Beauty Matters: Psychological Features of Surgical and Nonsurgical Cosmetic Procedures

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Abstract

Cosmetic surgery and minimally invasive techniques have recently become popular. Noting the compulsive way in which many people approach these procedures, psychoanalytic scholars have conducted several studies to evaluate the possible presence of mental disorders. In this regard, Alessandra Lemma argued that the craving for beauty may hide narcissistic disturbances akin to those identified in Rosenfeld's theory of narcissism, which described two types of narcissists: one thin-skinned, characterized by a sense of inferiority, and the other thick-skinned, characterized by a sense of grandiosity. The aim of this study was to test this hypothesis in an empirical trial by exploring the personality characteristics of people seeking both surgical and nonsurgical cosmetic procedures with a particular emphasis on narcissism. The research sample consisted of 48 participants who were divided into three groups: cosmetic surgery patients (Group 1); individuals who underwent nonsurgical cosmetic treatments (Group 2); and people who had never undergone any cosmetic treatment (Group 3). Minnesota Multiphasic Personality Inventory-2 and Structured Clinical Interview for DSM-IV Axis II Personality Disorders were administered to all of the participants. Results confirmed the presence of two narcissistic profiles, one grandiose and one vulnerable, in both those who underwent cosmetic surgery and those who underwent nonsurgical

cosmetic procedures; there were differences between the two profiles in terms of whether they were personality disorders or traits. The results also showed that individuals who used cosmetic procedures reported more personality pathology and were more distressed than those who had not.

Keywords: beauty, cosmetic surgery, nonsurgical cosmetic procedures, narcissistic disorders

The number of people who use cosmetic procedures to improve their looks is growing. In 2010, Americans spent nearly $10.7 billion on a total of 9.3 million elective surgical and nonsurgical procedures. Thousands of people that year underwent surgical cosmetic procedures, such as breast augmentation (n = 318,123), liposuction (n = 289,016), blepharoplasty (n = 152,123), abdominoplasty (n = 144,929), and breast reduction (n = 138,152), but millions more sought nonsurgical cosmetic treatments, such as Botulinum toxin type A injection (n = 2,437,165), hyaluronic acid injection (n = 1,315,121), laser hair removal (n = 936,270), laser skin resurfacing (n = 562,706), and chemical peels (n = 493,896; Sobanko, Imadojemu, & Miller, 2012). These figures increased almost fivefold since 1997. What is behind this increase? Is it possible to identify a common background to the manifold forms of bodily manipulation?

According to Twenge and Campbell (2009), these questions have only one answer: "Narcissism is on the rise." In their book, *The Narcissism Epidemic: Living in the Age of Entitlement,* Twenge and Campbell investigate whether people born in more recent generations score higher on narcissism measures than people from previous generations. Analyzing data from 15,000 American college students who were administered the Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) before 2006, Twenge and

Campbell found a relationship between the birth year and narcissism score for people filling out the scale; that is, narcissism scores were significantly higher in the 2000s than in the 1980s and 1990s. Twenge and Campbell also identified a number of symptoms or correlates of narcissism in the modern age, including the growing obsession with appearance and the compelling use of cosmetic surgery: "Beauty—they say—has always been a virtue, but lately its pursuit has reached new levels. There is a new standard of vanity, where it's not enough to be beautiful; you have to be hot" (p. 142).

Faces of Narcissism

Narcissism can be seen as the capacity to maintain a relatively positive self-image through a variety of self-, affect-, and field-regulatory processes; narcissism underlies individuals' needs for validation and affirmation and their motivation to (overtly and covertly) seek out self-enhancement experiences from the social environment (Pincus et al., 2009). However, according to a literature review by Pincus and Lukowitsky (2010), this construct still lacks clarity in regard to four characteristics: nature (normal or pathological), phenotype (grandiosity or vulnerability), expression (overt or covert), and structure (category, dimension, or prototype).

Regarding phenotypes, in particular, Pincus and Lukowitsky (2010) highlight that many contemporary clinicians now recognize two broad themes of narcissistic dysfunction, labeled narcissistic grandiosity and narcissistic vulnerability, although *DSM-5* narcissistic personality disorder (NPD) criteria still focus exclusively on only one of the two—grandiosity. Grandiosity is characterized by seething anger, manipulation, pursuit of interpersonal power and control, lack of remorse, exaggerated self-importance, and privilege; vulnerability by depleted self-image, anger, shame, self-criticality, inadequacy, anxiety, depression, suicidality, interpersonal hypersensitivity, and social withdrawal.

Despite all this evidence, the narrowing focus on grandiosity in the DSM-5 NPD

criteria and the fact that patients may not outwardly exhibit vulnerable characteristics can prevent mental health professionals from recognizing both pathological forms of narcissism. Thus, it is important to keep in mind that grandiose self-states can oscillate or co-occur with vulnerable ones (Ronningstam, 2009) and that narcissistic pathology has a negative impact on relationships, creativity, and occupational adjustment. Grandiosity cannot be maintained; in addition, one's vulnerability to shame, helplessness, and depression increases as one's life progresses if one lacks support from admiring others (Horowitz, 2009).

Cosmetic Procedures from a Psychoanalytic Perspective

Over the past two decades, several authors have tried to investigate the psychodynamics of bodily issues, such as body image (Davis, Claridge, & Brewer, 1996; Davis, Claridge, & Cerullo, 1997) and cosmetic surgery (Blum, 2005; Northrop, 2010), by linking these phenomena to narcissism. There is a lack of a comprehensive and systematized psychoanalytic study in this area. Recently, Lemma (2009, 2010a, 2010b), clearly rooted in attachment theory, object relations, and the work of the French analysts, has been the first to propose a clear hypothesis on the use or abuse of cosmetic procedures and a possible relationship to narcissistic pathology.

Lemma (2010a) claimed that the compelling nature of cosmetic procedures and other bodily manipulations for some individuals is based on markedly narcissistic disturbances situated on a broad spectrum. This spectrum is based on the distinction (proposed by Rosenfeld, 1971, 1987) between thick- and thin-skinned narcissism. This distinction corresponds to that between grandiose and vulnerable narcissism, as clearly shown by Pincus and Lukowitsky (2010) who described different phenotypic labels for pathological narcissism reflecting grandiosity and vulnerability. In fact, thick-skinned narcissists are patients "whose narcissistic structure provides them with such a 'thick skin' that they have become insensitive

to deeper feelings .....By contrast, the thin-skinned patients are hypersensitive and easily hurt in everyday life and analysis" (Rosenfeld, 1987, p. 274).

