Kent Academic Repository

Full text document (pdf)

Cutting Words:

Priming Self-objectification Increases Women's Intention to Pursue Cosmetic Surgery

Rachel M. Calogero, Afroditi Pina, and Robbie M. Sutton

University of Kent at Canterbury

This manuscript is the <u>accepted version</u> of the paper.

Correspondence concerning this article should be addressed to Rachel M. Calogero,

School of Psychology, Keynes College, University of Kent, Canterbury, UK, CT2 7NP. Email:

R.Calogero@kent.ac.uk

Abstract

We examined whether subtle exposure to sexually objectifying cues increases women's intentions to have cosmetic surgery. Undergraduate women ($N = 116$) were randomly assigned to a condition in which they unscrambled sentences containing words associated with sexual objectification, non-self-objectifying physicality, or neutral content. Following a manipulation check of these primes, participants reported their body shame and intentions to have cosmetic surgery in the future. Results revealed that priming a state of self-objectification, compared to the two non-self-objectifying conditions, increased both body shame and intentions to have cosmetic surgery. In a mediational model, the link between self-objectification and intentions to have cosmetic surgery was partially mediated by body shame. Controlling for other key intrapersonal and social motives linked to interest in cosmetic surgery did not alter these patterns. These findings highlight the potential for the consumption of cosmetic surgery to stand as another harmful micro-level consequence of self-objectification that may be perpetuated via subtle exposure to sexually objectifying words, even in the absence of visual depictions or more explicit encounters of sexual objectification.

Keywords: priming, motivation, objectification, cosmetic techniques, body image, social influence, physical appearance

Cutting Words:

Priming Self-objectification Increases Women's Intention to Pursue Cosmetic Surgery

Cosmetic surgery is defined as "operations or other procedures that revise or change the appearance, color, texture, structure or position of bodily features to achieve what patients perceive as more desirable" (Khoo, 2009, p. 237). A distinctive feature of cosmetic (or aesthetic) surgery is that patients desire to undergo operations in order to improve appearance and not because of an underlying pathology, injury or burn, as is the case with reconstructive surgery. In the past decade, such elective procedures have risen 77%, from over 7.4 million procedures in 2000 to over 13.1 million procedures in 2010 (American Society of Plastic Surgeons [ASPS], 2011). According to ASPS, over $10 billion was spent on all cosmetic surgery procedures (invasive and non-invasive) performed in the United States in 2010. Similar increases in cosmetic procedures have also been documented in the UK population (British Association of Aesthetic and Plastic Surgeons [BAAPS], 2010). According to BAAPS, over £2.3 billion (~$3.8 billion) was spent on all cosmetic procedures performed in the United Kingdom in 2010, with a documented £5 million (~$8.2 million) taken out in loans to pay for such operations. Comparatively high rates of cosmetic surgery have also been documented in South America and Asia, namely Brazil and China (International Society of Aesthetic Plastic Surgery, 2011).

Dramatic advances in surgical techniques have aided the explosion in cosmetic surgery, as well as the increased availability and affordability of cosmetic procedures (see Sarwer, Magee, & Crerand, 2004, for a review). Notably, the rise in cosmetic surgery has been driven by the increasing participation of women. Approximately 90% of all cosmetic procedures are performed on women every year (ASPS, 2011; BAAPS, 2010). A number of researchers have

documented this striking and persistent gender difference in the consumption of cosmetic surgery (Brown, Furnham, Glanville, & Swami, 2007; Park, Calogero, Harwin, & DiRaddo, 2009; Swami, 2007; Swami, Chamorro-Premuzic, Bridges, & Furnham, 2009; Swami & Furnham, 2008), as well as interest in having it in the future (Brown et al., 2007; Swami et al., 2009). For example, in a sample of 26,963 heterosexual women, fully 48% were interested and 23% were possibly interested in having cosmetic surgery, whereas in a sample of 25,714 heterosexual men, 23% were interested and 17% were possibly interested in having cosmetic surgery (Frederick, Lever, & Peplau, 2007).

The financial cost of these procedures is not the only reason to be concerned about the greater pursuit of cosmetic surgery by women. These surgical procedures have a number of adverse sequelae that are largely unknown among consumers, including loss of emotional experience (Davis, Senghas, Brandt, & Ochsner, 2010), chronic pain and infections (Pittet, Montandon, & Pittet, 2005), repeated operations (Gabriel et al., 1997), eating disorders (Coughlin et al., 2012), suicide (McLaughlin, Wise, & Lipworth, 2004), and even death (Grazer & de Jong, 2000). Despite the potential for these negative consequences, the cosmetic surgery industry remains surprisingly unregulated (Braun, 2010; Horton, 2012; Laurance, 2009), which itself raises further ethical questions about consumer risk and protection (Nahai, 2009). In light of the significant risks and costs, it is imperative that we develop a coherent understanding of the social psychological mechanisms that underlie the pursuit of cosmetic procedures among women. The present investigation proposes that the disproportionately higher rate of cosmetic surgery among women could be explained, at least in part, by living in a sexually objectifying cultural milieu that encourages women to view their own bodies through an objectified lens (Fredrickson & Roberts, 1997).

Summary of Objectification Theory

Empirical evidence substantiates our casual observations that girls and women are routinely the targets of sexual objectification in their day-to-day lives more often than boys and men are (American Psychological Association [APA], 2007; Bernard, Gervais, Allen, Campomizzi, & Klein, 2012; Langlois et al., 2000; Murnen & Smolak, 2000; Swim, Hyers, Cohen, & Ferguson, 2001). When sexually objectified, a person is treated as if lacking a unique subjectivity and exists in a single dimension for the pleasure of others (Bartky, 1990; Holland & Haslam, 2013; Nussbaum, 1995). Situational encounters that constitute sexual objectification include gazing or leering at women's bodies, sexual signals and commentary toward women (e.g., whistling, honking car horn), taking unsolicited photographs of women's bodies, exposure to sexualized media imagery and pornography, sexual harassment, and sexual violence. Increasingly, sexual objectification occurs on-line as often as it does off-line (e.g., sexting, instant messenger, email, explicit video games, Facebook and other social networking sites, and virtual reality) (National Society for the Prevention of Cruelty to Children, 2012; Smolak & Murnen, 2011; Vandenbosch & Eggermont, 2012). The availability of multiple devices with Internet capability brings more opportunities for spontaneous sexual objectification into public and private settings. These unpredictable, uncontrolled, and recurrent experiences of sexual objectification are not without consequences for girls and women.

