediated by internalisation. We concluded that media exposure and friend conversations affected attitudes towards cosmetic surgery both directly and indirectly. Our results contribute to the understanding of the sociocultural mechanisms underlying women's motivations for cosmetic surgery.

© 2014 Elsevier Ltd. All rights reserved.

Introduction

There has been a rapid increase in the demand for cosmetic surgery over the last ten years (American Society for Aesthetic Plastic Surgery [ASAPS], 2013). For example, in 2013, there were over 11 million surgical and non-surgical cosmetic procedures performed in the United States which represents a 279% increase in the number of procedures performed since 1997 (ASAPS, 2013). Surgical procedures accounted for 16.5% of the total number of procedures and non-surgical procedures (e.g., Botox) represented 83.5% of the total. Ninety-one percent of these procedures were performed on women, with those aged 35–50 years being the most likely to seek a cosmetic procedure. The five most commonly conducted surgical procedures for women were breast augmentation, liposuction, abdominoplasty, breast lift and eyelid surgery (ASAPS, 2013). Despite the growing popularity of cosmetic surgery, the social and psychological factors which influence attitudes towards cosmetic surgery are yet to be fully explored.

In the available literature, body dissatisfaction is unequivocally reported as a major motivator for cosmetic surgery. In their model of cosmetic surgery intentions, Sarwer, Wadden, Pertschuk, and Whitaker (1998) postulated that individuals who are both highly dissatisfied with their bodily appearance and highly invested in their appearance are the most likely to desire cosmetic surgery interventions. Indeed, elevated body dissatisfaction has been reported in a number of studies of preoperative cosmetic surgery patients (e.g., Bolton, Pruzinsky, Cash, & Persing, 2003; Didie & Sarwer, 2003; Sarwer et al., 2003; Sarwer, Wadden, & Whitaker, 2002; Von Soest, Kvaalem, Skolleborg, & Roald, 2011). Similarly, in non-surgical samples, greater body dissatisfaction has been associated with positive attitudes towards cosmetic surgery (Henderson-King & Henderson-King, 2005; Sarwer et al., 2005; Slevic & Tiggemann, 2010). However, body image concerns do not develop in isolation, but are a result of broader sociocultural influences (Thompson, Heinberg, Altabe, & Tantleff-Dunn, 1999). Thus, sociocultural models may provide an appropriate framework to study influences on attitudes towards cosmetic surgery.

Sociocultural models (Tiggemann, 2012) that were originally developed to explain body image concerns and disordered eating have since been applied to other phenomena, such as tanning behaviour (Cafri, Thompson, Jacobsen, & Hillhouse, 2009). One particularly useful sociocultural model, the Tripartite Influence Model (Keery, van den Berg, & Thompson, 2004; Thompson et al., 1999), proposes that beauty ideals are reinforced and transmitted by three

* Corresponding author at: School of Psychology, Flinders University, GPO Box 2100, Adelaide, South Australia 5001, Australia. Tel.: +61 8 8201 2565; fax: +61 8 8201 3877.

E-mail addresses: gemma.sharp@flinders.edu.au (G. Sharp), marika.tiggemann@flinders.edu.au (M. Tiggemann), julie.mattiske@flinders.edu.au (J. Mattiske).

primary sociocultural influences, namely peers, parents, and the media (Thompson et al., 1999). These sociocultural influences have both direct and indirect effects on body dissatisfaction and eating disturbance. The indirect pathway involves two mediators: internalisation of appearance ideals and appearance comparison (Keery, van den Berg, et al., 2004; Thompson et al., 1999). Here we examined two of the specific sociocultural influences, namely media (television and advertising) and peers (friend conversations). The influence of parents was deemed to be less relevant for adult women.

There is no doubt that the media have increasingly featured cosmetic surgery. For example, cosmetic surgical procedures are the focus of a number of reality television programmes such as *Extreme Makeover* and *Embarrassing Bodies*. Several studies have shown that exposure to this type of programme is predictive of women's consideration of cosmetic surgery (e.g., Markey & Markey, 2010; Sperry, Thompson, Sarwer, & Cash, 2009). Nevertheless, other types of television programmes may also influence women's attitudes towards cosmetic surgery by affecting their level of body dissatisfaction, a major motivator for cosmetic surgery. For example, Slevic and Tiggemann (2011) reported that the viewing of a range of appearance-focused television programmes was associated with body dissatisfaction in a sample of middle-aged women.