According to Lemma (2010a), thick-skinned narcissists undergo cosmetic procedures in the service of a "reclaiming fantasy" in which they are unconsciously trying to rescue the self from the (m)other experienced as an alienating object, whereas thin-skinned narcissists seek the same procedures to satisfy a "perfect match phantasy" that involves the unconscious creation of a perfect body, which will attract another person's love and desire. The thick-skinned narcissists are more likely to have paranoid anxieties more rigidly identified with a cruel, scrutinizing object. Hence, they can attack their bodies in more violent ways are willing to satiate a "self-made phantasy" by trying to circumvent the mother in an omnipotent way and give birth to their own selves (Lemma, 2010a). In these cases, cosmetic surgery can acquire a maniacal quality, as the patients feel like they are never going to get rid of their cruel objects, which they project onto another part of the body after the procedure, giving rise to a never-ending cycle.

The Current Study

Despite the growing and worrying use of surgical and nonsurgical cosmetic procedures in recent years, little is known about the personality traits linked to these treatments from an empirical point of view. The few existing studies examine the psychological characteristics only of people seeking cosmetic surgery. For example, a study from more than ten years ago found a relationship between perfectionism and cosmetic surgery (Sherry, Hewitt, Lee-Baggley, Flett, & Besser, 2004); a more recent study found narcissism as the most common psychological trait among people undergoing rhinoplasty (Zojaji et al., 2014); another found psychiatric problems in about 51% of those undergoing cosmetic surgery in Iran (Golshani et al., in press). Empirical studies have examined the

psychological characteristics of people seeking both surgical and nonsurgical cosmetic procedures.

Hypotheses

This is the first pilot study to attempt to fill this gap by exploring the personality features not only of individuals undergoing cosmetic surgery (Group 1) but also of people seeking noninvasive cosmetic procedures (Group 2). Similarities and discrepancies between these two types of clients will be discussed, together with similarities and discrepancies between these clients and those in a third group (Group 3) composed of individuals who have never undergone any cosmetic treatment. Particular emphasis will be given to the exploration of narcissistic styles, traits, and disorders.

Our hypotheses are as follows:

1. We expect to find differences between individuals who have used cosmetic procedures (Groups 1 and 2) and those who have not (Group 3), both in qualitative terms (personality disorder or trait vs. no personality disorder or trait) and quantitative terms (higher vs. lower distress).
2. We expect to find similarities between those who underwent cosmetic surgery (Group 1) and those who underwent nonsurgical cosmetic procedures (Group 2) in qualitative terms (personality characteristics and distress) and quantitative terms (personality disorder vs. personality trait and higher vs. lower distress).
3. We expect to find two narcissistic profiles, both in those who underwent cosmetic surgery (Group 1) and in those who underwent nonsurgical cosmetic procedures (Group 2)—a grandiose/exhibitionist/thick-skinned narcissism and a vulnerable/sensitive/thin-skinned narcissism—with differences between the two only in quantitative terms (narcissistic personality disorder vs. narcissistic trait), according to the hypothesis of a spectrum of narcissistic disturbances (Lemma,

2010a) that forms the psychodynamic basis of the need for beauty.

Purpose

The aim of this study is to highlight psychological features characterizing both surgical and nonsurgical cosmetic procedures. The aim is not to demonstrate that the pursuit of cosmetic procedures is synonymous with pathology, but to help doctors understand the importance of the unconscious meaning of cosmetic procedures for the individuals who request them so that these doctors will not hesitate to send patients to expert psychotherapists for evaluation if the patients show basic needs that cosmetic interventions will never satisfy.

Method

Participants

The sample consisted of 48 adults (ages 19 to 57, education middle school to degree level), recruited by posting announcements at universities, beauty salons, and gyms; participants were selected based on their similarity in every way except for their exposure to cosmetic procedures (surgical, nonsurgical, or no procedure). Of these participants, 18 were single (37.5%), eight were in a relationship (16.75%), 17 were married (35.4%), and five were separated or divorced (10.4%). For more information regarding the marital status and education of each group, see Supplementary Tables 1 and 2.

More specifically, Group 1 consisted of 16 adults (eight males and eight females with an average age of 33) who had undergone cosmetic surgery. Among these, two (12.5%) had gynecomastia, two liposuction of the buttocks (12.5%), two breast augmentation (12.5%), three liposuction and breast augmentation (18.8%), two otoplasty (12.5%), three rhinoplasty (18.8%), and two hair transplantation (12.5%). The 16 participants in this group spent an average of almost three hours per week at the gym.

Group 2 consisted of 16 adults (eight males and eight females with an average age of 30) who had undergone various nonsurgical cosmetic procedures (at an average frequency of

twice per week). Among these, one underwent aesthetic cavitation (6.3%), five had laser hair removal (31.3%), one had laser hair removal and hyaluronic acid fillers (6.3%), one had fillers (6.3%), one had cellulite treatments and fillers (6.3%), one had lymphatic drainage massages (6.3%), four had anticellulite treatments (25%), and two had dermatological treatments for acne (12.5%). The participants in this group undertook strenuous physical activity for an average of five hours per week to improve their bodily appearance.

Group 3 consisted of 16 adults (eight males and eight females with an average age of 30) who had never undergone a surgical or nonsurgical cosmetic procedure. None of them engaged in strenuous physical exercise except for one, who swam four hours per week.

After reading the description of the study, the participants gave their written informed consent. The local ethics committees approved the study.

Measures

An independent research interviewer, experienced in the use of these instruments for mental disorders, administered two tests: the Minnesota Multiphasic Personality Inventory-2 (MMPI-2) and the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II). MMPI-2 and SCID-II were chosen for this study for different reasons:

1. The complexity of the narcissistic spectrum itself, as it is still controversial in the international scientific community, making it very difficult to measure (Ronningstam, 2011).
2. The inadequacy of the existing tests to evaluate the spectrum of narcissistic disturbances at the time of the study (Pincus and Lukowitsky (2010).
3. Several empirically supported MMPI-2-derived narcissism measures covering both grandiose and vulnerable subtypes of pathological narcissism (Morey, Waugh, & Blashfield, 1985; Rathvon & Holstrom, 1996; Wink, 1991).

The MMPI-2 (Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989) is a self-report questionnaire used to assess personality traits and clinical disorders, consisting of 567 items in a true/false format. Ten clinical scales were used: hypochondriasis, depression, hysteria, psychopathic deviate, masculinity–femininity, paranoia, psychasthenia, schizophrenia, mania, and social introversion. Additional validity, supplementary, and content scales used to improve the interpretability of the clinical scales (i.e., to ensure that the test-taker was truthful and that he or she answered cooperatively and not randomly). There is a short form of the test comprising the first 370 items on the long-form MMPI-2 and a version for adolescents aged 14 to 18 (MMPI-A). Recently, Ben-Porath and Tellegen (2008) developed an updated 338-item form. When the current study was conducted, this version was not yet available in our country. The reliability and validity of the MMPI-2 are described as good, with median split-half reliability coefficients in the 0.70 to 0.80 range and median test-retest coefficients running in the 0.80 to 0.90 range (Butcher et al., 2001).