Objectification theorists argue that living in a sexually objectifying cultural milieu is harmful to women in specific ways. The first psychological consequence of recurrent sexual objectification can be varying degrees of self-objectification, defined as the adoption of a third-person perspective on the self, whereby some girls and women come to place greater value on how they look to others rather than on how they feel or what their bodies can do (Fredrickson &

Roberts, 1997). Notably, self-objectification may be experienced as both a trait and a state. Most women will experience some degree of state self-objectification in situations where attention has been called to their bodies, such as receiving catcalls, catching someone staring at their breasts, or where their gender becomes a salient feature of the immediate social context. For some women, however, this objectified lens becomes engaged virtually all of the time, whether they find themselves in public or private settings. This more pervasive and chronic view of the self as an object is referred to as trait self-objectification.

Once in place, whether engaged as a trait or a state, this self-perspective sets the stage for a particular set of subjective experiences that are known to occur at a disproportionately higher rate among girls and women. These experiences include body shame, appearance anxiety, disrupted attention, and diminished awareness of internal bodily states (Moradi & Huang, 2008; Tiggemann, 2011). This collection of subjective experiences, in turn, contributes to a subset of mental health risks that disproportionately affect women. These mental health consequences include depressed mood (Grabe, Hyde, & Lindberg, 2007; Tiggemann & Kuring, 2004), sexual dysfunction (Calogero & Thompson, 2009; Steer & Tiggemann, 2008), and disordered eating (Calogero, Davis, & Thompson, 2005; Tylka & Hill, 2004).

In support of objectification theory, researchers have demonstrated that a variety of sexual objectification encounters can activate self-objectifying responses, including encounters of actual or anticipated sexual objectification (Calogero, 2004; Gervais, Vescio, & Allen, 2011) and exposure to sexually objectifying imagery (Aubrey, 2006; Harper & Tiggemann, 2008; Tiggemann & Boundy, 2008). Over a decade and a half of empirical research further established significant associations between self-objectification and a wide array of negative intrapersonal and interpersonal consequences among girls and women (for reviews, see Calogero, 2012;

Moradi & Huang, 2008; Tiggemann, 2011). Moreover, objectification theory variables have been able to account for significant behavioural health outcomes among girls and women beyond those proposed by the original theory, including self-injury (Muehlenkamp, Swanson, & Brausch, 2005), substance use (Carr & Szymanski, 2011), smoking (Harell, Fredrickson, Pomerleau, & Nolen-Hoeksema, 2006), use of sexual protection (Impett, Schooler, & Tolman, 2006), exercise (Strelan, Mehaffey, & Tiggemann, 2003), and even urinary incontinence (Hines et al., 2007).

An Objectification Model of Cosmetic Surgery

Derived from a theoretical model of the objectification of women (Fredrickson & Roberts, 1997), we argue that intensified appearance scrutiny and sexual objectification also serve as a starting point in the route to appearance modification for some women. We suggest that the resultant self-objectification might encourage some women to support even further objectification of their bodies by electing cosmetic surgical procedures. Prior research has demonstrated a correlational link between self-objectification and women's heightened pursuit of cosmetic surgery (Calogero, Pina, Park, & Rahemtulla, 2010). The present research aims to advance this line of inquiry by providing a causal test of the relationship between self-objectification and the elective pursuit of cosmetic surgery. Indeed, the extensive literature on objectification theory is largely correlational and more experimental tests of the hypotheses derived from objectification theory are needed (see Calogero, 2011; Moradi, 2010).

Considering the regularity of exposure to sexually objectifying language across all forms of media (Aubrey, 2010; Davis, 1990; Malkin, Wornian, & Chrisler, 1999; Roberts & Gettman, 2004; Zurbriggen, Ramsey, & Jaworski, 2011), including media that target children and adolescents (APA, 2007), we chose to focus on this more subtle aspect of the objectifying

cultural milieu that may influence women's behavioural intentions toward their bodies. In particular, we draw from Roberts and Gettman's (2004) research whereby implicit exposure to sexually objectifying words (representative of the text commonly found on the covers of magazines and across other media) was used to prime women to increase their self-objectification, which led them to report more body shame, appearance anxiety, feelings of self-disgust, and lessened the appeal of physical sex. Their findings extended our understanding of objectifying media to include the potential for mere words to activate sexually objectifying concepts in memory, independent of visual displays, and function to direct more of women's attention to their bodies and how they appear in the eyes of others. More recent support for Roberts and Gettman's "mere exposure" effect has also demonstrated that unobtrusive exposure to objectifying target words—compared to non-objectifying target words—increased self-surveillance, body shame, body guilt, and eating restraint in a sample of college women (Calogero & Pina, 2011).

Building on this prior work, we submit that subtle environmental cues in the form of printed words that contain sexually objectifying content will activate a state of self-objectification, such that more women may come to view their own bodies as a collection of malleable parts that may be subjected to surgical modification. Yet, having cosmetic surgery is a controlled and planned act that one might argue cannot emerge from a fully objectified state because objects are passive and do not act. Indeed, women exhibit less social agency under conditions of objectification (Calogero, 2013; Saguy, Quinn, Dovidio, & Pratto, 2010). However, objectification theory explains that self-objectification operates as a psychological strategy that allows some women to anticipate, and thus exert some control over, how they will be viewed and treated by others in these contexts (Fredrickson & Roberts, 1997). Sexual objectification by

others is not under women's personal control and often occurs within those public, mixed-gender, and unstructured settings from which women cannot easily opt out (Gardner, 1980; Kaschak, 1992), such as the barrage of objectifying magazine covers at the grocery counters. Under some conditions, self-objectification does appear to buffer some women from lower self-esteem and negative reactions to sexual objectifying cues (Goldenberg, Cooper, Heflick, Routledge, & Arndt, 2011) and body shame (Noll & Fredrickson, 1998). These findings offer support for the idea that self-objectification might be strategic for some women and does reflect a certain degree of agency for women living in a sexually objectifying cultural milieu (Calogero & Jost, 2011). In this light, cosmetic surgery may be perceived as a potential solution to taking a view of oneself as a sexual object by allowing some women to exert ultimate control over their bodies and appearance.

Overview of Research

In sum, we subjected the relationship between self-objectification and the pursuit of cosmetic surgery to an experimental test in an attempt to provide more direct causal evidence for this link. We hypothesized that implicitly priming self-objectification (compared to priming a non-self-objectifying physicality focus or neutral content) would increase the desire to pursue cosmetic surgery. In addition, given that body shame is a key consequence of self-objectification and consistently shown to mediate relations between self-objectification and its predicted consequences (for review, see Tiggemann, 2011), we hypothesized that body shame would increase as a function of priming self-objectification and mediate the link between self-objectification and surgery intentions.