Along with the increased focus on cosmetic surgery in television programmes, there has recently been a marked increase in the volume of advertising for cosmetic surgery (Hennink-Kaminski, Reid, & King, 2010). Research suggests that the vast majority of women have been exposed to advertisements for cosmetic surgery (Brown, Furnham, Glanville, & Swami, 2007; Delinsky, 2005), but how these advertisements potentially influence women's body dissatisfaction and attitudes towards cosmetic surgery has not yet been investigated.

We also sought to investigate a specific form of peer influence, namely appearance conversations with friends, on attitudes towards cosmetic surgery. Jones, Vigfusdottir, and Lee (2004) have suggested that appearance conversations with friends serve to direct attention to appearance as an issue, reinforce its importance and advocate appearance ideals. Several studies have found that more frequent appearance-related conversations with friends are associated with elevated body dissatisfaction (e.g., Clark & Tiggemann, 2006; Jones et al., 2004; Shroff & Thompson, 2006) and we proposed that this would lead to more favourable attitudes towards cosmetic surgery.

To our knowledge, only one published study has explicitly tested the Tripartite Influence Model of attitudes towards cosmetic surgery. Menzel et al. (2011) examined the effect of perceived pressure to have cosmetic surgery from media, peers, partners and parents on attitudes towards cosmetic surgery in a sample of male and female college students. In support of the proposed Tripartite Influence Model, Menzel et al. (2011) found that perceived pressures to undergo cosmetic surgery were both directly and indirectly related to positive attitudes towards cosmetic surgery. Perceived pressures worked indirectly by increasing internalisation and decreasing body satisfaction. However, variables like perceived pressure assess an individual's perception of the extent of the influence of the media, family and peers. Thus, perceived pressure may reflect more the characteristics of the individual, rather than serving as a measure of exposure to these influences (Tiggemann, 2006). The present study aimed to extend Menzel et al.'s (2011) findings by examining reported exposure to media and peer influences. In addition, we included the second proposed sociocultural mediator, namely appearance comparison. The model postulates that when women compare their appearance to idealised images in the media, they almost always find themselves lacking and they become dissatisfied.

In sum, the present study aimed to test a more elaborate sociocultural model for attitudes towards cosmetic surgery. Specifically, we predicted that greater media exposure (cosmetic surgery-related and appearance-related television and cosmetic surgery advertising) and peer influence (friend conversations) would be associated with greater body dissatisfaction and, in turn, with more favourable attitudes towards cosmetic surgery. In accord with the Tripartite Influence Model, internalisation of appearance ideals and appearance comparison were predicted to mediate the relationships between media exposure/peer influence and body dissatisfaction and attitudes towards cosmetic surgery.

Method

Participants

Participants were 351 women from the general Australian community aged 18–69 years ($M = 29.7$ years, $SD = 12.2$ years), recruited through Facebook, survey sharing websites, and undergraduate psychology classes. Characteristics of this sample have been previously described in Sharp, Tiggemann, and Mattiske (in press). The great majority of participants (94.6%) identified as Caucasian/White (Asian 3.1%, Indigenous Australian 0.6%, African 0.3%, 1.4% Other).

Measures

Participants completed a questionnaire entitled 'Cosmetic Surgery Attitudes'. The questionnaire measured, in order, demographic information, media exposure (television and advertising), friend conversations, proposed mediators (internalisation of appearance ideals and appearance comparison), and consequences (body dissatisfaction and attitudes towards cosmetic surgery).

Demographic information. Participants were asked to report their age, ethnicity, relationship status, and number of children. Participants were also asked to provide details of any prior cosmetic procedures they had undertaken and the number of people they personally knew who had undergone cosmetic surgery. Consideration of nine popular cosmetic procedures (liposuction, abdominoplasty, face lift, rhinoplasty, eye lift, breast augmentation, labiaplasty, Botox and facial fillers) was also measured. Participants rated how likely they were to undergo each procedure on a scale ranging from 0% (*not likely at all*) to 100% (*absolutely certain*). As financial expense could potentially be a prohibitive factor, participants were also asked to indicate percentage likelihood if money was no object in a separate measure.

Exposure to television. Participants were provided with a list of 12 high rating programmes showing on Australian television at the time of the study. Four of these programmes featured cosmetic surgery ("*Extreme Makeover*", "*Embarrassing Bodies*", "*The Doctors*", "*How to Look Good Naked*"). Four were programmes with a focus on physical appearance and ideal body types ("*Desperate Housewives*", "*Next Top Model*", "*Sex and the City*", "*Bold and the Beautiful*"). The remaining four ("*Big Bang Theory*", "*MasterChef*", "*The Voice*", "*My Kitchen Rules*") were programmes with a non-appearance focus, and served as filler items. The categorisation of programmes was determined by three independent female raters aged 25–53 years. The order of the 12 programmes was randomised and participants were asked to record the frequency with which they viewed each television programme on a 5-point Likert scale from 1 (*never*) to 5 (*every time it's on*). Separate scores for cosmetic surgery-related and appearance-related programmes were calculated to produce total scores for each programme type which ranged from 4 to 20, with higher scores indicating greater exposure to cosmetic or appearance-related programmes. Reliability for the cosmetic

surgery-related ($\alpha = .64$) and appearance-related programme items ($\alpha = .50$) were considered adequate for scales with only a few items.

