

"ANALYZING THE INTERPLAY OF GENDER, NARCISSISM, AND SELF-IMAGE IN SURGICAL CONTEXTS"

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ABSTRACT

The field of plastic surgery has witnessed substantial growth and transformation in recent years. This abstract provides an overview of the key statistics and trends in plastic surgery based on data from reputable sources such as the American Society of Plastic Surgeons (ASPS) and the International Society of Aesthetic Plastic Surgery (ISAPS). In 2020, there were 15.6 million cosmetic procedures conducted in the United States, comprising both surgical and minimally invasive procedures. Notably, cosmetic surgical procedures decreased by 14%, while reconstructive procedures saw a 3% increase. The top five cosmetic surgical procedures included nose reshaping, eyelid surgery, facelift, liposuction, and breast augmentation. These statistics reflect the dynamic landscape of plastic surgery, with evolving preferences and consumer spending, providing valuable insights for healthcare professionals, researchers, and the public.

Keywords: Plastic surgery, Cosmetic procedures, Surgical trends, Minimally invasive procedures, Healthcare statistics

Introduction

Cosmetic surgery procedures have increased dramatically worldwide in recent decades (Alotaibi, 2021; American Society of Plastic Surgeons [ASPS], 2021; Elliott, 2008; Gelidan et al., 2021; International Society of Aesthetic Plastic Surgery [ISAPS], 2021). The top 10 countries for procedures in 2020 were the United States, Brazil, Germany, Japan, Turkey, Mexico, Argentina, Italy, Russia, and India (ISAPS, 2021).

According to the ASPS (2021), in 2020, there were 15.6 million cosmetic procedures completed in the United States, 2.3 million cosmetic surgical procedures (down 14% from 2019), and 13.2 million cosmetic minimally invasive procedures (down 16% from 2019). There were 6.8 million reconstructive procedures in 2020, an increase of 3% from 2019. The top five cosmetic surgical procedures of 2020 were nose reshaping (352,555; 3% from 2019), eyelid surgery (325,112; -8% from 2019), facelift (234,374; -11% from 2019), liposuction (211,067; -20% from 2019), and breast augmentation (193,073; -33% from 2019). Breast augmentation has been consistently in the top five procedures since 2006. In 2020, patients spent \$16.7 billion on cosmetic procedures in the United States alone.

In rhinoplasty, a “nose job,” the surgeon will reshape the nose to improve breathing, appearance, or both. This could be by removing a bump, adjusting nostril width, or changing the angle between the nose and mouth. Other conditions addressed include a deviated nasal septum or a variety of sinus abnormalities (Daniel & Pálházi, 2018). Eyelid surgery (blepharoplasty) focuses on the drooping or hooded eyelids occasionally accompanying aging. These procedures can also address function, form, or both (Halepas et al., 2021a). Blepharoplasty generally involves repositioning or removing excess skin or fat and reinforcing the surrounding musculature and tendons (Fincher & Moy, 2005). In addition to tightening the skin, this surgery may also change the shape of the face (Bollero, 2021).

A rhytidectomy, or facelift, surgically tightens the skin and removes wrinkles to achieve a more youthful facial appearance (Won et al., 2021). This procedure usually involves an incision behind and in front of the ears and extends into the temple and hairline area. The skin is raised from the deeper tissue of the face, draped more tightly, and the excess skin is removed (Langsdon & Shires 2013). The incisions are then sutured closed. A blepharoplasty may also be done simultaneously as well as a “browlift” or “browplasty” to remove forehead wrinkles and give the face a more unified appearance (Cuzalina & Sohn, 2021; McCord & Doxanas, 1990).

A suction-assisted lipectomy, or liposuction, uses a collection of hollow tubes to vacuum fat from the body. The most common areas include the abdomen, thighs, neck, hips, buttocks, and the back of the arms (Davis & Lawrence, 2020). Liposuction is also an option for male breast reduction (Prasetyono et al., 2022).

Although rare, complications are possible. These include allergic reactions, infection, hematoma, changes in sensation, or damage to the structures underneath the fat. There is also a limit to the amount of fat that can be removed safely (Stephan & Kenkel, 2010). Liposuction is not intended for weight loss and will not reduce the potential or risk for diabetes, hypertension, or heart disease (Davis & Lawrence, 2020; Seretis et al., 2015).