The SCID-II (First, Gibbon, Spitzer, Williams, & Benjamin, 1997) is a semistructured interview for making DSM-IV Axis II (personality) diagnoses. It is a two-stage process consisting of a questionnaire with 119 items and an interview. Each item answered with a "yes" in the questionnaire is further explored in the subsequent interview and evaluated as to whether the criteria for a personality disorder are met. The SCID-II is currently being revised and updated; these changes are expected to be finalized in late 2015; however, given that the personality disorders in DSM-5 were unchanged from those in DSM-IV, the current instrument was deemed suitable to assess them. The reliability and validity of SCID-II are described as good, with the interrater reliability kappa coefficient ranging from 0.48 to 0.98 and internal consistency coefficients ranging from 0.71 to 0.94 (First & Gibbon, 2004).

Procedures

Regarding the first test administered, the MMPI-2, an analysis of variance procedure was preliminarily applied to verify significant differences based on gender and level of education in the MMPI-2 scales and to check if the average scores of the three groups were significantly different after evaluating the validity of each test. Then, a Bonferroni post hoc test was performed for every MMPI-2 scale in order to understand which groups differed significantly from the others. The next section will only show the results for the scales in which ANOVA revealed a significant statistical difference ($p < 0.05$). Each scale included Fisher's value (F)—its significance, degrees of freedom, mean (M), and standard deviation (SD)—and the difference between the average scores obtained with the Bonferroni test in terms of significance and effect size, as measured with Cohen's d.

Regarding the second test administered, the SCID-II, a qualitative analysis was conducted because the variables were nominal. Then, through a contingency table, the variables for the group and presence or absence of personality disorders were compared to determine differences in distribution. It was not possible to evaluate the statistical significance of the configuration in the contingency table through a chi-square test, as six cells (66.7%) had an expected frequency of less than 5, the minimum threshold for calculating this coefficient. A dimensional approach was used to analyze data when the minimum threshold for a diagnosis of personality disorder was not satisfied but personality traits were identified (i.e., when SCID-II items coded with score of 3 were close to but did not reach the minimum threshold for the diagnosis of personality disorder, thus representing a specific trait of that individual).

Finally, a specific group analysis was performed to highlight the personality traits or disorders present in every participant, and the participants were then divided into two new groups: Group N, comprising those showing narcissistic personality disorder or narcissistic traits, and Group D, comprising those showing depressive personality disorder or depressive

traits. This was in accordance with the techniques used in the literature (Morey et al., 1985; Rathvon & Holmstrom, 1996; Wink, 1991) to isolate the two narcissistic factors (grandiosity/exhibitionism and vulnerability/sensitivity) by analyzing statistically significant differences in MMPI-2 scales between groups through ANOVA. For more information about the characteristics of Groups N and D, see Supplementary Table 3.

All analyses were conducted using version 19 of the Statistical Package for Social Sciences software.

Results

MMPI-2

All the MMPI-2 questionnaires were reliable and valid (Supplementary Table 4). Supplementary Tables 5 and 6 reported other preliminary analyses for checking possible covariates (such as gender and level of education).

Clinical scales. Significant differences have been highlighted among Groups 1, 2, and 3 in several MMPI-2 Scales. The most important differences emerged from clinical scales (Table 1). First, on the Depression Scale, post hoc comparisons showed that the participants in Group 1 had a significantly higher score than those in Group 3 with a Bonferroni score of 11.50 ($p = 0.04$; $d = 0.82$); however, Group 1 and Group 2 were not found to differ in personality features, such as sadness, lack of hope, and dissatisfaction.

Second, on the Psychopathic Deviation Scale, post hoc comparisons showed a significant difference between Group 1 and Group 2 with a Bonferroni score of 16.62 ($p < 0.001$; $d = 1.61$), and between Group 1 and Group 3 with a Bonferroni score of 22.62 ($p = 0.000$, $d = 2.22$), which means that only Group 1 seemed to have the following personality features: inability to profit from experiences, lack of deep emotional responses, feelings of boredom and emptiness, and a tendency to project responsibility for problems onto others.

Third, on the Hypomania Scale, there was a significant difference between Group 1 and Group 3 with a Bonferroni score of 12.56 ($p = 0.04$; $d = 1.02$), highlighting that Group 1 was more prone to externalization of irritability, manic grandiosity, and misuse of energy in a manner inappropriate to achieving objectives.

Fourth, on the Paranoia Scale, there was a statistically significant difference among the three groups. Specifically, there were significant discrepancies between Group 1 and Group 3 with a Bonferroni score of 12.93 ($p = 0.001$; $d = 1.43$), demonstrating that Group 1 had a tendency to proclaim high moral virtues, have easily hurt feelings, deny suspicion, and complain about the faults of others. No significant differences were found between Group 1 and Group 2.

Other scales. Other significant differences among Groups 1, 2, and 3 were highlighted in some content scales, such as in the Anxiety Scale, in the Family Problems Scale, and in the Work Interference Scale, thus indicating the presence of: a) anxiety and negative attitudes toward work in cosmetic surgery patients; b) severe family conflicts, including child abuse in some cases, among participants in Groups 1 and 2 (Table 2).

Similarly, significant differences among Groups 1, 2, and 3 were highlighted in a few supplementary scales, such as in the Addiction Admission Scale and in the Marital Distress Scale, thus revealing the presence of: a) alcohol or drug abuse in Group 1; b) marital difficulties in Group 1 and (partially) in Group 2 (Supplementary Table 7).

SCID-II

For the SCID-II, the contingency table showed that in Group 1, 10 participants presented a personality disorder, two showed personality traits, and four did not present any personality disorder or trait; in Group 2, one participant presented a personality disorder, five showed personality traits, and 10 did not present any personality disorder or trait; in Group 3, none of the 16 participants presented a personality disorder or trait (Table 3).

In more detail, Group 1 had five (31.3%) participants with a narcissistic personality disorder, four (25%) without any personality disorder or trait, two (12.5%) with depressive personality disorder, one (6.3%) with borderline personality disorder, one (6.3%) with histrionic personality disorder, one (6.3%) with passive-aggressive personality disorder, one (6.3%) with depressive traits that did not reach the minimum threshold for the diagnosis of personality disorder, and one (6.3%) with passive-aggressive traits that did not reach it.

Group 2 had 10 (62.5%) participants without any personality disorder or trait, two (12.5%) with narcissistic traits that did not reach the minimum threshold for the diagnosis of personality disorder, two (12.5%) with depressive traits that did not reach it, one (6.3%) with paranoid traits that did not reach it, and one (6.3%) with a narcissistic personality disorder.

No one in Group 3 presented any personality disorder or trait.