Exposure to advertising. Participants were asked how many advertisements they had seen for any type of cosmetic surgery on a scale ranging from 1 (*none*) to 5 (*over 50*).

Friend conversations. The frequency of conversations with friends about body appearance was measured using the five-item Appearance Conversations with Friends Scale (Jones et al., 2004). Participants were asked how often each item (e.g., “My friends and I talk about the size and shape of our bodies”) occurred on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Scores were summed to produce a total score which ranged from 5 to 25. Higher scores indicated more frequent conversations about body appearance. Jones et al. (2004) reported high internal consistency ($\alpha = .85$). Reliability for the present sample was high ($\alpha = .91$).

Internalisation of appearance ideals. Internalisation of societal appearance standards was measured using the five-item Socio-cultural Internalisation of Appearance Questionnaire-Adolescents (SIAQ-A; Keery, Shroff, Thompson, Wertheim, & Smolak, 2004). The SIAQ-A was chosen because, in contrast to other available measures, it does not contain any items specifically addressing appearance comparison. Participants rated their level of agreement with each item (e.g., “I would like my body to look like the bodies of people in the movies”) on a 5-point Likert scale ranging from 1 (*definitely disagree*) to 5 (*definitely agree*). Scores were summed to produce a total score which ranged from 5 to 25. High scores indicated greater internalisation of the ideal. Keery, Shroff, et al. (2004) reported high internal consistencies ($\alpha = .83$ to $.92$). Reliability for the present sample was slightly higher ($\alpha = .94$).

Appearance comparison. The extent of body appearance comparison was assessed using a measure based on the comparison targets subscale of the Social Comparison Questionnaire (Schutz, Paxton, & Wertheim, 2002). Participants rated how often they compared the appearance of their body with five social targets (e.g., “friends” and “fashion models”) on a 5-point Likert scale ranging from 1 (*never*) to 5 (*very often*). Scores were summed to produce a total score which ranged from 5 to 25. Higher scores indicated more frequent body appearance comparison. Reliability for the present sample was adequate ($\alpha = .86$).

Body dissatisfaction. The Body Areas Satisfaction Subscale of the Multidimensional Body-Self Relations Questionnaire (Cash, 2000; Giovannelli, Cash, Henson, & Engle, 2008) was used to measure body dissatisfaction. The nine-item measure covers the full body. Participants rated their degree of satisfaction using a 5-point Likert scale ranging from 1 (*very dissatisfied*) to 5 (*very satisfied*). All items were reverse scored for ease of interpretation. Scores were summed to produce a total score which ranged from 9 to 45. Higher scores indicated greater body dissatisfaction. Slevec and Tiggemann (2010) reported acceptable internal consistency in an Australian sample ($\alpha = .81$). Reliability for the present sample was adequate ($\alpha = .86$).

Attitudes towards cosmetic surgery. The Acceptance of Cosmetic Surgery Scale (Henderson-King & Henderson-King, 2005) was used to examine participant attitudes towards cosmetic surgery. The 15-item scale consists of three five-item subscales: Intrapersonal, Social, and Consider. The Intrapersonal subscale is an other-oriented measure, which assesses attitudes about cosmetic surgery for people in general (e.g., “People who are very unhappy with their physical appearance should consider cosmetic surgery as one option”). The other two subscales, Social and Consider, are self-oriented measures. The Social subscale examines personal social motivations for having cosmetic surgery (e.g., “I would seriously consider having cosmetic surgery if my partner thought it was a good idea”), while the Consider subscale assesses the likelihood that the respondent would consider having cosmetic surgery in the future (e.g., “I have sometimes thought about having cosmetic surgery”).

Table 1

Means, standard deviations and ranges for all measures.