Breast surgery, or mammoplasty, is usually intended to improve body shape. Traditionally, breast augmentation has been achieved using silicone or saline prosthetics, but fat grafting has become more common (De Pedroza, 2013). Augmentation is not limited to increasing size. It can be used to improve the shape of the breast if they have changed due to pregnancy or breastfeeding or if there is significant sag due to the skin becoming less elastic. A breast lift, or mastopexy, may make the breast smaller and lifted by removing skin and glandular tissue and rearranging what remains. Mastopexy may accompany implants to improve the breast’s appearance (Mugea, 2013). In males, breast reduction surgery can treat gynecomastia, an enlargement of the mammary tissue (Prasetyono et al., 2022).

The top five cosmetic minimally invasive procedures of 2020 in the United States (ASPS, 2021) were Botulinum toxin type A (4.4 million; -13% from 2019), soft tissue fillers (3.4 million; -11% from 2019), chemical peel (931,473; -33% from 2019), laser hair resurfacing (997,245; -8% from 2019); intense pulsed light (IPL) treatment (827, 409; -12% from 2019). IPL treatment replaced laser hair removal in the top five cosmetic minimally invasive procedures, with over 827,000 IPL procedures conducted in 2020.

First approved by the FDA in the 1980s to treat muscle spasms, Botulinum toxin (Botox) is the brand name of the *Clostridium botulinum* (*C. botulinum*) bacterium (Goldschmidt & Clemow, 2021). Botox works via injection by blocking the signal from the nerves to the target muscle. The muscle can no longer tighten as drastically as before the injection, leading to a controlled relaxation of the area (Small, 2014). Botox has been approved for several applications, including treating lines on the forehead, lines around the eyes, and hyperhidrosis. Besides Botox, several other brand names are now available (Goldschmidt & Clemow, 2021).

Soft tissue fillers are FDA approved implants designed to create a smoother appearance of the face (Halepas et al., 2021b). This procedure can treat the lips, cheeks, nasolabial folds, and the back of the hand. They can augment contours and minimize wrinkles, lines, or scar tissue. The effects of soft tissue fillers are not permanent, and repeated treatments may be required.

Chemical peels can treat acne, wrinkles, or scars. There are three different types of peels using a variety of active agents (Khunger, 2012). A superficial peel uses glycolic, lactic, or fruit acids to treat the outer layers of the skin. Recovery time is minimal. Medium peels generally use various concentrations of trichloroacetic acid (TCA). This type of acid can penetrate the dermis and potentially cause significant pain with a recovery time of days or weeks. Phenol peels, or deep peels, have the most significant impact on altering the skin and have the longest recovery time. Deep peels can cause skin lightening and scarring. Laser treatment and IPL can minimize wrinkles, lines, and abnormal pigmentation. Using a variety of laser types, concentrated pulses of light are directed toward the affected area. It may require several sessions to see results, and recovery times vary (Goldberg, 2012; Raskin, 2013).

The top five reconstructive procedures of 2020 in the United States (ASPS, 2021) were tumor removal (5.2 million; +4% from 2019), laceration repair (386,710; -1% from 2019), maxillofacial surgery (256,085; +23% from 2019), scar revision (263,085; -6% from 2019), and hand surgery (206,928; +1% from 2019). Females counted for 92% of all cosmetic procedures with 12.4 million, down 15% from 2019. Of those 12.4 million, 2 million were surgical (down 13% from 2019), and 10.4 million were minimally invasive (down 15% from 2019). Males make up the remaining 8% (1.1 million; down 18% from 2019) of all cosmetic procedures. Of those, 289,000 were surgical (down 12% from 2019) and 820,000 were minimally invasive (down 20% from 2019). Caucasians made up most patients at 10.3 million (down 20% from 2019), followed by Hispanics at 1.9 million (down 4% from 2019), African Americans at 1.7 million (unchanged from 2019), and Asian Americans at 1.2 million (down 5% from 2019).