MMPI-2 Narcissism Profiles

Based on ANOVA and effect size (Table 4), statistically significant differences in MMPI-2 scales appeared between Group N (those showing narcissistic personality disorder or narcissistic traits) and Group D (those showing depressive personality disorder or depressive traits), thus revealing two narcissistic profiles: one grandiose/exhibitionist and one vulnerable/sensitive (Figures 1 and 2).

In greater detail, on the Depression, Social Introversion, Anxiety, and Low Self-Esteem Scales, Group D had mean scores significantly higher than that of Group N. On the Hypomania and Type A Scale, Group N had mean scores significantly higher than that of Group D.

Discussion

The aim of the present study was to highlight psychological features of three groups of individuals: those who underwent cosmetic surgery, those who underwent non-invasive cosmetic treatments, and those who had never received any cosmetic treatments in their

lifetime. This was based on the main hypothesis that those undergoing cosmetic surgery and those undergoing nonsurgical cosmetic procedures were similar to each other but different from others in terms of both personality characteristics and distress. The findings seem to support our hypothesis, but are limited mostly in that the instruments used for the study suggest the need for future research in this area.

Differences Between Individuals Undergoing Surgical and Nonsurgical Cosmetic Proceduresand Individuals Not Doing Either

Individuals who have used surgical or nonsurgical cosmetic procedures differed from those who had never had cosmetic treatments in both qualitative and quantitative terms. Those undergoing cosmetic procedures showed various personality pathologies on the SCID-II (in the forms of personality disorders or traits) and were more distressed on the MMPI-2, as compared to those not undergoing cosmetic treatments, who did not show any personality disorder or trait and were less distressed. Moreover, as shown by their higher scores on the MMPI-2 Negative Treatment Indicators Scale, those who had used cosmetic procedures seemed to have more difficulty than those who had never had cosmetic treatments in asking for and accepting professional help because of the belief that no one could help them or solve their problems.

Similarities and Differences Between Individuals Undergoing Cosmetic Surgery and Individuals Undergoing Nonsurgical Cosmetic Procedures

Those undergoing cosmetic surgery and those undergoing nonsurgical cosmetic procedures were very similar in qualitative terms and slightly different in quantitative terms. In greater detail, two psychological features emerged from both groups. The first feature was characterized by a SCID-II diagnosis of narcissistic personality disorder (cosmetic surgery

patients) or narcissistic traits (nonsurgical cosmetic procedures individuals) and by higher scores on the MMPI-2 Hypomania Scale, revealing superficiality in interpersonal relationships, amorality, denial of shyness or social anxiety, self-centeredness, and attention and affection sought through indirect or tortuous means. The second feature was characterized by a SCID-II diagnosis of depressive personality disorder (cosmetic surgery patients) or depressive traits (nonsurgical cosmetic procedures individuals) and by higher scores on the MMPI-2 Depression, Social Introversion, and Anxiety Scales, revealing excessive concerns about the body, pessimism, rumination, gloomy mood, dissatisfaction with their own lives, and difficulty accepting criticism.

We also found some significant differences between those undergoing cosmetic surgery and those undergoing nonsurgical cosmetic procedures regarding some MMPI-2 scales, such as the Psychopathic Deviation Scale and the Work Interference Scale, revealing that cosmetic surgery patients had less control of deep emotional responses, less capacity for internalizing social rules, and more negative attitudes towards their jobs and careers, as compared to those who underwent nonsurgical cosmetic procedures. However, these differences may not be explained by a difference between the two groups, because there were more grandiose/exhibitionist/thick-skinned narcissists in the cosmetic surgery group than in the nonsurgical cosmetic procedures one, leading individuals in the cosmetic surgery group to higher mean scores on the Psychopathic Deviation Scale. This evidence will be discussed below in more detail.

Narcissistic Profiles in Individuals Undergoing Cosmetic Surgery and Individuals Undergoing Nonsurgical Cosmetic Procedures

Both those undergoing cosmetic surgery and those undergoing nonsurgical cosmetic procedures seemed to have psychological features corresponding to grandiose/exhibitionist and vulnerable/sensitive narcissistic subtypes found in the literature (Pincus & Lukowitsky

(2010). According to the literature (Morey et al., 1985; Rathvon & Holmstrom, 1996; Wink, 1991), in fact, two narcissistic features have been derived from MMPI-2 scales: a grandiose/exhibitionist subtype, positively correlated with the Hypomania Scale, and a vulnerable/sensitive subtype, positively correlated with the MMPI-2 Depression, Social Introversion, and Anxiety Scales. Both subtypes also had positive correlations with the MMPI-2 Psychopathic Deviation and Paranoia Scales, confirming previous findings (Morey et al., 1985; Rathvon & Holmstrom, 1996; Wink, 1991). As noted in the introduction to this paper, these two narcissistic profiles correspond to Rosenfeld (1971, 1987)'s thick- and thin-skinned narcissists described by Rosenfeld.

A Narcissistic Spectrum Behind Surgical and Nonsurgical Cosmetic Procedures

The personological similarities between those undergoing cosmetic surgery and those undergoing nonsurgical cosmetic procedures suggest the presence of a common narcissistic background, which, in some cases, took the form of a personality disorder that was debilitating, persistent, and pathological to the extent that the individual enacted an elective surgical procedure with known risks (cosmetic surgery patients). In other cases, this narcissism took the form of milder personality traits that could have played a part in making the individual choose less radical aesthetic shortcuts (nonsurgical cosmetic procedures individuals). Taken together, all these findings seemed to support Lemma (2010a), who hypothesized a spectrum of narcissistic disturbances behind the need for beauty.

Limits of the Study and Directions for Future Research

This study had several limits. Firstly, it was a pilot study, and the sample was very small, leading to some caution in interpreting the data, especially regarding the Bonferroni test, which can indicate false positives (although the Bonferroni scores in this study were confirmed by effect-size scores). Secondly, some critical issues related to the tests used in this study have important theoretical and psychometric consequences. For example, the

MMPI-2 does not include specific scales for the assessment of narcissistic personality disorder, so this disorder must be inferred from different dimensions according to the literature (Morey et al., 1985; Rathvon & Hormstrom, 1996; Wink, 1991). The SCID-II, for its part, shows poor test-retest reliability at intervals longer than six weeks, and, more importantly, allows for the evaluation of only the grandiose (thick-skinned) narcissist subtype, losing sight of the vulnerable (thin-skinned) subtype, whose characteristics are very similar to those with depressive personality disorder, making our inferences questionable.