Variable	M	SD	Range
Cosmetic TV	6.60	2.53	4–20
Appearance TV	7.31	2.61	4–20
Advertisements	3.01	1.22	1–5
Friend conversations	13.75	5.08	5–25
Internalisation	16.15	5.72	5–25
Comparison	13.74	5.00	5–25
Body dissatisfaction	25.45	6.46	9–45
Intrapersonal Attitudes	18.02	7.74	5–35
Social attitudes	11.47	7.08	5–35
Consider attitudes	17.35	9.00	5–35

Participants rated their level of agreement to each item on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Total scores for each of the three subscales were summed where scores ranged from 7 to 35. Higher scores indicated more favourable attitudes towards cosmetic surgery. Henderson-King and Henderson-King (2005) reported high internal consistency for each of the subscales (all $\alpha = .88$). Reliabilities for the present sample were a little higher: Intrapersonal ($\alpha = .94$), Social ($\alpha = .89$), and Consider ($\alpha = .90$).

Procedure

The project was approved by the university research ethics committee and heterosexual women aged 18 and over living in Australia were invited to participate in a study examining attitudes towards cosmetic surgery. The study questionnaire was administered online and took approximately 20–30 min to finish. Completion of the questionnaire was considered to be informed consent. The questionnaire contained no identifying information to ensure confidentiality. Undergraduate psychology students were offered course credit in exchange for participation, but all other participants received no remuneration.

Results

Characteristics of Sample

Most women (72%) were involved in a romantic relationship, and 29% of women had at least one child. Thirty-two (9%) women had undergone at least one cosmetic procedure and this represented 21 unique procedures. Breast augmentation was the most common ($n = 6$), followed by rhinoplasty ($n = 4$). The majority of women (65%) knew at least one other person who had undergone a cosmetic procedure. When asked about future consideration of nine specific cosmetic procedures, the vast majority of women (73%) reported they would consider at least one procedure, and this figure was consistent when cost was removed from the equation. The most desired surgical procedure was abdominoplasty (47%), followed by liposuction (44%), and breast augmentation (43%).

Role of Media

The most frequently watched cosmetic surgery-related television programme was *Embarrassing Bodies* ($M = 2.21$, $SD = 1.10$), and the appearance-related programme was *Sex and the City* ($M = 2.36$, $SD = 1.25$). On average, both of these programmes were viewed ‘sometimes’. In terms of advertising, women had, on average, seen 5–10 advertisements for cosmetic surgery of any type (see Table 1).

Table 2 shows the correlations between the media variables and the proposed mediators (internalisation and comparison) and outcome variables (body dissatisfaction and cosmetic surgery attitudes). It can be seen that viewing of cosmetic surgery-related

Table 2
Correlations among study variables.

Predictors	Mediators		Outcomes			
	Internalisation	Comparison	Body dissatisfaction	Cosmetic surgery attitudes		
				Intrapersonal	Social	Consider
Media						
Cosmetic TV	.14**	.16**	.19***	.15**	.14*	.26***
Appearance TV	.28***	.21***	.11*	.07	.14**	.17**
Advertisements	.09	.13*	.04	.12*	.19***	.17**
Peers						
Conversations	.48***	.53***	.16**	.17**	.24***	.28**

* $p < .05$.

** $p < .01$.

*** $p < .001$.

television and appearance-related television programmes was positively correlated with almost all mediator and outcome variables. Exposure to cosmetic surgery advertising was positively correlated with comparison and the three cosmetic surgery attitude subscales.

Role of Friend Conversations

The women in the sample ‘sometimes’ ($M = 2.75$, $SD = 1.02$) had conversations with their female friends about appearance (see Table 1). Friend conversations were positively correlated with all of internalisation, comparison, body dissatisfaction, and cosmetic surgery attitudes (intrapersonal, social, and consider) (see Table 2).

Relationship between Mediator and Outcomes

The first proposed mediator, internalisation, was positively correlated with body dissatisfaction ($r = .50$, $p < .001$), intrapersonal attitudes ($r = .24$, $p < .001$), social attitudes ($r = .42$, $p < .001$), and consider attitudes ($r = .33$, $p < .001$). The other mediator, comparison, was similarly positively associated with body dissatisfaction ($r = .32$, $p < .001$), intrapersonal attitudes ($r = .20$, $p < .001$), social attitudes ($r = .39$, $p < .001$), and consider attitudes ($r = .33$, $p < .001$). The mediators themselves were intercorrelated ($r = .70$, $p < .001$), as were body dissatisfaction and intrapersonal, social and consider attitudes ($r_s = .21$, $.26$, $.28$, all $p_s < .001$).

Test of the Proposed Model for Attitudes towards Cosmetic Surgery

Based on the rationale of the Tripartite Influence Model (Keery, Shroff, et al., 2004; Thompson et al., 1999), we formulated a structural model to predict attitudes towards cosmetic surgery. In this model there were two classes of predictor (media exposure and friend conversations) which were set to lead to the two proposed mediators (internalisation and comparison). Internalisation and comparison were set to lead to body dissatisfaction which, in turn, was predicted to lead to favourable cosmetic surgery attitudes.