Moreover, in order to provide a stronger test of the independent relationship between the objectification theory variables (i.e., self-objectification and body shame) and intentions to

pursue cosmetic surgery, we measured and controlled for two potential variables that have been closely linked to women's intentions to pursue cosmetic surgery: intrapersonal motives and social motives for pursuing cosmetic surgery. Endorsement of cosmetic surgery for the reasons of self-improvement (intrapersonal motives) and/or gaining social currency (social motives) are both positively associated with considering cosmetic surgery in the future, as well as with body shame (Calogero et al., 2010; Henderson-King & Henderson-King, 2005). Therefore, we wanted to include these variables in our prediction of interest in cosmetic surgery to determine whether self-objectification and body shame accounted for unique variance beyond these individual motivational factors. We also measured the degree to which women endorsed the idea that their appearance is controllable and malleable to control for potential differences between the experimental conditions on this underlying belief. We hypothesized that the predicted effects for self-objectification would hold when accounting for these three variables.

Method

Participants

A total of 116 college women attending a southeastern British university participated in exchange for course credit. Participants mean age was 18.78 years ($SD = 0.87$, range = 18 - 21), and the ethnic composition of the sample was 79 (68%) White, 21 (18%) Black, and 16 (14%) Asian. All women identified as heterosexual.

Procedure and Materials

Participants responded to an online advertisement on the psychology departmental website to participate in a study about language proficiency and social attitudes. In a same-sex testing session (comprising three to five participants) facilitated by a female experimenter in a classroom setting, participants completed two ostensibly unrelated experiments. After providing

informed consent, participants were administered two separate envelopes. Each participant completed the measures alone at an individual table. In the first envelope, which constituted the "first experiment," participants completed the covariate measures in counterbalanced order and then the assigned paper-and-pencil Scrambled Sentence Test (which served as the self-objectification or control primes). In the second envelope, which constituted the "second experiment," participants completed the Twenty Statements Test (which served as a manipulation check of the prime), the dependent measures in counterbalanced order, and a request for demographic information (i.e., age, ethnicity, sexual orientation).

In the first half of the study, participants were randomly assigned to complete one of three versions of the Scrambled Sentence Test (Srull & Wyer, 1979) to activate different states of body consciousness. This task was presented as a 20-item test of language proficiency in which participants were instructed to create a grammatically correct 4-word sentence from five words presented in a scrambled order. Participants wrote their 4-word sentences under each scrambled set of words. In our study, one of the five words provided for each sentence represented a target word that constituted the prime. More than one 4-word solution might be possible with some of the scrambled sets of words, but the solutions always included the target word to facilitate the priming effect. Following prior work that utilized a scrambled sentence task to prime self-objectification (Calogero & Pina, 2011; Roberts & Gettman, 2004), 15 of the 20 items composing the scrambled sentence task contained a target word that was either sexually objectifying (e.g., sexiness, physique, beauty), related to physicality but non-objectifying (e.g., health, wellness, energetic), or non-objectifying and neutral with respect to the body and appearance (e.g., hasty, car, silly). A total of 45 participants were exposed to the sexually

objectifying target words, 36 were exposed to the non-objectifying physicality words, and 35 were exposed to the non-objectifying neutral words.

In the second half of the study, participants completed a modified version of the Twenty Statements Test (TST), an instrument that has been used to assess the activation of self-objectification within the context of objectification manipulations (Calogero & Pina, 2011; Fredrickson, Roberts, Noll, Quinn, & Twenge, 1998; Roberts & Gettman, 2004). For this task, participants completed 10 statements beginning with "I am _____." Two independent judges unaware of the hypotheses and experimental conditions coded responses for references to body shape, weight, or general physical appearance. The number of times appearance-related descriptors were identified across the 10 statements served as an indicator of self-objectification for each participant. Inter-rater reliability for the coding of appearance-related descriptors across the three experimental conditions was high ($\kappa = .98$). Judges resolved remaining discrepancies through discussion until consensus was reached.

At the end of the study, participants completed a funnel debriefing form (Chartrand & Bargh, 1996), which probed for awareness of the priming manipulation and study hypotheses. Participants were asked (a) what they thought the purpose of the study had been, (b) whether they thought any of the different tasks had been related, (c) whether anything they had done on one task had affected what they had done on any of the other tasks, (d) whether they had ever seen or completed a scrambled sentences task for another experiment, and (e) whether they remembered any of the words from the scrambled sentences task or thought any of the words seemed unusual or distinctive. Responses from the funnel debriefing form confirmed that none of the participants were privy to the true nature of the study.

Intrapersonal motives for cosmetic surgery. The Intrapersonal subscale of the Acceptance of Cosmetic Surgery Scale (Henderson-King & Henderson-King, 2005) was used to measure the degree to which people endorse self-oriented reasons for having cosmetic surgery, such as to improve self-image or self-esteem. Participants rate five items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is "Cosmetic surgery can be a big benefit to people's self-image." The five items were averaged to create an overall mean score. Higher scores indicate greater endorsement of intrapersonal reasons for having cosmetic surgery. Good construct validity, 2-week test-retest reliability ($r = .80$), and high internal reliability ($\alpha = .88 - .91$) for this scale has been demonstrated previously (Henderson-King & Henderson-King, 2005). The scale also demonstrated high internal reliability in our sample ($\alpha = .92$).

Social motives for cosmetic surgery. The Social subscale of the Acceptance of Cosmetic Surgery Scale (Henderson-King & Henderson-King, 2005) was used to measure the degree to which people endorse social-oriented reasons for having cosmetic surgery, such as career advancement or gaining approval from significant others. Participants rate five items on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is "I would seriously consider having cosmetic surgery if my partner thought it was a good idea." The five items were averaged to create an overall mean score. Higher scores indicate greater endorsement of social reasons for having cosmetic surgery. Good construct validity, 2-week test-retest reliability ($r = .62$), and high internal reliability ($\alpha = .84 - .88$) for this scale has been demonstrated previously (Henderson-King & Henderson-King, 2005). The scale also demonstrated high internal reliability in our sample ($\alpha = .94$).

Appearance control beliefs. The Control Beliefs subscale of the Objectified Body Consciousness Scale (OBCS; McKinley & Hyde, 1996) measured the degree to which women

believe that they are responsible for their appearance and that they can control appearance with

enough effort. Participants rate eight items from 1 (*strongly disagree*) to 7 (*strongly agree*). A

sample item is "I think a person can look pretty much how they want to if they are willing to

work at it." The eight items were averaged to create an overall mean score. Higher scores

indicate greater endorsement of the underlying belief that appearance is controllable with enough

effort. Good construct validity, 2-week test-retest reliability ($r = .73$), and moderately high

internal reliability ($\alpha = .68 - .76$) has been demonstrated for this scale (McKinley & Hyde, 1996).

The scale also demonstrated comparably high internal reliability in our sample ($\alpha = .79$).

Body shame. The Body Shame subscale of the OBCS (McKinley & Hyde, 1996)

measured the degree to which people feel shame about their bodies when they perceive

themselves as falling short of meeting cultural appearance standards. Participants rate eight items

from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is "When I'm not the size I think

I should be, I feel ashamed." The eight items were averaged to create an overall mean score.