However, this study can be considered a good starting point for investigating this fascinating field. Particularly, it would be interesting to replicate the results using more specific tests, suitable for measuring both the grandiose and the vulnerable sides of narcissism. One such test is the Pathological Narcissism Inventory (PNI; Pincus et al., 2009), a 52-item self-report measure that needs a very short time for administration (12 minutes), thus raising the possibility of opening the research to a larger sample. That would be necessary to gather reliable and generalizable results; at the time of the current study, the Italian validation of PNI (Fossati, Feeney, Pincus, Borroni, & Maffei, 2014) was still ongoing.

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Supplementary Table 1

Means, Standard Deviations of Age and Marital Status in Groups 1, 2, and 3

Group	Age	Single	In a Relationship	Married	Divorced/Separated
	M (*SD*)				
1	33 (9.27)	7 (44%)	2 (12%)	3 (19%)	4 (25%)
2	30 (6.74)	8 (50%)	1 (6%)	6 (38%)	1 (6%)
3	30 (10.11)	3 (19%)	5 (31%)	8 (50%)	0 (0%)

Note. N = 48; Group 1= Cosmetic surgery patients (*n* = 16); Group 2 = People who had undergone nonsurgical cosmetic procedures (*n* = 16); Group 3 = People who had never undergone any surgical or nonsurgical cosmetic procedure (*n* = 16).

Supplementary Table 2

Level of Education in Groups 1, 2, and 3

Group	Middle School Level	High School Level	University Level
1	4 (25%)	8 (50%)	4 (25%)
2	0 (0%)	12 (75%)	4 (25%)
3	2 (13%)	11 (68%)	3 (19%)

Note. N = 48; Group 1= Cosmetic surgery patients (*n* = 16); Group 2 = People who had undergone nonsurgical cosmetic procedures (*n* = 16); Group 3 = People who had never undergone any surgical or nonsurgical cosmetic procedure (*n* = 16).

Supplementary Table 3

Means, Standard Deviations of Age, Marital Status, Level of Education, and Source Group in Groups N and D

Variable	Group N[a]	Group D[b]
Age		
M (SD)	30.50 (8.71)	33.40 (9.04)
Marital Status		
Single	50.0%	40%
In Relationship	25.0%	0%
Married	12.5%	40%
Divorced/Separated	12.5%	20%
Level of Education[c]		
MSL	12.5%	20%
HSL	75.0%	40%
UL	12.5%	40%
Source Group		
Group 1	75%	60%
Group 2	25%	40%
Group 3	0%	0%

Note. N= 13; [a]Group N = People showing narcissistic personality disorder or narcissistic traits (*n*= 8); [b]Group D = People showing depressive personality disorder or depressive traits (*n*= 5).
[c]MSL = Middle School Level; HSL = High School Level; UL = University Level.

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Supplementary Table 4

Means and Standard Deviations of Validity Scales in Groups 1, 2, and 3

Group	L	F	Fb	K	VRIN	TRIN
	M (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)	*M* (*SD*)
1	50.31 (7.29)	63.88 (11.55)	61.94 (13.53)	47.06 (3.85)	57.06 (11.57)	52 (13.65)
2	50.94 (4.82)	56.31 (7.08)	51.13 (5.57)	48.19 (6.25)	53.81 (9.08)	47.25 (11.16)
3	54.56 (9.33)	48.19 (4.44)	45.69 (3.86)	52.94 (6.12)	44.63 (9.43)	50.44 (5.63)

Note. N = 48; Group 1= Cosmetic surgery patients (*n* = 16); Group 2 = People who had undergone nonsurgical cosmetic procedures (*n* = 16); Group 3 = People who had never undergone any surgical or nonsurgical cosmetic procedure (*n* = 16).
L = Lie Scale; F = Infrequency Scale; Fb = Back-page Infrequency F Scale; K = Correction-Defensiveness Scale; VRIN = Variable Response Inconsistency Scale; TRIN = True Response Inconsistency Scale.

Supplementary Table 5

ANOVA With Fischer's F of MMPI-2 Scales Based on Level of Education

Variable[a]	MSL	HSL	UL	*F*	*p*
	M (SD)	*M (SD)*	*M (SD)*		
Hs	58.50 (13.23)	53.23 (10.51)	50.55 (8.73)	0.36	0.69
D	54.33 (18.56)	54.84 (12.58)	58.36 (13.98)	0.29	0.74
Hy	47.50 (14.57)	48.77 (9.29)	51.55 (8.19)	0.43	0.65
Pd	63.83 (14.26)	58.65 (13.96)	57.27 (11.15)	1.10	0.34
Mf	47.17 (16.49)	50.68 (12.30)	51.00 (10.78)	0.21	0.80
Pa	59.50 (7.25)	53.58 (11.66)	52.64 (9.14)	0.89	0.41
Pt	36.50 (18.75)	50.48 (12.38)	50.64 (12.35)	2.94	0.06
Sc	59.33 (9.64)	53.74 (10.27)	52.00 (9.55)	1.07	0.35
Ma	58.67 (7.73)	51.35 (15.90)	48.91 (14.25)	0.86	0.42
Si	57.33 (12.75)	55.84 (11.29)	55.36 (9.25)	0.06	0.93
Anx	53.33 (11.86)	55.00 (8.26)	54.91 (10.61)	0.08	0.92
Frs	49.33 (13.17)	49.32 (16.23)	52.73 (9.46)	0.22	0.79
Obs	50.83 (9.17)	49.03 (13.04)	50.64 (5.93)	0.11	0.88
Dep	54.67 (11.13)	52.58 (9.56)	53.27 (8.93)	0.12	0.88
Hea	59.33 (7.60)	52.52 (10.15)	48.82 (8.32)	0.75	0.47
Biz	57.67 (7.50)	50.42 (14.69)	51.00(7.23)	0.82	0.44
Ang	52.50 (14.03)	52.23 (12.72)	47.91 (8.86)	0.54	0.58
Cyn	55.33 (11.11)	54.81 (10.40)	49.09 (9.44)	1.35	0.26
Asp	57.83 (13.30)	56.71 (13.64)	51.64 (11.4)	0.69	0.50
Tpa	52.00 (13.25)	52.06 (9.55)	48.27 (8.74)	0.62	0.54
Lse	55.00 (16.82)	49.84 (9.93)	52.09 (8.57)	0.66	0.52

Sod	59.83 (16.71)	55.58 (12.33)	57.91 (11.01)	0.35	0.70
Fam	70.33 (15.82)	54.06 (22.90)	51.91 (20.71)	1.61	0.21
Wrk	57.77 (13.70)	52.16 (8.28)	52.92 (9.58)	0.87	0.42
Trt	58.50 (9.81)	53.55 (14.11)	54.73 (8.08)	0.39	0.67
MAC-R	58.33 (13.54)	50.97 (16.61)	45.64 (11.21)	1.36	0.26
APS	41.17 (6.17)	43.39 (8.16)	44.18 (9.42)	0.26	0.76
AAS	60.67 (14.74)	56.61 (12.26)	56.64 (12.05)	0.27	0.76
PSTD	54.67 (10.53)	53.52 (9.66)	52.55 (8.49)	0.09	0.90
O-H	44.50 (8.50)	51.55 (7.20)	50.91 (8.50)	2.14	0.12
MDS	60.83 (17.29)	56.97 (13.8)	56.09 (10.31)	0.25	0.77

