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ORIGINAL PAPER

Perfectionism and undergoing cosmetic surgery

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Abstract This study compared 16 women who had undergone cosmetic surgery (i.e., patients) to 16 women who had not (i.e., controls). Patients and controls were matched on relevant demographics (e.g., age). Socially prescribed perfectionism (i.e., perceiving that others demand perfection of oneself) and perfectionistic self-promotion (i.e., assertively promoting one's supposed perfection to others) were significantly elevated in patients relative to controls. Extreme perfectionism was also shown to substantially increase the likelihood of undergoing cosmetic surgery. Results are discussed with respect to perfectionists' cognitive style, interpersonal needs, chronic dissatisfaction, and hyper-competitive orientation. Perfectionism is considered as a possible contraindication for cosmetic surgery.

Keywords Perfectionism · Self-presentation · Cosmetic surgery · Personality

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Introduction

The business and the prevalence of cosmetic surgery are well researched [1]. Notwithstanding, very little is known about the personality traits and the interpersonal styles linked to undergoing cosmetic surgery. In what follows, we begin to fill this void by investigating whether (a) perfectionism is elevated in cosmetic surgery patients relative to control participants with comparable demographics (e.g., age) and (b) perfectionism influences individuals' likelihood of undergoing cosmetic surgery. Although perfectionism is often proposed as a factor that contributes to individuals undergoing cosmetic surgery [2, 3], to date, there are no data to directly support this proposition. Thus, novel evidence is offered in this study. Before proceeding, however, an empirically supported, conceptual model of perfectionism is presented.

A model of perfectionism

Trait perfectionism involves the perception or the requirement that oneself or others must actually be perfect. Hewitt and Flett [4] conceptualized three separate and enduring dimensions of trait perfectionism: self-oriented perfectionism (i.e., rigidly and ceaselessly requiring perfection of oneself), other-oriented perfectionism (i.e., harshly and unrelentingly demanding perfection of others), and socially prescribed perfectionism (i.e., perceiving that others demand perfection of oneself).

Perfectionistic self-presentation involves promoting one's supposed perfection to others and/or concealing one's perceived imperfections from others. Three distinct and stable dimensions of perfectionistic self-presentation exist [5]: perfectionistic self-promotion (i.e., assertively

promoting one's supposed perfection to others), nondisclosure of imperfection (i.e., avoiding verbal disclosures of one's perceived imperfections), and nondisplay of imperfection (i.e., avoiding behavioral displays of one's perceived imperfections).

Despite overlapping, trait perfectionism and perfectionistic self-presentation are empirically and conceptually distinct [4, 5]. For example, trait perfectionism specifies the source of perfectionistic demands (i.e., self or others), whereas perfectionistic self-presentation involves the outward, public expression of perfectionism. Moreover, relentlessly striving to actually be perfect (as in self-oriented perfectionism) may involve a desire to appear as perfect (as in perfectionistic self-promotion), but the former does not necessarily involve the latter. Trait perfectionism and perfectionistic self-presentation are also separable insofar as trait perfectionism focuses on attitudes and dispositions typical of perfectionists (e.g., unrealistic self-expectations), whereas perfectionistic self-presentation centers on how perfectionists manifest their perfection in an interpersonal context (e.g., self-promotional behaviors). Finally, empirical findings arising from diverse populations have shown that trait perfectionism and perfectionistic self-presentation are distinct [5].

Perfectionism and cosmetic surgery

A relationship between perfectionism dimensions (i.e., trait perfectionism and perfectionistic self-presentation) and undergoing cosmetic surgery is anticipated for several reasons. For instance, perfectionists are hyper-competitive individuals who closely monitor their perceived social rank [6]. Undergoing cosmetic surgery may allow perfectionists to maintain or to increase their desirability in a competitive dating and mating scene. Perfectionists may also pursue cosmetic surgery in an effort to alleviate a distressing sense of bodily imperfection [3]. For many perfectionists, the discrepancy between the perfect body that they desire and the imperfect body that they perceive is a source of distress. Moreover, perfectionistic individuals tend to seek others' approval and to fear interpersonal rejection [5]. Insofar as physical attractiveness facilitates social inclusion [7], perfectionists may undergo cosmetic surgery in an attempt to win others' approval and acceptance. Perfectionists may also view cosmetic surgery as an opportunity to perfect the self and/or to change aspects of the self that cannot be altered through exercise or diet.