Higher scores indicate greater levels of body shame, especially with respect to weight and shape.

Good construct validity, 2-week test-retest reliability ($r = .79$), and moderately high internal

reliability ($\alpha = .70 - .84$) has been demonstrated for this scale (McKinley & Hyde, 1996). The

scale also demonstrated high internal reliability in our sample ($\alpha = .91$).

Intention to have cosmetic surgery. The Consider subscale of the Acceptance of

Cosmetic Surgery Scale (Henderson-King & Henderson-King, 2005) was used to measure the

general intention to pursue cosmetic surgery in the future. Participants rate five items on a scale

from 1 (*strongly disagree*) to 7 (*strongly agree*). A sample item is "In the future, I could end up

having some kind of cosmetic surgery." The five items were averaged to create an overall mean

score. Higher scores indicate greater intention of having cosmetic surgery. Good construct

validity, 2-week test-retest reliability ($r = .82$), and high internal reliability ($\alpha = .86 - .92$) for this scale has been demonstrated previously (Henderson-King & Henderson-King, 2005). The scale also demonstrated high internal reliability in our sample ($\alpha = .94$).

Results

Manipulation Check

As expected, a one-way ANOVA revealed that the type of prime significantly affected completion of the TST, $F(2, 113) = 13.10$, $p < .001$. Women in the self-objectification condition had more sexualized appearance-related attributes in their self-descriptions ($M = 1.16$, $SD = 0.95$; range = 0-3) than women in the non-self-objectifying physicality condition ($M = 0.42$, $SD = 0.50$; range = 0-1), $t(79) = 4.21$, $p <. 001$, $d = .95$, or neutral condition ($M = 0.51$, $SD = 0.50$; range = 0-1), $t(78) = 3.60$, $p < .001$, $d = .82$. Women in the non-self-objectifying conditions did not differ from each other on the TST, $t(69) = -0.82$, $p = .42$. Mean TST responses were comparable to prior work that has employed a similar methodology to prime varying levels of self-objectification (Calogero & Pina, 2011; Roberts & Gettman, 2004), thus supporting the validity of our manipulation.

Effects of Priming Self-Objectification

Means and standard deviations for all variables are presented in Table 1. To begin, we tested for differences between the experimental conditions on our covariate measures. A one-way ANOVA confirmed that the three conditions did not significantly differ on appearance control beliefs, $F(2, 113) = 1.76$, $p = .17$, and appearance control beliefs were unrelated to cosmetic surgery intentions, $r(114) = -.01$, $p = .90$. Therefore, we did include this variable in subsequent analyses. Unexpectedly, and despite random assignment, significant differences did emerge among the three conditions for interpersonal motives, $F(2, 113) = 25.97$, $p < .001$, and

social motives, $F(2, 113) = 58.82$, $p < .001$. Independent t-tests confirmed that women in the

non-self-objectifying physicality condition reported significantly lower intrapersonal motivation,

whereas women in the self-objectifying condition reported significantly higher social motivation,

compared to the other two conditions (all ps < .001). As expected, however, both intrapersonal

motives, $r(114) = .47$, $p < .001$, and social motives, $r(114) = .52$, $p < .001$, were significantly

correlated with cosmetic surgery intentions. Therefore, as planned, we controlled for

intrapersonal and social motives in all subsequent analyses.

In line with the key prediction of our study, after controlling for the covariates, a univariate

ANOVA revealed that the type of prime affected cosmetic surgery intentions, $F(2, 111) = 13.83$,

$p < .001$, $\eta_p^2 = .20$.[1] Planned comparisons revealed that participants primed to self-objectify

reported greater intentions to have cosmetic surgery compared to participants primed with non-

self-objectifying physicality words, $F(1, 77) = 17.21$, $p < .001$, $\eta_p^2 = .18$, or neutral words, $F(1,$

$76) = 19.79$, $p < .001$, $\eta_p^2 = .21$. Women in the non-self-objectifying physicality and neutral

conditions did not differ from each other in cosmetic surgery intentions, $F(1, 67) = 0.22$, $p = .64$.

In line with our other key prediction, after controlling for the covariates, a univariate

ANOVA revealed that the type of prime affected feelings of body shame, $F(2, 111) = 8.84$, p

$< .001$, $\eta_p^2 = .14$.[2] Planned comparisons revealed that participants primed to self-objectify

reported greater body shame compared to participants primed with non-self-objectifying

physicality words, $F(1, 77) = 9.45$, $p = .003$, $\eta_p^2 = .11$, or neutral words, $F(1, 76) = 5.22$, $p = .025$

$\eta_p^2 = .06$. We also observed that women primed with non-self-objectifying physicality words

reported less body shame than women primed with neutral words, $F(1, 67) = 8.57$, $p = .005$, η_p^2

$= .11$.

Mediational Analysis

Our final aim for our study was to test whether the effect of the self-objectification prime on cosmetic surgery intentions was mediated by body shame, a common pattern demonstrated with a number of other outcomes linked to self-objectification. The covariate measures were entered in the first step, followed by the experimental condition in the second step, and body shame in the third step.[3] To maximize power and for ease of interpretation, we refer to the experimental condition variable as the self-objectification prime and coded it as follows: self-objectification = 1, neutral = 0, and non-self-objectifying physicality = -1. A series of separate regression analyses revealed that the self-objectification prime predicted cosmetic surgery intentions, $\beta = .37$, $t = 4.27$, $p < .001$, and body shame, $\beta = .44$, $t = 4.18$, $p < .001$. Body shame, as the hypothesized mediator, also predicted cosmetic surgery intentions, $\beta = .30$, $t = 4.18$, $p < .001$. When entered simultaneously with body shame into the regression model, the self-objectification prime remained a significant and unique predictor of cosmetic surgery intentions, albeit a weaker relationship, $\beta = .27$, $t = 3.03$, $p = .003$, $sr^2 = .03$. Body shame also remained significant in this final analysis, $\beta = .22$, $t = 2.92$, $p = .004$, $sr^2 = .03$.

We used a Monte Carlo resampling simulation to test the significance of this indirect effect. This simulation estimates 95% confidence intervals for the hypothesized indirect effect based on the generation of multiple distributions of the observed estimates. An indirect effect is significant when the lower limits of the confidence interval are greater than zero. In our study, a Monte Carlo resampling simulation on 5000 bootstrap samples confirmed that body shame partially mediated the relationship between the self-objectification prime and cosmetic surgery intentions (95% CI: .02, .12). Consistent with our hypothesis, after controlling for the covariates, priming a state of self-objectification predicted higher body shame, which in turn predicted

greater intentions to pursue cosmetic surgery in the future. In addition, the self-objectification

prime explained unique variance in cosmetic surgery intentions. The full mediational model

accounted for 62% of the variance in cosmetic surgery intentions, adjusted $R^2 = .62$, $F(4, 111) =$

47.89, $p < .001$.