Valikhani et al. (2021) suggest anxiety regarding growing older and increased exposure to media were unique predictors for seeking cosmetic surgery. Research indicates that narcissism is a factor in the willingness to undergo cosmetic surgery in older adults compared to college-age students. According to Napoleon (1993), older narcissistic individuals may be trying to re-create their younger image when they were most attractive. The present study explored the relationship between narcissism and gender and attitudes toward cosmetic surgery in an undergraduate population in the United States. It was hypothesized that male gender and higher self-reported narcissism scores would negatively relate to attitudes toward and considering cosmetic surgery.

Method

Participants

Participants in this study were undergraduate and graduate students recruited from a public university in the Northeastern United States. The sample consisted of 167 women and 39 men ($N = 206$) with a mean age of 23.3 ($SD = 2.1$) (see Table 1 for participant demographics). All participants were treated in accordance with the Ethical Principles of Psychologists and Code of Conduct (American Psychological Association, 2017) and in accordance with Institutional Review Board (IRB) guidelines.

Table 1

Participant demographics ($N = 206$)

Gender	<i>n</i> (%)
Female	167 (81.1)
Male	39 (18.9)
Age in years	
Range	18-49
18-24 years	158 (77.0)
25-34 years	33 (16.0)
35-44 years	11(5.3)
45-49 years	4 (1.9)
Mean age (<i>SD</i>)	23.3 (2.1)
Race	
White/European	92 (44.7)
Black/African	43 (20.1)
Hispanic	52 (25.2)
Asian	13 (6.3)
Native American	2 (1.0)
Other	4 (1.9)
Marital Status	
Single	171 (83.0)
Married	18 (8.7)
Living together	11 (5.3)
Divorced	5 (2.4)
Separated	1 (0.5)

Materials

Participants received a packet containing an informed consent form, a demographic survey, and the following measures:

Acceptance of Cosmetic Surgery Scale (ACSS; Henderson-King & Henderson-King, 2005). The ACSS is a 15-item self-report inventory rated on a 7-point Likert-type scale with response categories ranging from 1 (strongly disagree) to 7 (strongly agree). The ACSS is divided into three subscales: (1) Intrapersonal – five items assessing attitudes related to the self-oriented benefits of cosmetic surgery (e.g., “It makes sense to have minor cosmetic surgery rather than spending years feeling bad about the way you look”); (2) Social – five items measuring social motivations for having cosmetic surgery (e.g., “If it would benefit my career I would think about having plastic surgery”); and (3) Consider – five items assessing the likelihood that an individual would consider having cosmetic surgery (e.g., “In the future, I could end up having some kind of cosmetic surgery”). Higher scores on each factor reflect greater cosmetic surgery endorsement. The ACSS has acceptable levels of validity and reliability (Henderson-King & Henderson-King, 2005; Jovic et al., 2017). In the present study, Cronbach’s alpha coefficients for the three subscales were: Intrapersonal .92, Social .96, and Consider .89.

The 16-item Narcissistic Personality Inventory (NPI-16; Ames et al., 2006). The NPI-16 was developed from the original NPI-40 (Raskin & Terry, 1988) a widely used non-clinical measure of narcissism. The NPI-16 contains 16 statement pairs representing a narcissistic vs. non-narcissistic response.

Example statement pairs include “Everybody likes to hear my stories” (narcissistic response) vs. “Sometimes I tell good stories” (non-narcissistic response). Narcissistic responses are scored 1, and nonnarcissistic responses are scored 0. In the present study, Cronbach’s alpha was .81 for the NPI-16.

Results

A 2 (participant gender: female, male) x 2 (participant narcissism score: high, low) between-groups factorial ANOVA was calculated on Intrapersonal ACSS scores (see Table 2 for participant gender, ACSS subscale scores, and narcissism scores). The main effect for gender was significant, $F(1,202) = 4.61, p = .03, \eta^2 = .02$. Female participants reported higher Intrapersonal ACSS scores ($M = 20.73, SD = 4.36$) than male participants ($M = 18.97, SD = 4.23$). The main effect for narcissism was not significant, $F(1,202) = .65, p = .42$. Finally, the interaction was not significant, $F(1,202) = .04, p = .95$ (see Figure 1 for mean narcissism and ACSS subscale scores).