In the model testing, the small number of missing values in the data set were handled by substitution of the mean scaled score. The media variables (cosmetic television, appearance television, and advertising) were treated as a single latent variable. Friend conversations was also conceptualised as a latent variable comprised of the five scale items. The three cosmetic surgery attitude subscales (intrapersonal, social, and consider) were treated as a single latent variable. All other variables were treated as observed variables. Predictors were allowed to correlate with each other.

Structural equation modelling with maximum likelihood estimation was conducted using AMOS version 19.0. The comparative fit index (CFI), standardised root mean square residual (SRMR), and standardised root mean square error of approximation (RMSEA)

were used to assess the adequacy of the model fit (Kline, 2005). According to Hu and Bentler (1999), values of .95 or higher for CFI, .08 or lower for SRMR, and .06 or lower for RMSEA indicate a good fit to the data. Values of .90–.94 for CFI, .09–.10 for SRMR, and RMSEA of .07–.10 indicate an acceptable fit to the data.

Evaluation of the initial model yielded a just acceptable fit to the data (CFI = .94, SRMR = .10, RMSEA = .08). However, examination of the modification indexes (MIs) suggested the addition of a direct path from media exposure to cosmetic surgery attitudes. After this modification, the model now provided a good fit to the data (CFI = .95, SRMR = .05, RMSEA = .07).

The structural coefficients for the final model are shown in Fig. 1. It can be seen that friend conversations significantly predicted both internalisation and comparison, whereas media exposure predicted internalisation only. Internalisation, in turn, led to body dissatisfaction, which itself predicted cosmetic surgery attitudes. There was also a direct significant path from media exposure to cosmetic surgery attitudes. Although comparison was significantly predicted by both friend conversations and internalisation, comparison itself did not predict any other variable.

Discussion

The present study investigated the influence of media and peers on attitudes towards cosmetic surgery using a sociocultural framework and in so doing has made a contribution in two ways. First, the findings contribute to our knowledge of the sociocultural mechanisms underlying the pursuit of cosmetic surgery. Second, we have confirmed that an elaborated Tripartite Influence Model can be applied to explain attitudes towards cosmetic surgery. This adds to the growing list of behaviours (e.g., tanning and exercise), which can be explained using sociocultural models (Tiggemann, 2012).

In our study, a large percentage of women (73%) indicated interest in undergoing at least one cosmetic procedure. This figure is considerably higher than the figure (52%) reported by Slevic and Tiggemann (2010) in their study of middle-aged Australian women, the primary consumer group of cosmetic surgery (ASAPS, 2013). These differences in level of interest may be due to sampling differences. However, the most likely explanation is increased interest in cosmetic surgery over time. These results confirm that, like in the USA, there is a significant level of interest in cosmetic surgery amongst Australian women (ASAPS, 2013).

The current study focused on the sociocultural influences of media and friend conversations on attitudes towards cosmetic surgery. As expected, of the media sources examined, exposure to cosmetic surgery-related television programmes was positively related to the three cosmetic surgery attitude subscales (intrapersonal, social and consider). Our results correspond to a number of studies which have found that the viewing of cosmetic surgery-related programmes predicts interest in obtaining cosmetic surgery