Discussion

Although often misrepresented in the literature, the purpose of objectification theory was

not to delineate the causes of the objectification of women, but to specify the range of intra-

individual consequences that it has for women living in cultures where the female body is

routinely sexually objectified (Calogero, Tantleff-Dunn, & Thompson, 2011; Fisher, Bettendorf,

& Wang, 2011). In line with this aim, the present investigation examined the pursuit of cosmetic

surgery as another potential consequence of women's lived experience in a sexually objectifying

cultural milieu. Our results provide the first evidence that intentions to pursue cosmetic surgery

stem (in part) from being in a state of self-objectification—a state where women are focused on

how their bodies look in the eyes of others as opposed to what their bodies can do. Compared to

the non-self-objectifying conditions, women primed to self-objectify reported more body shame

and a greater intent to pursue cosmetic surgery. We found no difference between the two non-

self-objectifying conditions in cosmetic surgery intentions. Importantly, these effects emerged

after accounting for two additional motives that consistently predict women's interest in

cosmetic surgery (Calogero et al., 2010; Henderson-King & Henderson-King, 2005),

underscoring the unique explanatory value of self-objectification and body shame for women's

pursuit of cosmetic surgery.

Consistent with prior experimental work (Calogero & Pina, 2011; Roberts & Gettman,

2004), women primed to self-objectify also reported more body shame compared to the non-self-

objectifying conditions. In addition, we found that body shame was significantly lower among women primed with the non-self-objectifying physicality words compared to the neutral words. Modeled after Roberts and Gettman's design (2004), the non-self-objectifying physicality condition was intended to capture more of the first-person perspective that objectification theorists would argue is suppressed when women self-objectify. This difference between the two non-self-objectifying conditions is interesting and potentially quite important. In contrast to objectifying text, this finding suggests that exposure to text which emphasizes body functionality and competence without a focus on observable physical attributes may be protective against self-objectification and body shame (Avalos & Tylka, 2006; Impett, Daubenmier, & Hirschman, 2006). We think these results are promising and the potential buffering effect of non-objectifying language (as well as what this might look like) should be subjected to further investigation.

The significance of body shame in this context was further underscored by the mediational analysis, which revealed that higher body shame partially explained the increased interest in pursuing cosmetic surgery among women in a state of self-objectification. Thus, it might partly be due to the increase in feeling ashamed of one's body, as well as the situational activation of self-objectification, that women report greater intentions to pursue cosmetic surgery in the future. We take these findings as support for the idea that electing to have cosmetic surgery may be one solution to the body shame and feelings of physical inadequacy generated under conditions of intense appearance scrutiny. A possibility we intend to explore further is whether these behavioral intentions and actual behaviors (e.g., dietary restraint, appearance management, cosmetic surgery) are experienced as displays of agency among women who are high in self-objectification or attempts to alleviate the negative affect and distress associated with intense appearance scrutiny or both. As Kathy Davis (2003, p. 39) has stated, cosmetic surgery for

women is "a dilemma: disempowering and empowering, problem and solution all in one."

Further research is necessary to determine the degree to which self-objectified women

experience agency and the form that it might take across different life domains.

The findings from this experiment further highlight the fact that the more blatant forms of

sexual objectification (e.g., actual sexual commentary, leering on the street) are not necessary to

activate self-objectifying responses in women. Subtle environmental cues in the form of printed

words that contain sexually objectifying content are sufficient to increase women's self-

objectification, body shame, and intention to pursue cosmetic surgery. Although we imagine that

less subtle, but equally common, encounters with sexual objectification would have an even

larger impact, our findings demonstrate that mere words serve as potent environmental triggers

of self-objectification and cosmetic surgery intentions. Indeed, the fact that self-objectification

was primed implicitly with words, and therefore unbeknownst to the women, as opposed to

attention being called to their bodies explicitly, is an important reminder of how salient and

deeply ingrained body image and appearance-related concepts are in memory for women, as well

as how insidious are the consequences.

In our study we captured momentary changes in body shame and cosmetic surgery

intentions after a single exposure to sexually objectifying content that was brief and subtle. In

reality, women are exposed to multiple occurrences of sexual objectification that vary in duration

and visibility every day. Under these conditions, we suspect that these results would be

magnified outside the laboratory context and that surgery-related thoughts are likely to be

chronically activated for some women, considering that women's self-attention is disrupted and

redirected to their appearance and how they look to others on a regular basis (Bartky, 1990; de

Beauvoir, 1952; Fredrickson & Roberts, 1997). Moreover, insofar as intentions predict actual

behaviour, undergoing cosmetic surgery may only exacerbate the link between self-objectification and surgery intentions. In a longitudinal study by von Soest, Kvalem, and Wichstrøm (2012), nearly 3,000 Norwegian women showed not only that mental health issues (such as depression and anxiety) were associated with the decision to undergo cosmetic surgery, but also that these same mental health issues were aggravated after that surgery. Interestingly, although women tended to be more satisfied after the surgery with the specific aspect of their appearance that they had surgically modified, they were no more satisfied with their appearance as a whole. Taken together with the results of von Soest et al. (2012) and the correlational findings of Calogero et al. (2010), the present results have an unsettling implication. Cosmetic surgery may actually intensify self-objectification for women living in a sexually objectifying cultural milieu, leading to a vicious cycle of psychological distress and surgical alterations to appearance.

Limitations and Future Directions

The homogenous samples of women studied in our research obviously limit the generalizability of our findings to predominantly White, young, college-educated, heterosexual women who were also very likely able-bodied. To deepen our understanding of the relationship between self-objectification and cosmetic surgery, it is imperative for future research to take an intersectionality perspective and include more diverse samples of girls and women. We also did not include men in our study, which we acknowledge is a limitation insofar as we cannot fully claim that only women's pursuit of cosmetic surgery is a response to sexual and self-objectification. We wish to emphasize that the first aim of our program of research was to demonstrate whether a casual relationship between self-objectification and cosmetic surgery intentions existed among women. We decided to focus solely on women in this experiment

because they consume the most cosmetic surgery by an overwhelming margin. In addition,

consistently women score higher and with more variability on measures of self-objectification

and body shame compared to men, especially heterosexual men (see Moradi & Huang, 2008;

Moradi, 2010). Having established this effect for women in the present study, it is important to

explore the potential boundary conditions for these patterns. At this point it is unclear whether

the relationship between self-objectification and cosmetic surgery intentions is a general one or

gender-specific.