More specifically, perfectionism dimensions may be associated with distinct motives for undergoing cosmetic surgery. For example, self-oriented perfectionists' unrelenting self-scrutiny, faultfinding predilection, and harsh self-criticism may bring about body dissatisfaction and interest in cosmetic surgery, whereas socially prescribed perfectionists' sensitivity to societal pressures for bodily perfection or efforts to satisfy perceived demands from significant others may produce interest in cosmetic surgery. For perfectionistic self-promoters, who typically behave in a proud, narcissistic fashion, interest in cosmetic surgery may reflect a desire to use physical attributes to garner admiration. Physical attractiveness is undoubtedly important to individuals striving to present themselves in such an eye-catching manner. Finally, non-displayers of imperfection may look to cosmetic surgery as a means of eliminating perceived imperfections (e.g., physical defects or age-related changes) that are otherwise inconcealable.

Study hypotheses

Drawing on the theory outlined above, we hypothesized that (a) perfectionism is elevated in cosmetic surgery patients compared to control participants with similar demographics and (b) perfectionism increases individuals' probability of undergoing cosmetic surgery. Confirmation of our hypotheses would provide the first direct evidence linking perfectionism to undergoing cosmetic surgery and substantiate prior theory connecting perfectionism and cosmetic surgery [2, 3].

Materials and methods

Participants

Cosmetic surgery patients Demographics [i.e., age, body mass index (BMI), duration of residence in Canada, and year of study in university] for 16 female cosmetic surgery patients are displayed in Table 1. Of the patients, 81% reported their relationship status as single. Thirty-eight percent of patients reported their ethnic identity as European, 31% as Asian, and 25% as "other;" 6% of patients did not specify their ethnic identity. No other demographic information was collected, either from patients or from controls.

Matched control participants Demographics for 16 female matched control participants are presented in Table 1. Of the controls, 81% reported their relationship status as single. Thirty-two percent of controls reported their ethnic identity as European, 44% as Asian, 6% as East Indian, and 12% as "other;" 6% of controls did not indicate their ethnic identity. Demographics for patients and for controls approximated other samples of university students recruited at University of British Columbia (UBC) [5].

Table 1 Comparing patients to controls

Variable	Patients: mean (SD)	Controls: mean (SD)	*df*	*F*	η_p^2	*p*
	Demographics					
Age	19.88 (4.21)	19.50 (3.39)	1, 30	0.08	0.00	0.78
BMI	22.75 (5.55)	22.27 (4.09)	1, 30	0.08	0.00	0.78
Residence	14.46 (7.83)	15.97 (6.08)	1, 30	0.36	0.01	0.56
YOS	1.88 (0.89)	1.47 (0.52)	1, 30	2.42	0.08	0.13
	Perfectionism					
SOP	73.75 (19.72)	72.00 (8.75)	1, 30	0.10	0.00	0.75
SPP	60.05 (13.57)	49.84 (11.13)	1, 30	5.42	0.15	0.03
PSP	50.25 (13.80)	40.38 (9.76)	1, 30	5.47	0.15	0.03
NDP	48.13 (12.33)	42.75 (10.27)	1, 30	1.79	0.06	0.19

BMI Body mass index; residence = duration of residence in Canada; *YOS* year of study in university; *SOP* self-oriented perfectionism; *SPP* socially prescribed perfectionism; *PSP* perfectionistic self-promotion; *NDP* nondisplay of imperfection. η_p^2 = partial eta squared. η_p^2 is a measure of effect size that is comparable to a R^2 value. For example, group membership (i.e., patients vs controls) accounts for 15% of the total variance in socially prescribed perfectionism scores.

Instruments

Participants completed the following measures:

The abbreviated multidimensional perfectionism scale (MPS) is a 30-item measure separated into two 15-item subscales: self-oriented perfectionism (i.e., SOP) and socially prescribed perfectionism (i.e., SPP) [4]. Other-oriented perfectionism was excluded from this investigation because neither theory nor evidence indicated that it should be associated with undergoing cosmetic surgery [4]. Participants respond on a seven-point scale that ranges from 1 (disagree) to 7 (agree). Higher scores represent an increased level of trait perfectionism. Hewitt and Flett [4] present comprehensive validity and reliability evidence for the MPS.