Note. $N = 48$; MSL = Middle School Level ($n = 6$); HSL = High School Level ($n = 31$); UL = University Level ($n = 11$).
[a]Hy = Hypochondriasis Scale; D = Depression Scale; Hy = Hysteria Scale; Pd = Psychopathic Deviation Scale; Mf = Masculinity/Femininity Scale; Pa = Paranoia Scale; Pt = Psychasthenia Scale; Sc = Schizophrenia Scale; Ma = Hypomania Scale; Si = Social Introversion Scale; Anx = Anxiety Scale; Frs = Fears Scale; Obs = Obsessiveness; Dep = Depression Scale; Hea = Health Concerns Scale; Biz = Bizzarre Mentation Scale; Ang = Anger Scale; Cyn = Cynicism Scale; Asp = Antisocial Practices Scale; Tpa = Type-A Scale; Lse = Low Self-Esteem Scale; Sod = Social Discomfort Scale; Fam = Family Problems Scale; Wrk = Work Interference Scale; Trt = Negative Treatment Scale;. MAC-R = MacAndrew Revised Scale; APS = Addiction Potential Scale; AAS = Addiction Admission Scale; PSTD = Post-Traumatic Stress Disorder Scale; O-H = Overcontrolled Hostility Scale; MDS = Marital Distress Scale.
*$p < .05$.** $p < .01$. *** $p < .001$.

Supplementary Table 6

ANOVA With Fischer's F of MMPI-2 Scales Based on Gender

Variable[a]	Male	Female	*F*	*p*
	M (SD)	*M (SD)*		
Hs	54.58 (11.79)	49.96 (8.32)	2.46	0.12
D	52.54 (12.45)	58.63 (14.03)	2.52	0.11
Hy	49.42 (10.35)	49.08 (9.18)	0.01	0.97
Pd	58.92 (15.86)	59.79 (10.86)	0.05	0.82
Mf	51.13 (12.27)	49.5 (12.57)	0.20	0.65
Pa	53.83 (10.62)	54.38 (11.01)	0.03	0.86
Pt	49.46 (12.57)	48.08 (15.12)	0.11	0.73
Sc	53.33 (11.17)	54.75 (9.00)	0.23	0.63
Ma	54.96 (16.22)	48.46 (12.75)	2.38	0.13
Si	54.54 (10.26)	57.29 (11.42)	0.77	0.38
Anx	54.96 (7.69)	54.58 (10.49)	0.02	0.88
Frs	51.38 (13.29)	48.83 (15.64)	0.36	0.54
Obs	49.21 (13.03)	50.04 (9.30)	0.06	0.80
Dep	52.71 (8.34)	53.29 (10.58)	0.04	8.83
Hea	54.17 (10.27)	48.38 (7.76)	4.85*	0.03
Biz	53.42 (12.58)	49.5 (12.73)	1.14	0.28
Ang	55.58 (12.53)	46.96 (9.96)	6.96**	0.01
Cyn	56.25 (10.51)	50.88 (9.68)	3.39	0.72
Asp	57.75 (12.96)	53.63 (13.08)	1.2	0.27
Tpa	54.50 (10.46)	47.88 (7.95)	6.09**	0.01
Lse	50.21 (9.37)	51.79 (11.81)	0.26	0.61

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Sod	53.29 (11.43)	60.00 (12.75)	3.68	0.06
Fam	58.46 (23.29)	52.75 (20.77)	0.80	0.37
Wrk	53.29 (6.51)	52.75 (11.59)	0.04	0.84
Trt	53.63 (14.35)	55.21 (10.35)	0.18	0.67
MAC-R	53.63 (15.60)	47.71 (14.84)	1.81	0.18
APS	43.75 (8.49)	42.83 (7.93)	0.14	0.70
AAS	57.38 (12.84)	56.88 (12.06)	0.01	0.89
PSTD	54.13 (8.59)	52.75 (10.15)	0.25	0.61
O-H	49.00 (7.33)	52.04 (8.20)	1.83	0.18
MDS	57.50 (12.92)	57.00 (14.02)	0.01	0.89

Note. $N = 48$; Male $n = 24$; Female $n = 24$.
[a]Hy = Hypochondriasis Scale; D = Depression Scale; Hy = Hysteria Scale; Pd = Psychopathic Deviation Scale; Mf = Masculinity/Femininity Scale; Pa = Paranoia Scale; Pt = Psychasthenia Scale; Sc = Schizophrenia Scale; Ma = Hypomania Scale; Si = Social Introversion Scale; Anx = Anxiety Scale; Frs = Fears Scale; Obs = Obsessiveness; Dep = Depression Scale; Hea = Health Concerns Scale; Biz = Bizzarre Mentation Scale; Ang = Anger Scale; Cyn = Cynicism Scale; Asp = Antisocial Practices Scale; Tpa = Type-A Scale; Lse = Low Self-Esteem Scale; Sod = Social Discomfort Scale; Fam = Family Problems Scale; Wrk = Work Interference Scale; Trt = Negative Treatment Scale; MAC-R = MacAndrew Revised Scale; APS = Addiction Potential Scale; AAS = Addiction Admission Scale; PSTD = Post-Traumatic Stress Disorder Scale; O-H = Overcontrolled Hostility Scale; MDS = Marital Distress Scale.
*$p < .05$.** $p < .01$. *** $p < .001$.

Supplementary Table 7

ANOVA With Fisher's F, Multiple Comparison With Bonferroni Test, and Effect Size (Cohen's d) of MMPI-2 Supplementary Scales in Groups 1, 2, and 3