It will be critical in the next stage of this research to examine the effect of self-

objectification on the pursuit of cosmetic surgery within the context of other psychological and

sociocultural factors that might contribute to women's appearance modification, such as aging

anxiety (Slevec & Tiggemann, 2010), materialism, and parental attitudes toward appearance

(Henderson-King & Brooks, 2009). Future investigations should also include appearance

anxiety, interoceptive awareness (i.e., awareness of internal sensations and inner life), and

flow—not only body shame—to account for all four subjective experiences in relation to the

pursuit of cosmetic surgery. Although we did not measure cosmetic surgery behavior in this

experiment, situational activation of self-objectification has been shown to influence actual

behavior in other domains, including restrained eating (Fredrickson et al., 1998), decrements in

math performance (Fredrickson et al., 1998; Gervais et al., 2011), and less talking time in social

interactions (Saguy et al., 2010). Therefore, it is plausible that the increased self-objectification

observed in the present study may have implications for cosmetic surgery behavior and should be

examined in future research.

Practice Implications

Our research has a number of implications for practitioners. First, knowledge of this link

between self-objectification (stemming from a sexually objectifying environment) and intentions

to have cosmetic surgery should be useful to practitioners who work with girls and women. In

particular, it is necessary to move beyond the understanding that sexual objectification makes

women feel bad per se to identify the potentially harmful actions against *themselves* that women

might take in response to such encounters. Second, community members who wish to advocate

for girls and women—including activists, educators, counselors, and policymakers—must raise

awareness of the harms of self-objectification more consistently, including the pressure to

undergo risky elective surgery. Third, more emphasis should be placed on expanding the self and

identity of girls and women to provide other domains in which they can glean social rewards and

secure esteem beyond a sexualized appearance. Fourth, it is necessary to provide girls and

women with specific actions that can be taken in the face of sexual objectification that do not

require modification of one's body in order to arm them with a greater sense of control over

these largely uncontrolled and uncontrollable situations. Fifth, to the extent that self-

objectification might be a risk factor for repeated surgery and low satisfaction with surgical

outcomes, engagement with cosmetic surgery professionals to at least think about the

implications of these patterns is worthwhile. Finally, it is critical that practitioners take up the

challenge of changing the system of sexual objectification that perpetuates self-objectification

and the concomitant consequences in the first place (Calogero & Tylka, in press). In light of the

potential risks of undergoing any surgery and anaesthesia, the pursuit of elective cosmetic

surgery may represent another harmful micro-level consequence of self-objectification for

women that will require our attention on many fronts.

References

American Psychological Association. (2007). *Report of the APA Task Force on the Sexualization of Girls*. Washington, DC: American Psychological Association. Retrieved from http://www.apa.org/pi/wpo/sexualization_report_summary.pdf

American Society of Plastic Surgeons. (2011). *National clearinghouse of plastic surgery statistics.* Retrieved from http://www.plasticsurgery.org/news-and-resources/2011-statistics-.html

Aubrey, J. S. (2006). Exposure to sexually objectifying media and body self-perceptions among college women: An examination of the selective exposure hypothesis and the role of moderating variables. *Sex Roles, 55,* 159-172.

Aubrey, J. S. (2010). Looking good versus feeling good: An investigation of media frames of health advice and their effects on women's body-related self-perceptions. *Sex Roles, 63,* 50-63.

Avalos, L., & Tylka, T. L. (2006). Exploring a model of intuitive eating with college women. *Journal of Counseling Psychology, 53,* 486-497.

Bartky, S. (1990). *Femininity and domination.* New York, NY: Routledge.

Bernard, P., Gervais, S. J., Allen, J., Campomizzi, S., & Klein, O. (2012). Integrating sexual objectification with object versus person recognition: The sexualized-body-inversion hypothesis. *Psychological Science, 23,* 469-471.

Braun, V. (2010). Female genital cosmetic surgery: A critical review of current knowledge and contemporary debates. *Journal of Women's Health, 19,* 1393-1407.

British Association of Aesthetic and Plastic Surgeons [BAAPS]. (2010). *Despite recession 36, 482 aesthetic surgery procedures took place in the UK.* Retrieved August 30, 2010, from

http://www.baaps.org.uk/about-us/press-releases/584-britons-over-the-moob-male-breast-reduction-nearly-doubles-in-2009

Brown, A., Furnham, A., Glanville, L., & Swami, V. (2007). Factors that affect the likelihood of undergoing cosmetic surgery. *Aesthetic Surgery Journal, 27,* 501-508.

Calogero, R. M. (2004). A test of objectification theory: Effect of the male gaze on appearance concerns in college women. *Psychology of Women Quarterly, 28,* 16-21.

Calogero, R. M. (2011). Operationalizing self-objectification: Assessment and related methodological issues. In R. M. Calogero, S. Tantleff-Dunn, & J. K. Thompson (Eds.), *Self-objectification in women: Causes, consequences, and counteractions* (pp. 23-49). Washington, DC: American Psychological Association.

Calogero, R. M. (2012). Objectification theory, self-objectification, and body image. In T. F. Cash (Ed.), *Encyclopedia of body image and human appearance* (Vol.2, pp. 574-580). San Diego, CA: Academic Press.

Calogero, R. M. (2013). Objects don't object: Evidence that self-objectification disrupts women's social activism. *Psychological Science, 24,* 312-318.

Calogero, R. M., Davis, W. N., & Thompson, J. K. (2005). The role of self-objectification in the experience of women with eating disorders. *Sex Roles, 52,* 43-50.

Calogero, R. M., & Jost, J. T. (2011). Self-subjugation among women: Exposure to sexist ideology, self-objectification, and the protective function of the need to avoid closure. *Journal of Personality and Social Psychology, 100,* 211-228.

Calogero, R. M., & Pina, A. (2011). Body guilt: Preliminary evidence for a further subjective experience of self-objectification. *Psychology of Women Quarterly, 35,* 428-440.

Calogero, R. M., Pina, A., Park, L. E., & Rahemtulla, Z. K. (2010). Objectification theory predicts college women's attitudes toward cosmetic surgery. *Sex Roles, 63,* 32-41. doi: 10.1007/s11199-010-9759-5

Calogero, R. M., Tantleff-Dunn, S., & Thompson, J. K. (2011). *Self-objectification in women: Causes, consequences, and directions for research and practice.* Washington, DC: American Psychological Association.

Calogero, R. M., & Thompson, J. K. (2009). Potential implications of the objectification of women's bodies for women's sexual satisfaction. *Body Image, 6,* 145-148.

Calogero, R. M., & Tylka, T. L. (in press). Sanctioning and stimulating resistance to sexual objectification: An integrative system justification perspective. *Journal of Social Issues.*

Carr, E. R., & Szymanski, D. M. (2011). Sexual objectification and substance abuse in young adult women. *The Counseling Psychologist*, *39*, 39-66.