The abbreviated perfectionistic self-presentation scale (PSPS) is a 20-item measure divided into two ten-item subscales: perfectionistic self-promotion and nondisplay of imperfection [5]. As both theory and evidence suggested that it should not be related to undergoing cosmetic surgery, nondisclosure of imperfection was omitted from this study [5]. Participants respond on a seven-point scale where 1 = *disagree* and 7 = *agree*. Higher scores indicate an increased level of perfectionistic self-presentation. Hewitt et al. [5] provide extensive reliability and validity data for the PSPS.

Procedure

Participants were taking first- or second-year psychology courses at UBC, Vancouver, British Columbia, Canada and were recruited from the undergraduate participant pool of the Psychology Department. Participants responded to an advertisement requesting their participation in a study on personality. In exchange for their involvement, participants received a 1% bonus added to their course grade. Participation was anonymous and voluntary.

Over a 9-month period, 736 participants were recruited. Sixteen women who answered affirmatively to the following question were included in the group of patients: "Have you ever had cosmetic surgery?" Controls were selected from among the remaining 720 participants based on their similarity to patient demographics. Thus, demographics were eliminated as potential confounds by matching controls' demographics to patients' demographics on a case-by-case basis.

Results

Means and standard deviations are exhibited in Table 1. For controls, means and standard deviations approximated previous studies that utilized the MPS [4] and the PSPS [5] in samples of university students, suggesting that controls are representative of typical undergraduates. Coefficients alpha for perfectionism subscales ranged from 0.84 to 0.92.

Univariate analysis of variance was used to determine whether patients had significantly different demographics than controls. Multivariate analysis of variance was utilized to establish whether patients had significantly higher levels of perfectionism (i.e., SOP, SPP, perfectionistic self-promotion, and nondisplay of imperfection) than controls.

Demographics were eliminated as potential confounds by matching patients and controls. Patients were not significantly different from controls in terms of demographics (see upper panel of Table 1). Both groups were also closely matched on ethnic identity and on relationship status (see "Materials and methods").

Next, patients' perfectionism levels were compared to controls' perfectionism levels (see lower panel of Table 1). Patients' SOP and nondisplay of imperfection levels were comparatively higher (but not significantly higher) than controls' SOP and nondisplay of imperfection levels. Importantly, patients were significantly ($p<0.05$) higher than controls on both SPP and perfectionistic self-promotion.

In Fig. 1, patients' perfectionism levels are depicted relative to controls' perfectionism levels. When Fig. 1 was created, perfectionism levels were transformed to ensure comparability across subscales. Such a transformation was

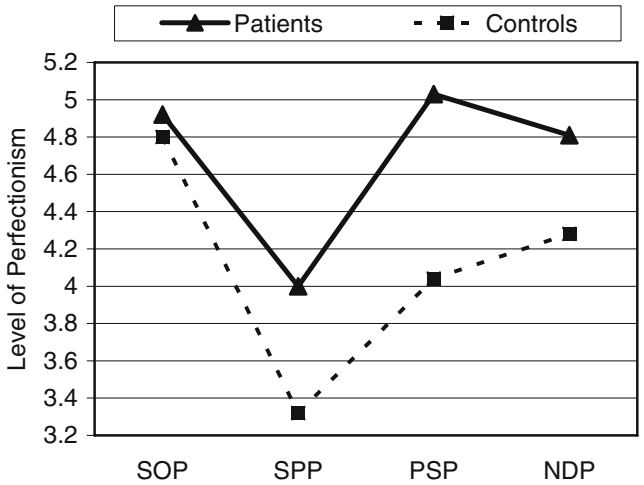

Fig. 1 Comparing patients' perfectionism levels to controls' perfectionism levels. *SOP* self-oriented perfectionism; *SPP* socially prescribed perfectionism; *PSP* perfectionistic self-promotion; *NDP* nondisplay of imperfection