Variable[a]	Group1	Group2	Group3	*F*	(I) Sample	(J) Sample	Mean Differences (I-J)	*SE*	Cohen's *d*
	M (SD)	*M (SD)*	*M (SD)*						
MAC-R	55.69 (15.25)	47.00 (18.92)	49.31 10.24	1.39	Group 1	Group 2	8.68	5.38	
						Group3	6.37		
					Group 2	Group 1	-8.68		
						Group 3	-2.31		
					Group 3	Group 1	-6.37		
						Group 2	2.31		
APS	48.19 (9.62)	39.38 (5.21)	42.31 (6.65)	5.86**	Group 1	Group 2	8.81**	2.62	1.13
						Group3	5.87		0.70
					Group 2	Group 1	-8.81**		
						Group 3	-2.93		
					Group 3	Group 1	-5.87		
						Group 2	2.93		
AAS	67.81 (12.00)	54.50 (7.57)	49.06 (8.72)	16.09***	Group 1	Group 2	13.31***	3.40	1.32
						Group3	18.75**		1.78
					Group 2	Group 1	-13.31***		
						Group 3	5.43		
					Group 3	Group 1	-18.75**		
						Group 2	-5.43		
PSTD	60.81 (9.53)	54.19 (5.36)	45.31 (4.92)	20.17***	Group 1	Group 2	6.62**	2.44	0.85
						Group3	15.50***		2.04
					Group 2	Group 1	-6.62**		
						Group 3	8.87**		1.76
					Group 3	Group 1	-15.50***		
						Group 2	-8.87**		
O-H	47.38 (7.14)	51.13 (6.36)	53.06 (9.13)	2.29	Group 1	Group 2	-3.75	2.70	
						Group3	-5.68		
					Group 2	Group 1	3.75		
						Group 3	-1.93		
					Group 3	Group 1	5.68		
						Group 2	1.93		
MDS	67.94 (10.79)	58.06 (9.96)	45.75 (8.87)	20.14***	Group 1	Group 2	9.87**	3.50	0.95
						Group3	22.18***		2.24

Group 2	Group 1	-9.87**	
	Group 3	12.31**	1.30
Group 3	Group 1	-22.18***	
	Group 2	-12.31**	

Note. $N = 48$; Group 1= Cosmetic surgery patients ($n = 16$); Group 2 = People who had undergone nonsurgical cosmetic procedures ($n = 16$); Group 3 = People who had never undergone any surgical or nonsurgical cosmetic procedure ($n = 16$).
[a]MAC-R = MacAndrew Revised Scale; APS = Addiction Potential Scale; AAS = Addiction Admission Scale; PSTD = Post-Traumatic Stress Disorder Scale; O-H = Overcontrolled Hostility Scale; MDS = Marital Distress Scale.
*$p < .05$.** $p < .01$. *** $p < .001$.

Table 1

ANOVA With Fisher's F, Multiple Comparison With Bonferroni Test, and Effect Size (Cohen's d) of MMPI-2 Clinical Scales in Groups 1, 2, and 3

Variable[a]	Group1	Group2	Group3	*F*	(I) Sample	(J) Sample	Mean Differences (I-J)	*SE*	Cohen's *d*
	M (SD)	*M (SD)*	*M (SD)*						
Hs	56.44 (14.62)	51.88 (7.52)	58.50 (5.68)	2.51	Group 1	Group 2	4.56	3.55	
						Group3	7.93		
					Group 2	Group 1	-4.75		
						Group 3	3.37		
					Group 3	Group 1	-7.93		
						Group 2	-3.37		
D	61.56 (18.83)	55.13 (10.50)	50.06 (5.77)	3.20*	Group 1	Group 2	6.43	4.55	
						Group3	11.50*		0.82
					Group 2	Group 1	-6.43		
						Group 3	5.06		
					Group 3	Group 1	-11.50		
						Group 2	-5.06		
Hy	55.25 (12.40)	48.25 (6.06)	44.25 (6.09)	6.53**	Group 1	Group 2	7.00	3.08	
						Group3	11.00**		1.12
					Group 2	Group 1	-7.00		
						Group 3	4.00		
					Group 3	Group 1	-11.00**		
						Group 2	-4.00		
Pd	72.44 (12.00)	55.81 (8.24)	49.81 (7.89)	24.03***	Group 1	Group 2	16.62***	3.81	1.61
						Group3	22.62***		2.22
					Group 2	Group 1	-16.62***		
						Group 3	6.00		
					Group 3	Group 1	-22.62***		
						Group 2	-6.00		
Mf	47.00 (17.35)	54.94 (8.82)	49.00 (8.82)	1.81	Group 1	Group 2	-7.93	4.27	
						Group3	-2.00		
					Group 2	Group 1	7.93		
						Group 3	5.93		
					Group 3	Group 1	2.00		
						Group 2	-5.93		
Pa	60.19 (10.66)	54.88 (9.56)	47.25 (7.98)	7.54***	Group 1	Group 2	5.31	3.34	
						Group3	12.93***		1.43
					Group 2	Group 1	-5.31		
						Group 3	7.62		

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					Group 3	Group 1	-12.93***		
						Group 2	-7.62		
Pt	50.88	51.44	44.00	1.47	Group 1	Group 2	-0.56	4.82	
	(21.47)	(8.00)	(5.75)			Group3	6.87		
					Group 2	Group 1	0.56		
						Group 3	7.43		
					Group 3	Group 1	-6.97		
						Group 2	-7.43		
Sc	60.50	55.50	46.13	12.53***	Group 1	Group 2	5.00	2.91	
	(10.17)	(7.21)	(6.96)			Group3	14.37***		1.64
					Group 2	Group 1	-5.00		
						Group 3	9.37**		1.32
					Group 3	Group 1	-14.37***		
						Group 2	-9.37**		
Ma	57.88	51.94	45.31	3.14*	Group 1	Group 2	5.93	5.01	
	(13.22)	(17.43)	(11.14)			Group3	12.56*		1.02
					Group 2	Group 1	-5.93		
						Group 3	6.62		
					Group 3	Group 1	-12.56*		
						Group 2	-6.62		
Si	55.75	51.94	45.31	1.41	Group 1	Group 2	-3.43	3.79	
	(13.22)	(17.43)	(11.14)			Group3	2.93		
					Group 2	Group 1	3.43		
						Group 3	6.37		
					Group 3	Group 1	-2.93		
						Group 2	-6.37		

Note. N = 48; Group 1= Cosmetic surgery patients (*n* = 16); Group 2 = People who had undergone nonsurgical cosmetic procedures (*n* = 16); Group 3 = People who had never undergone any surgical or nonsurgical cosmetic procedure (*n* = 16).
[a]Hy = Hypochondriasis Scale; D = Depression Scale; Hy = Hysteria Scale; Pd = Psychopathic Deviation Scale; Mf = Masculinity/Femininity Scale; Pa = Paranoia Scale; Pt = Psychasthenia Scale; Sc = Schizophrenia Scale; Ma = Hypomania Scale; Si = Social Introversion Scale.
*$p < .05$.** $p < .01$. *** $p < .001$.