Chartrand, T. L., & Bargh, J. A. (1996). Automatic activation of impression formation and memorization goals: Nonconscious goal priming reproduces effects of explicit task instructions. *Journal of Personality and Social Psychology, 71,* 464-478.

Coughlin, J. W., Schreyer, C. C., Sarwer, D. B., Heinberg, L. J., Redgrave, G. W., & Guarda, A. S. (2012). Cosmetic surgery in inpatients with eating disorders: Attitudes and experience. *Body Image, 9,* 180-183.

Davis, K. (2003). Dubious equalities and embodied differences: Cultural studies on cosmetic surgery. Lanham, MD: Rowman and Littlefield.

Davis, S. (1990). Men as success objects and women as sex objects: A study of personal advertisements. *Sex Roles, 23*, 43-50. doi: 10.1007/BF00289878

Davis, J. I., Senghas, A., Brandt, F., & Ochsner, K. N. (2010). The effects of BOTOX injections on emotional experience. *Emotion, 10,* 433-440.

de Beauvoir, S. (1952). *The second sex*. New York, NY: Vintage Books.

Fisher, A. R., Bettendorf, S. K., & Wang, Y.-W. (2011). Contextualizing sexual objectification. *The Counseling Psychologist, 39,* 127-139.

Frederick, D. A., Lever, J. L., & Peplau, L. A. (2007). Interest in cosmetic surgery and body image: Views of men and women across the lifespan. *Plastic and Reconstructive Surgery, 120,* 1407-1415.

Fredrickson, B. L., & Roberts, T. A. (1997). Objectification theory: Towards understanding women's lived experience and mental health risks. *Psychology of Women Quarterly, 21,* 173-206.

Fredrickson, B. L., Roberts, T. A., Noll, S. M., Quinn, D. M., & Twenge, J. M. (1998). That swimsuit becomes you: Sex differences in self-objectification, restrained eating, and math performance. *Journal of Personality and Social Psychology, 75,* 269-284.

Gabriel, S. E., Woods, J. E., O'Fallon, W. M., Beard, C. M., Kurland, L. T., & Melton, L. J. (1997). Complications leading to surgery after breast implantation. *The New England Journal of Medicine, 336,* 677-682.

Gardner, C. B. (1980). Passing by: Street remarks, address rights, and the urban female. *Sociological Inquiry, 50,* 328-356.

Gervais, S. J., Vescio, T. K., & Allen, J. (2011). When what you see is what you get: The consequences of the objectifying gaze for women and men. *Psychology of Women Quarterly, 35,* 5-17.

Goldenberg, J. L., Cooper, D. P., Heflick, N. A., Routledge, C., & Arndt, J. (2011). Is
objectification always harmful? Reactions to objectifying images and feedback as a
function of self-objectification and mortality salience. *Journal of Experimental Social
Psychology, 47,* 443-448.

Grabe, S., Hyde, J. S., & Lindberg, S. M. (2007). Body objectification and depression in
adolescents: The role of gender, shame, and rumination. *Psychology of Women
Quarterly, 31,* 164-175. doi: 10.1111/j.1471-6402.2007.00350.x

Grazer, F. M., & de Jong, R. H. (2000). Fatal outcomes from liposuction: Census survey of
cosmetic surgeons. *Plastic & Reconstructive Surgery, 105,* 436-446.

Harper, B., & Tiggemann, M. (2008). The effect of thin ideal media images on women's self-
objectification, mood, and body image. *Sex Roles, 58,* 649-657.

Harrell, Z. A., Fredrickson, B. L., Pomerleau, C. S., & Nolen-Hoeksema, S. (2006). The role of
trait self-objectification in smoking among college women. *Sex Roles, 54,* 735-743.

Henderson-King, D., & Brooks, K. D. (2009). Materialism, sociocultural appearance messages,
and paternal attitudes predict college women's attitudes about cosmetic surgery.
Psychology of Women Quarterly, 33, 133-142. doi: 10.1111/j.1471-6402.2008.01480.x

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

Hines, S. H., Sampselle, C. M., Ronis, D. L., Yeo, S. Fredrickson, B. L., & Boyd, C. J. (2007).
Women's self-care agency to manage urinary incontinence: The impact of nursing
agency and body experience. *Advances in Nursing Science*, *30*, 175-188.

Holland, E., & Haslam, N. (2013). Worth the weight: The objectification of overweight versus
thin targets. Psychology of Women Quarterly. doi: 10.1177/0361684312474800

Horton, R. (2012). Offline: A serious regulatory failure with urgent implications. *The Lancet, 379,* 204.

Impett, E. A., Daubenmier, J. J., & Hirschman, A. L. (2006). Minding the body: Yoga, embodiment, and well-being. *Sexuality Research & Social Policy, 3,* 39-48.

Impett, E. A., Schooler, D., & Tolman, D. L. (2006). To be seen and not heard: Femininity ideology and adolescent girls' sexual health. *Archives of Sexual Behavior, 35,* 131-144.

International Society of Aesthetic Plastic Surgery. (2011). *ISAPS international survey on aesthetic/cosmetic procedures performed in 2011.* Retrieved from http://www.isaps.org/files/html-contents/Downloads/ISAPS%20Results%20-%20Procedures%20in%202011.pdf

Kaschak, E. (1992). *Engendered lives: A new psychology of women's experience.* New York, NY: Basic Books.

Khoo, C. (2009). Risk reduction in cosmetic surgery. *Clinical Risk, 15,* 237-240.

Langlois, J. H., Kalakanis, L., Rubenstein, A. J., Larson, A., Hallam, M., & Smoot, M. (2000). Maxims or myths of beauty? A meta-analytic and theoretical review. *Psychological Bulletin, 126*, 390-423.

Laurance, J. (2009, November 16). Cosmetic surgeons demand ban on advertising their own trade: Experts ask government to tighten the regulation. *The Independent*. Retrieved from http://www.independent.co.uk/life-style/health-and-families/health-news/cosmetic-surgeons-demand-ban-on-advertising-their-own-trade-1821247.html

Malkin, A. R., Wornian, K., & Chrisler, J. C. (1999). Women and weight: Gendered messages on magazine covers. *Sex Roles, 40,* 647-655.

McKinley, N. M., & Hyde, J. S. (1996). The Objectified Body Consciousness Scale. *Psychology of Women Quarterly, 20,* 181-215.

McLaughlin, J. K., Wise, T. N., & Lipworth, L. (2004). Increased risk of suicide among patients with breast implants: Do the epidemiologic data support psychiatric consultation? *Psychosomatics, 45,* 277-280. doi: 10.1176/appi.psy.45.4.277

Moradi, B. (2010). Addressing gender and cultural diversity in body image: Objectification theory as a framework for integrating theories and grounding research. *Sex Roles, 63,* 138-148.