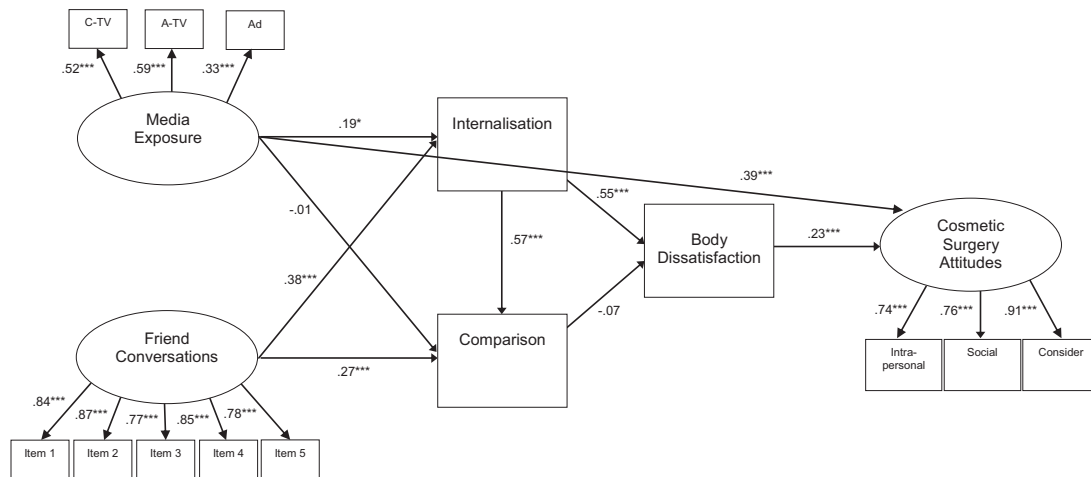


Fig. 1. Factor loadings and path coefficients for the final structural model with 351 women. C-TV = cosmetic surgery-related television programmes, A-TV = appearance-related television programmes, Ad = cosmetic surgery advertisements.

(e.g., Markey & Markey, 2010; Sperry et al., 2009). The present study also showed that exposure to more general appearance-related programmes was positively associated with positive attitudes to cosmetic surgery. In terms of cosmetic surgery advertising, the overwhelming majority of our sample (92%) had viewed at least one advertisement. Exposure to these advertisements was positively associated with the three cosmetic surgery attitude subscales, as expected, but not body dissatisfaction. The influence of cosmetic surgery advertising has received surprisingly little attention from researchers, but with the volume of advertising in the media on the increase (Hennink-Kaminski et al., 2010), further research is warranted.

In our proposed structural model, the influence of cosmetic surgery-related and appearance-related television and cosmetic surgery advertisements, collectively conceptualised as media exposure, led directly to cosmetic surgery attitudes. This makes sense as continued exposure to cosmetic surgery in the media may modify attitudes such that cosmetic surgery is viewed as a 'normal' and acceptable way to improve the appearance of our bodies. Furthermore, the persistent and positive representations of cosmetic procedures in the media may induce a desire to replicate these behaviours (Slevec & Tiggemann, 2010).

The other sociocultural predictor investigated in our study, friend conversations, was found to be positively associated with body dissatisfaction and the three cosmetic surgery attitude subscales. There is strong support in the literature for a positive association between the frequency of appearance conversations with friends and body dissatisfaction (e.g., Clark & Tiggemann, 2006; Shroff & Thompson, 2006) and we have now linked these conversations to more favourable attitudes towards cosmetic surgery. It may be the case that these conversations about appearance may serve to heighten awareness of appearance ideals and if women do not fulfil these ideals, they may become dissatisfied with their bodies and favour cosmetic surgery.

In terms of the proposed structural model, there was a good fit to the data. As expected, media exposure and friend conversations exerted their effects on body dissatisfaction and cosmetic surgery attitudes via the sociocultural mediator, internalisation. Although the other proposed mediator, appearance comparison, was correlated with all of the media and friend variables, appearance comparison did not add to the model in the present study. The only other published study to explicitly test the Tripartite Influence Model similarly found that internalisation mediated the relationship between perceived pressures to undergo

cosmetic surgery and body satisfaction and cosmetic surgery attitudes (Menzel et al., 2011). However, our study was the first to specifically examine the role of appearance comparison in a Tripartite Influence Model for cosmetic surgery attitudes. Our results suggest that media exposure (television and advertisements) and friend conversations influence women's attitudes towards cosmetic surgery through the promotion of appearance ideals, and are less dependent upon appearance comparison with social targets. However, further exploration of the role of appearance comparison in a body dissatisfaction and cosmetic surgery context is warranted.

Like all studies, the present results should be viewed with a number of limitations in mind. First, the vast majority of our sample (almost 95%) was Caucasian. Ethnic variation in female appearance ideals (Grabe & Hyde, 2006) may induce varying levels of interest in cosmetic surgery in general, as well as interest in specific procedures, and this requires further investigation. Second, although our study covered a wide age range, there was a skew towards younger women, who are less likely to undergo cosmetic surgery (ASAPS, 2013). Third, in terms of methodology, participants were aware that cosmetic surgery was the topic of the research which may have cued demand characteristics. Finally, although structural equation modelling assesses the strength of causal connections assumed on the basis of a causal model, the Tripartite Influence Model in the present case, it is still a correlational technique. For example, although media exposure may indeed lead to more favourable attitudes towards cosmetic surgery as hypothesised, the reverse is also possible. Indeed, women who have more positive attitudes towards cosmetic surgery may seek out particular types of media. Only experimental and longitudinal research designs can elucidate the temporal and causal sequencing of these variables.