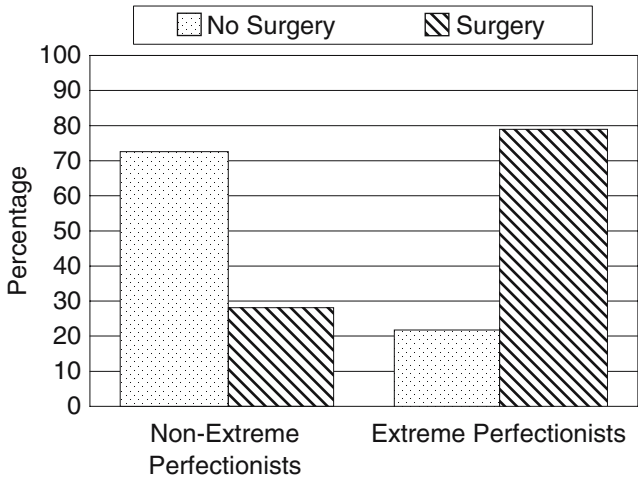

Fig. 2 The impact of extreme perfectionism on individuals' likelihood of undergoing cosmetic surgery

needed because there are 15 items per MPS subscale, but only ten items per PSPS subscale. Comparability across subscales was achieved via the following transformation: The patients' mean SOP score (73.75) was divided by the number of SOP items (15); the patients' mean perfectionistic self-presentation score (50.25) was divided by the number of perfectionistic self-presentation items (10), etc.

Analyses were also conducted to determine whether extreme perfectionism increased individuals' likelihood of undergoing cosmetic surgery. Extreme perfectionism was defined as a patient or a control who scored in the upper quartile on at least one dimension of perfectionism (e.g., SOP). In total, 11 of 14 extreme perfectionists (i.e., 78.57%) had undergone cosmetic surgery, whereas only 5 of 18 non-extreme perfectionists (i.e., 27.78%) had undergone cosmetic surgery. A chi-square test revealed that this finding was unlikely to occur by chance [$\chi^2(1, N=32)=8.13$, $p<0.01$], and a phi coefficient ($\Phi=0.50$, $p<0.01$) indicated that extreme perfectionism is strongly associated with the likelihood of undergoing cosmetic surgery. Thus, extreme perfectionism strongly and significantly increases individuals' likelihood of undergoing cosmetic surgery. An illustration of this result is offered in Fig. 2.

Discussion

In this study, 16 female university students who had undergone cosmetic surgery were matched with and compared to 16 female university students who had not undergone cosmetic surgery. It was found that (a) perfectionism is elevated in patients relative to controls with comparable demographics and (b) perfectionism increases individuals' likelihood of undergoing cosmetic surgery. These findings are now elaborated upon.

SPP and perfectionistic self-promotion were significantly higher in patients than in controls. Closely matching patients and controls eliminated demographics (e.g., BMI) as potential confounds, thereby strengthening these results. At its core, SPP involves a chronically activated relational schema wherein others are perceived as making perfectionistic demands. As such, SPP may augment individuals' sensitivity to and responsivity to media images, cultural pressures, and others' expectations involving bodily perfection. That is, we believe that socially prescribed perfectionists are more likely to accept (and less likely to reject) cultural and interpersonal factors that motivate individuals to contemplate and to undergo cosmetic surgery. The elevated level of SPP observed among patients in the current study is generally consistent with this position.

Perfectionistic self-promotion was elevated in patients from this investigation. Although physical attractiveness alone is not a passkey to "the good life," it does appear to promote social inclusion and economic well-being [9, 10]. In fact, physical attractiveness is such a prized attribute that it is difficult to imagine an individual narcissistically presenting him- or herself as perfect to others without at least approximating what is generally agreed upon as physically attractive (e.g., a slender waist). Thus, we assert that obtaining and maintaining physical attractiveness is integral to perfectionistic self-promotion. From this perspective, undergoing cosmetic surgery may be seen as an extreme manifestation of perfectionistic self-promotion.

Both socially prescribed perfectionists and perfectionistic self-promoters are concerned with social inclusion [4, 5]. Insofar as physical attractiveness facilitates positive evaluations and others' acceptance [8, 9], socially prescribed perfectionists and perfectionistic self-promoters may look to cosmetic surgery as a means of securing sought-after interpersonal resources (e.g., approval, interest, affection, etc.).