Table 2

Participant gender, ACSS subscale scores, and narcissism scores

ACSS Subscale	MS	F	p	η^2
Intrapersonal				

Gender	87.19	4.61	.03	.02
Narcissism	12.22	.65	.42	< .01
G x N	.07	.04	.95	< .01
Social				
Gender	6.61	.24	.62	< .01
Narcissism	3.41	.13	.72	< .01
G x N	23.15	.85	.36	.004
Consider				
Gender	266.18	9.66	< .01	.05
Narcissism	13.70	.50	.48	< .01
G x N	33.83	1.23	.27	< .01

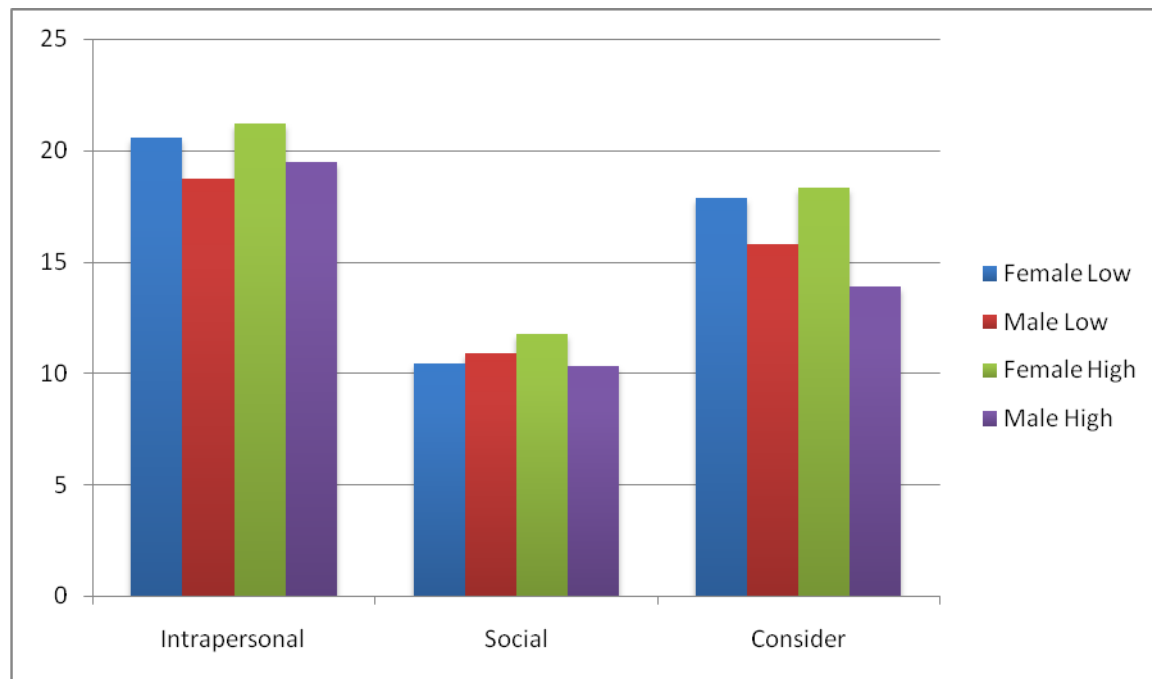
____ Note. ACSS = Acceptance of Cosmetic Surgery Scale.

A 2 (participant gender: female, male) x 2 (participant narcissism score: high, low) between-groups factorial ANOVA was calculated on Social ACSS scores. The main effect for gender was not significant, $F(1,202) = .24$, $p = .62$. The main effect for narcissism was not significant, $F(1,202) = .13$, $p = .72$. Finally, the interaction was not significant, $F(1,202) = .85$, $p = .36$.