Despite these limitations, the present study has contributed to our understanding of the psychology of cosmetic surgery. We have confirmed that an elaborated Tripartite Influence Model can be extended to explain the development of favourable attitudes towards cosmetic surgery, thus providing a platform for future research. We showed that the sociocultural predictors of media exposure and friend conversations have an indirect effect on cosmetic surgery attitudes through internalisation of appearance ideals, and media exposure also has a direct effect on attitudes. With the numbers of cosmetic procedures performed increasing every year, further research into the sociocultural mechanisms underlying this trend will be vital.

References

- American Society for Aesthetic Plastic Surgery. (2013). 2013 ASAPS statistics: Complete charts. Retrieved from <http://www.surgery.org/sites/default/files/Stats2013.3.pdf>
- Bolton, M. A., Pruzinsky, T., Cash, T. F., & Persing, J. A. (2003). Measuring outcomes in plastic surgery: Body image and quality of life in abdominoplasty patients. *Plastic and Reconstructive Surgery*, 112, 619–625. <http://dx.doi.org/10.1097/01.PRS.0000070972.57000.08>
- Brown, A., Furnham, A., Glanville, L., & Swami, V. (2007). Factors that affect the likelihood of undergoing cosmetic surgery. *Aesthetic Surgery Journal*, 27, 501–508. <http://dx.doi.org/10.1016/j.asj.2007.06.004>
- Cafri, G., Thompson, J. K., Jacobsen, P. B., & Hillhouse, J. (2009). Investigating the role of appearance-based factors in predicting sunbathing and tanning salon use. *Journal of Behavioral Medicine*, 32, 532–544. <http://dx.doi.org/10.1007/s10865-009-9224-5>
- Cash, T. F. (2000). *The Multidimensional Body-Self Relations Questionnaire users' manual*. Available from www.body-images.com
- Clark, C., & Tiggemann, M. (2006). Appearance culture in nine- to 12-year-old girls: Media and peer influences on body dissatisfaction. *Social Development*, 15, 628–643. <http://dx.doi.org/10.1111/j.1467-9507.2006.00361.x>
- Delinsky, S. S. (2005). Cosmetic surgery: A common and accepted form of self-improvement? *Journal of Applied Social Psychology*, 35, 2012–2028. <http://dx.doi.org/10.1111/j.1559-1816.2005.tb02207.x>
- Didie, E. R., & Sarwer, D. B. (2003). Factors that influence the decision to undergo cosmetic breast augmentation surgery. *Journal of Women's Health*, 12, 241–253. <http://dx.doi.org/10.1089/154099003321667582>
- Giovannelli, T. S., Cash, T. F., Henson, J. M., & Engle, E. K. (2008). The measurement of body-image dissatisfaction-satisfaction: Is rating importance important? *Body Image*, 5, 216–223. <http://dx.doi.org/10.1016/j.bodyim.2008.01.001>
- Grabe, S., & Hyde, J. S. (2006). Ethnicity and body dissatisfaction among women in the United States: A meta-analysis. *Psychological Bulletin*, 132, 622–640. <http://dx.doi.org/10.1037/0033-2909.132.4.622>
- Henderson-King, D., & Henderson-King, E. (2005). Acceptance of cosmetic surgery: Scale development and validation. *Body Image*, 2, 137–149. <http://dx.doi.org/10.1016/j.bodyim.2005.03.003>
- Hennink-Kaminski, H., Reid, L. N., & King, K. W. (2010). The content of cosmetic surgery advertisements placed in large city magazines, 1985–2004. *Journal of Current Issues and Research in Advertising*, 32, 41–57. <http://dx.doi.org/10.1080/10641734.2010.10505284>
- Hu, L., & Bentler, P. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1–55. <http://dx.doi.org/10.1080/10705519909540118>
- Jones, D. C., Vigfusdottir, T. H., & Lee, Y. (2004). Body image and the appearance culture among adolescent girls and boys: An examination of friend conversations, peer criticism, appearance magazines, and the internalization of appearance ideals. *Journal of Adolescent Research*, 19, 323–339. <http://dx.doi.org/10.1177/0743558403258847>
- Keery, H., Shroff, H., Thompson, J. K., Wertheim, E., & Smolak, L. (2004). The Socio-cultural Internalization of Appearance Questionnaire – Adolescents (SIAQ-A): Psychometric analysis and normative data for three countries. *Eating and Weight Disorders*, 9, 56–61. <http://dx.doi.org/10.1007/BF03325046>