Patients' SOP and nondisplay of imperfection levels were also noticeably higher (but not significantly higher) than controls', with the difference between patients' (M=48.13) and controls' (M=42.75) nondisplay of imperfection appearing especially prominent and approaching statistical significance. Non-displayers of imperfection may look to cosmetic surgery to eliminate perceived bodily defects or to reverse age-related changes that are otherwise unalterable or inconcealable. Certain perceived bodily imperfections are not changeable through diet or exercise: No amount of jogging can reshape a bulbous nose. Finally, patients and controls exhibited comparable levels of SOP, suggesting that relentless, self-motivated perfectionistic striving is not typical of patients. Instead, this investigation indicates that socially based dimensions of perfectionism (e.g., perfectionistic self-promotion) are more likely to be observed in patients.

Extreme perfectionism was found to strongly and to significantly increase individuals' likelihood of undergoing cosmetic surgery. At an extreme level, perfectionists' expectations, concern over others' evaluations, self-criticism, and need for others' approval may intensify to the point where perceived bodily imperfections are seen as a distressing problem and cosmetic surgery is viewed as a viable solution. Extreme elevations of perfectionism are also associated with other ways of drastically altering body size and shape such as bodybuilding and anorexia nervosa [11].

Applied considerations

Perfectionism and chronic dissatisfaction go hand and hand. In fact, we assert that dissatisfaction in a perfectionist is more a matter of *when* than a question of *if*. Perfectionists' ceaseless self-scrutiny, unrealistic expectations, and interpersonal sensitivity generate and maintain relationship, career, and body dissatisfaction [4, 5]. Given this strong predisposition toward dissatisfaction, perfectionism may represent a contraindication for cosmetic surgery [2, 3]. Perfectionistic tendencies (e.g., faultfinding, self-criticism, etc.) may eventually transform an aesthetically successful operation (from the surgeon's perspective) into a distressing perceived failure (from the patient's viewpoint). In fact, perfectionists frequently turn objective successes into devastating failures [13]. At a minimum, cosmetic surgeons should be mindful that a satisfied perfectionist is like a shooting star—something that is rarely seen and unlikely to last for long.

Perfectionism may also impede the development of a stable, positive working alliance between the surgeon and the patient. Demandingness, hostility, and conflict are often observable in perfectionists' interactions, and both spouses and psychologists report difficulty in forming positive connections with perfectionists [12]. Overall, it is not inconceivable that the chronic dissatisfaction and the relational disharmony characteristic of perfectionists may result in a conflict-ridden, potentially litigious, surgeon-patient relationship [3].

Limitations and future directions

The novel evidence offered by this investigation should be viewed within the context of its limitations. First, this study examined only women. Future researchers should test whether perfectionism is similarly elevated in male patients. Second, only university students participated in this research. University students may not be representative of the general public. This study should be repeated using a sample of community-dwelling patients and controls. Third, future investigations should ask patients to specify the type of cosmetic surgery they underwent (e.g., rhinoplasty, liposuction, etc.) as well as their motivation for undergoing cosmetic surgery (e.g., a sense of unattractiveness, reconstruction after an accident, etc.). Differentiating types of cosmetic surgery and motivations for cosmetic surgery may reveal a more specific influence of perfectionism dimensions on cosmetic surgery. Fourth, future studies should compare cosmetic surgery patients to selected control groups (e.g., women with anorexia nervosa) to help establish whether perfectionism dimensions are uniquely elevated in cosmetic surgery patients. Fifth, future investigations involving larger samples (and therefore greater statistical power) should study whether nondisplay of imperfection is, in fact, elevated in patients. Lastly, future research should evaluate the role of perfectionism in cosmetic surgery over time. It is possible that cosmetic surgery may increase individuals' desire for perfection. Although the trait-like stability of perfectionism argues against this [4, 5], the long-term impact of cosmetic surgery on perfectionism is presently unknown.

Despite its limitations, this investigation provides the first direct evidence connecting perfectionism to undergoing cosmetic surgery. Such evidence not only corroborates earlier theory linking perfectionism and cosmetic surgery [2, 3] but also highlights the potential role of personality factors in the process of contemplating and undergoing cosmetic surgery.

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