A 2 (participant gender: female, male) x 2 (participant narcissism score: high, low) between-groups factorial ANOVA was calculated on Social ACSS scores. The main effect for gender was significant, $F(1,202) = 9.66$, $p = .002$, $\eta^2 = .05$. Female participants reported higher Consider ACSS scores ($M = 17.98$, $SD = 5.36$) than male participants ($M = 15.21$, $SD = 4.70$). The main effect for narcissism was not significant, $F(1,202) = .50$, $p = .48$. Finally, the interaction was not significant, $F(1,202) = 1.23$, $p = .27$.

Figure 1

Mean narcissism and ACSS subscale scores



Discussion

The present study's results are consistent with previous research suggesting females have more positive attitudes toward cosmetic surgery (Abraham & Zuckerman, 2011; Brown et al., 2007; Furnham & Levitas, 2012; Okumuş, 2020; Salehahmadi & Rafie, 2012; Sarwer et al., 2005) and report more of a willingness to undergo cosmetic surgery (D'Agostino et al., 2018; Okumuş, 2020; Zojaji et al., 2014). Higher narcissism scores were unrelated to attitudes related to the self-oriented benefits of cosmetic surgery, social motivations for having cosmetic surgery, and the willingness to consider having cosmetic surgery. Chegeni and Atari (2017) found that narcissism was not related to considering cosmetic surgery in male or female university students, consistent with the present study's findings. Assessing for psychological issues is essential when preparing patients for potential cosmetic surgery (Malick et al., 2008). Previous research has suggested that up to 47.7% of consultations for cosmetic procedures meet the criteria for various mental disorders (Ishigooka et al., 1998). The most common include body dysmorphic disorder, histrionic personality disorder, and narcissistic personality disorder (Ritvo et al., 2006).

A combination of psychological and emotional factors for undergoing cosmetic surgery has been examined. In particular, gender, age (Abraham & Zuckerman, 2011; Brown et al., 2007; Furnham & Levitas, 2012; Okumus, 2020; Salehahmadi & Rafie, 2012; Sarwer et al., 2005), body image (Salehahmadi & Rafie, 2012; Sarwer et al., 2003, 2005; Sarwer & Crerand, 2004), personality traits (Chegeni & Atari, 2017; D'Agostino et al., 2018; Salehahmadi & Rafie, 2012; Swami et al., 2009), self-esteem (Swami & Mammadova, 2012), and media exposure (Abraham & Zuckerman, 2011; Brown et al., 2007; Delinsky, 2005; Furnham & Levitas, 2012; Salehahmadi & Rafie, 2012; Swami et al.,

2009) have been thoroughly investigated. Sociological factors influencing the decision to have cosmetic surgery include a greater likelihood of having friends who have undergone a cosmetic procedure, increased media usage, and a higher family income (Erikson & Goering, 2011).

Psychiatric disorders, specifically depression, anxiety, and personality disorders, have been identified as risk factors for poor psychosocial outcomes for those undergoing cosmetic surgery (Honigman et al., 2004). The prevalence of psychiatric disorders among elective plastic surgery patients ranges from 25% to 72% (Edgerton et al., 1960; Ishigooka et al., 1998; Jang & Bhavsar, 2019; Napoleon, 1993). The most common personality disorder for those seeking cosmetic surgery is narcissistic personality disorder (Gazize & Gharadaghi, 2013; Kucur et al., 2016; Loron et al., 2018; Mulkens et al., 2012; Zojaji et al., 2014). Narcissistic traits have also been identified in patients undergoing cosmetic procedures (D'Agostino et al., 2018). Chegeni and Atari (2017) investigated the relationship between the Dark Triad traits (narcissism, Machiavellianism, and psychopathy) and considering cosmetic surgery among university students. They found that psychopathy was associated with considering cosmetic surgery in both men and women, Machiavellianism was associated with considering cosmetic surgery in women but not men, and narcissism was not related to considering it in either men or women.

Considering these findings and observations, it is essential to reiterate the need for health care providers to be aware of their patient's mental and emotional wellbeing. Despite the lack of connection between higher narcissism scores and considering cosmetic surgery, screening for other psychiatric issues such as body dysmorphic disorder and histrionic personality disorder, as well as issues that call into question the patient's perceptions of self-worth and self-esteem.

Future research is needed to examine narcissistic traits, rather than NPD, and the willingness to consider undergoing cosmetic surgery in older adults.

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