- Keery, H., van den Berg, P., & Thompson, J. K. (2004). An evaluation of the Tripartite Influence Model of body dissatisfaction and eating disturbance with adolescent girls. *Body Image*, 1, 237–251. <http://dx.doi.org/10.1016/j.bodyim.2004.03.001>
- Kline, R. B. (2005). *Principles and practice of structural equation modeling*. New York, NY: Guilford.
- Markey, C. N., & Markey, P. M. (2010). A correlational and experimental examination of reality television viewing and interest in cosmetic surgery. *Body Image*, 7, 165–171. <http://dx.doi.org/10.1016/j.bodyim.2009.10.006>
- Menzel, J. E., Sperry, S. L., Small, B., Thompson, J. K., Sarwer, D. B., & Cash, T. F. (2011). Internalization of appearance ideals and cosmetic surgery attitudes: A test of the Tripartite Influence Model of Body Image. *Sex Roles*, 65, 469–477. <http://dx.doi.org/10.1007/s11199-011-9983-7>
- Sarwer, D. B., Cash, T. F., Magee, L., Williams, E. F., Thompson, J. K., & Roehrig, M., et al. (2005). Female college students and cosmetic surgery: An investigation of experiences, attitudes, and body image. *Plastic and Reconstructive Surgery*, 115, 931–938. <http://dx.doi.org/10.1097/01.PRS.0000153204.37065.D3>
- 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. <http://dx.doi.org/10.1097/01.PRS.0000066005.07796.51>
- Sarwer, D. B., Wadden, T. A., Pertschuk, M. J., & Whitaker, L. A. (1998). The psychology of cosmetic surgery: A review and reconceptualization. *Clinical Psychology Review*, 18, 1–22. [http://dx.doi.org/10.1016/S0272-7358\(97\)00047-0](http://dx.doi.org/10.1016/S0272-7358(97)00047-0)
- Sarwer, D. B., Wadden, T. A., & Whitaker, L. A. (2002). An investigation of changes in body image following cosmetic surgery. *Plastic and Reconstructive Surgery*, 109, 363–369. <http://dx.doi.org/10.1097/0006534-200201000-00061>
- Schutz, H. K., Paxton, S. J., & Wertheim, E. (2002). Investigation of body comparison among adolescent girls. *Journal of Applied Social Psychology*, 32, 1906–1937. <http://dx.doi.org/10.1111/j.1559-1816.2002.tb00264.x>
- Sharp, G., Tiggemann, M., & Mattiske, J. (in press). Predictors of consideration of labiaplasty: An extension of the Tripartite Influence Model of Beauty Ideals. *Psychology of Women Quarterly*.
- Shroff, H., & Thompson, J. K. (2006). Peer influences, body-image dissatisfaction, eating dysfunction and self-esteem in adolescent girls. *Journal of Health Psychology*, 11, 533–551. <http://dx.doi.org/10.1177/1359105306065015>
- Slevec, J., & Tiggemann, M. (2010). Attitudes toward cosmetic surgery in middle aged women: Body image, aging anxiety, and the media. *Psychology of Women Quarterly*, 34, 65–74. <http://dx.doi.org/10.1111/j.1471-6402.2009.01542.x>
- Slevec, J., & Tiggemann, M. (2011). Media exposure, body dissatisfaction, and disordered eating in middle-aged women: A test of the sociocultural model of disordered eating. *Psychology of Women Quarterly*, 35, 617–627. <http://dx.doi.org/10.1177/0361684311420249>
- Sperry, S., Thompson, J. K., Sarwer, D. B., & Cash, T. F. (2009). Cosmetic surgery reality TV viewership: Relations with cosmetic surgery attitudes, body image, and disordered eating. *Annals of Plastic Surgery*, 62, 7–11. <http://dx.doi.org/10.1097/SAP.0b013e31817e2cb8>
- Thompson, J. K., Heinberg, L., Altabe, M., & Tantleff-Dunn, S. (1999). *Exacting beauty: Theory, assessment, and treatment of body image disturbance*. Washington, DC: American Psychological Association.
- Tiggemann, M. (2006). The role of media exposure in adolescent girls' body dissatisfaction and drive for thinness: Prospective results. *Journal of Social and Clinical Psychology*, 25, 523–541. <http://dx.doi.org/10.1521/jscp.2006.25.5.523>
- Tiggemann, M. (2012). Sociocultural perspectives on body image. In T. F. Cash (Ed.), *Encyclopedia of body image and human appearance* (Vol. 2) (pp. 758–765). San Diego, CA: Academic Press.
- Von Soest, T., Kvale, I. L., Skolleborg, K. C., & Roald, H. E. (2011). Psychosocial changes after cosmetic surgery: A 5-year follow-up study. *Plastic and Reconstructive Surgery*, 128, 765–772. <http://dx.doi.org/10.1097/PRS.0b013e31822213f0>