Moradi, B., & Huang, Y.-P. (2008). Objectification theory and psychology of women: A decade of advances and future directions. *Psychology of Women Quarterly, 32*, 377-398.

Muehlenkamp, J. J., Swanson, J. D., & Brausch, A. M. (2005). Self-objectification, risk taking, and self-harm in college women. *Psychology of Women Quarterly, 29,* 24-32.

Murnen, S. K., & Smolak, L. (2000). The experience of sexual harassment among grade-school students: Early socialization of female subordination? *Sex Roles, 43,* 1-17. doi: 10.1023/A:1007007727370

Nahai, F. (2009). Minimizing risk in cosmetic surgery. *Clinical Risk, 15,* 232-236.

National Society for the Prevention of Cruelty to Children. (2012). *A qualitative study of children, young people and 'sexting': A report prepared for the NSPCC.* London: NSPCC. Retrieved from http://www.nspcc.org.uk/inform/resourcesforprofessionals/sexualabuse/sexting-research-report_wdf89269.pdf

Noll, S. M., & Fredrickson, B. L. (1998). A mediational model linking self-objectification, body shame, and disordered eating. *Psychology of Women Quarterly, 22,* 623-636.

Nussbaum, M. C. (1995). Objectification. *Philosophy and Public Affairs, 24,* 249-291. doi:

    10.1111/j.1088-4963.1995.tb00032.x

Park, L., 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.

Pittet, B., Montandon, D., & Pittet, D. (2005). Infection in breast implants. *The Lancet:*

    Infectious Diseases, 5, 94-106.

Roberts, T., & Gettman, J. Y. (2004). Mere exposure: Gender differences in the negative effects

    of priming a state of self-objectification. *Sex Roles, 51,* 17-27.

Saguy, T., Quinn, D. M., Dovidio, J. F., & Pratto, F. (2010). Interacting like a body:

    Objectification can lead women to narrow their presence in social interactions.

    Psychological Science, 21, 178-182. doi: 10.1177/0956797609357751

Sarwer, D. B., Magee, L., & Crerand, C. E. (2004). Cosmetic surgery and cosmetic medical

    treatment. In: J. K. Thompson (Ed.), *Handbook of eating disorders and obesity* (pp. 71-

    96). Hoboken: John Wiley & Sons.

Slevec, J. H., & 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.

Smolak, L., & Murnen, S. K. (2011). The sexualization of girls and women as a primary

    antecedent of self-objectification. In R. M. Calogero, S. Tantleff-Dunn, & J. K.

    Thompson (Eds.), *Self-objectification in women: Causes, consequences, and*

    counteractions (pp. 53-75)*.* Washington, DC: American Psychological Association.

Srull, T. K., & Wyer, R. S., Jr. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology, 37,* 1660-1672.

Steer, A., & Tiggemann, M. (2008). The role of self-objectification in women's sexual functioning. *Journal of Social and Clinical Psychology, 27,* 205-225.

Strelan, P., Mehaffey, S. J., & Tiggemann, M. (2003). Self-objectification and esteem in young women: The mediating role of reasons for exercise. *Sex Roles, 48,* 89-95.

Swami, V. (2007). *The missing arms of Venus de milo: Reflections of the science of physical attractiveness.* Brighton: Book Guild.

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

Swami, V., & Furnham, A. (2008). *The psychology of physical attraction*. London: Routledge.

Swim, J. K., Hyers, L. L., Cohen, L. L., & Ferguson, M. J. (2001). Everyday sexism: Evidence for its incidence, nature, and psychological impact from three daily diary studies. *Journal of Social Issues, 57,* 31-53. doi: 10.1111/0022-4537.00200

Tiggemann, M. (2011). Mental health risks of self-objectification: A review of the empirical evidence for disordered eating, depressed mood, and sexual dysfunction. In R. M. Calogero, S. Tantleff-Dunn, & J. K. Thompson (Eds.), *Self-objectification in women: Causes, consequences, and counteractions* (pp. 139-159). Washington, DC: American Psychological Association.

Tiggemann, M., & Boundy, M. (2008). Effect of environment and appearance compliment on college women's self-objectification, mood, body shame, and cognitive performance. *Psychology of Women Quarterly*, *32*, 399-405.

Tiggemann, M., & Kuring, J. K. (2004). The role of body objectification in disordered eating and

     depressed mood. *British Journal of Clinical Psychology, 43,* 299-311.

Tylka, T. L., & Hill, M. S. (2004). Objectification theory as it relates to disordered eating among

     college women. *Sex Roles, 51,* 719-730.

Vandenbosch, L., & Eggermont, S. (2012). Understanding sexual objectification: A

     comprehensive approach toward media exposure and girls' internalization of beauty

     ideals, self-objectification, and body surveillance. *Journal of Communication, 62,* 869-

     887.

von Soest, T., Kvalem, I., & Wichstrøm, L. (2012). Predictors of cosmetic surgery and its effects

     on psychological factors and mental health: a population-based follow-up study among

     Norwegian females. *Psychological Medicine, 42,* 617-626.

Zurbriggen, E. L., Ramsey, L. R., & Jaworski, B. K. (2011). Self- and partner-objectification in

     romantic relationships: Associations with media consumption and relationship

     satisfaction. *Sex Roles, 64,* 449-462. doi: 10.1007/s11199-011-9933-4

Footnote

[1]The ANOVA model was also significant without the covariate, $F(2, 113) = 66.95$, p < .001, $\eta_p^2 = .54$.

[2]The ANOVA model was also significant without the covariate, $F(2, 113) = 34.34$, p < .001, $\eta_p^2 = .38$.

[3]Partial-order correlations controlling for the covariates supported the mediational tests: Experimental condition was correlated with cosmetic surgery intentions, $r = .37$, and body shame, $r = .36$; Body shame was positively correlated with cosmetic surgery intentions, $r = .37$. All correlations were significant at $p < .01$.

Table 1

Means and Standard Deviations for Covariates and Dependent Variables across Conditions

	Self-Objectification ($n = 45$) M (*SD*)	Non-Self-Objectifying Physicality ($n = 36$) M (*SD*)	Neutral ($n = 35$) M (*SD*)
Appearance control beliefs	3.70_a (0.69)	3.79_a (0.46)	3.94_a (0.69)
Intrapersonal motives	3.87_a (0.97)	2.20_b (0.84)	3.59_a (0.96)
Social motives	3.77_a (1.05)	1.22_b (0.45)	1.91_b (0.80)
Body shame	3.95_a (0.86)	2.15_b (1.07)	3.05_c (1.01)
Cosmetic surgery intentions	3.93_a (0.80)	2.27_b (0.46)	2.64_b (0.72)

Note. Means with different subscripts across a row differ at $p < .05$.