Table 2

ANOVA With Fisher's F, Multiple Comparison With Bonferroni Test, and Effect Size (Cohen's d) of MMPI-2 Content Scales in Groups 1, 2, and 3

Variable[a]	Group1	Group2	Group3	*F*	(I) Sample	(J) Sample	Mean Differences (I-J)	*SE*	Cohen's *d*
	M (SD)	*M (SD)*	*M (SD)*						
Anx	61.00 (12.39)	53.63 (4.55)	49.69 (3.86)	8.36***	Group 1	Group 2	7.37*	2.80	0.78
						Group3	11.31***		1.23
					Group 2	Group 1	-7.37*		
						Group 3	3.93		
					Group 3	Group 1	-11.31***		
						Group 2	-3.93		
Frs	55.75 (12.15)	48.38 (10.03)	46.19 (6.98)	2.01	Group 1	Group 2	7.37	4.99	
						Group3	9.56		
					Group 2	Group 1	-7.37		
						Group 3	2.18		
					Group 3	Group 1	-9.56		
						Group 2	-2.18		
Obs	51.94 (17.38)	50.06 (7.45)	46.88 (4.70)	0.08	Group 1	Group 2	1.87	3.97	
						Group3	5.06		
					Group 2	Group 1	-1.87		
						Group 3	3.18		
					Group 3	Group 1	-5.06		
						Group 2	-3.18		
Dep	59.50 (10.99)	52.25 (5.22)	47.25 (7.06)	9.19***	Group 1	Group 2	7.25*	2.87	0.84
						Group3	12.25***		1.32
					Group 2	Group 1	-7.25		
						Group 3	5.00		
					Group 3	Group 1	-12.25***		
						Group 2	-5.00		
Hea	54.38 (12.35)	51.31 (8.09)	48.13 (6.49)	1.80	Group 1	Group 2	3.06	3.29	
						Group3	6.25		
					Group 2	Group 1	-3.06		
						Group 3	3.18		
					Group 3	Group 1	-6.25		
						Group 2	-3.18		
Biz	54.63 (6.08)	47.19 (19.17)	52.56 (8.22)	1.49	Group 1	Group 2	7.43	4.43	
						Group3	2.06		

					Group 2	Group 1	-7.43		
						Group 3	-5.37		
					Group 3	Group 1	-2.06		
						Group 2	5.37		
Ang	55.69 (13.63)	52.81 (12.57)	45.31 (6.90)	3.51*	Group 1	Group 2	2.87	4.03	
						Group3	10.37*		0.96
					Group 2	Group 1	-2.87		
						Group 3	7.50		
					Group 3	Group 1	-10.37*		
						Group 2	-7.50		
Cyn	55.50 (10.08)	53.38 (13.00)	51.81 (7.64)	0.50	Group 1	Group 2	2.12	3.70	
						Group3	3.68		
					Group 2	Group 1	-2.12		
						Group 3	1.56		
					Group 3	Group 1	-3.68		
						Group 2	-1.56		
Asp	59.13 (12.15)	56.19 (17.62)	51.75 (6.77)	1.31	Group 1	Group 2	2.39	4.58	
						Group3	7.37		
					Group 2	Group 1	-2.93		
						Group 3	4.43		
					Group 3	Group 1	-7.37		
						Group 2	-4.43		
Tpa	54.19 (12.4)	51.94 (9.88)	47.44 (4.85)	2.06	Group 1	Group 2	2.25	3.38	
						Group3	6.75		
					Group 2	Group 1	-2.25		
						Group 3	4.50		
					Group 3	Group 1	-6.75		
						Group 2	-4.50		
Lse	57.44 (12.53)	50.94 (9.39)	44.63 (4.20)	7.48**	Group 1	Group 2	6.50	3.31	
						Group3	12.81***		1.37
					Group 2	Group 1	-6.50		
						Group 3	6.31		
					Group 3	Group 1	-12.81***		
						Group 2	-6.31		
Sod	55.56 (14.98)	59.38 (13.88)	55.00 (7.52)	0.57	Group 1	Group 2	-3.81	4.44	
						Group3	0.56		
					Group 2	Group 1	3.81		
						Group 3	4.37		

					Group 3	Group 1	-0.56		
						Group 2	-4.37		
Fam	72.06 (13.05)	56.25 (14.05)	38.50 (23.47)	14.72***	Group 1	Group 2	15.81*	6.18	1.16
						Group3	33.56***		1.76
					Group 2	Group 1	-15.81*		
						Group 3	17.75**		0.91
					Group 3	Group 1	-33.56***		
						Group 2	17.75**		
Wrk	60.31 (10.18)	52.06 (6.96)	46.69 (4.31)	13.23***	Group 1	Group 2	8.25**	2.66	0.94
						Group3	13.62***		1.74
					Group 2	Group 1	-8.25**		
						Group 3	5.37		
					Group 3	Group 1	-13.62***		
						Group 2	-5.37		
Trt	59.88 (11.03)	58.06 (6.78)	45.38 (13.47)	8.57***	Group 1	Group 2	1.81	3.81	
						Group3	14.5***		1.17
					Group 2	Group 1	-1.81		
						Group 3	12.68**		1.18
					Group 3	Group 1	-14.5***		
						Group 2	-12.68**		

Note. $N = 48$; Group 1= Cosmetic surgery patients ($n = 16$); Group 2 = People who had undergone nonsurgical cosmetic procedures ($n = 16$); Group 3 = People who had never undergone any surgical or nonsurgical cosmetic procedure ($n = 16$).
[a]Anx = Anxiety Scale; Frs = Fears Scale; Obs = Obsessiveness; Dep = Depression Scale; Hea = Health Concerns Scale; Biz = Bizzarre Mentation Scale; Ang = Anger Scale; Cyn = Cynicism Scale; Asp = Antisocial Practices Scale; Tpa = Type-A Scale; Lse = Low Self-Esteem Scale; Sod = Social Discomfort Scale; Fam = Family Problems Scale; Wrk = Work Interference Scale; Trt = Negative Treatment Scale.
*$p < .05$.** $p < .01$. *** $p < .001$.

Table 3

SCID-II Contingency Table With the Different Distribution of Traits/Presence/Absence of Personality Disorders Variable in the Groups Variable

Variable	Sample		
	Group 1	Group 2	Group 3
Personality disorder	10 (62.5%)	1 (6.3%)	0
Personality traits	2 (12.5%)	5 (31.3 %)	0
No personality disorders	4 (25%)	10 (62.5%)	16 (100%)

Note. $N = 48$; Group 1= Cosmetic surgery patients ($n = 16$); Group 2 = People who had undergone nonsurgical cosmetic procedures ($n = 16$); Group 3 = People who had never undergone any surgical or nonsurgical cosmetic procedure ($n = 16$).

Table 4

ANOVA With Fisher's F and Effect Size (Cohen's d) of MMPI-2 Clinical, Content, and Supplementary Scales in Groups N and D

Variable[a]	Group N	Group D	*F*	*p*	Cohen's *d*
	M (SD)	*M (SD)*			
Hs	51.00 (14.82)	53.00 (10.65)	0.06	0.79	-0.15
D	45.88 (14.82)	72.00 (15.47)	9.25**	0.01	-1.72
Hy	46.63 (10.40)	56.20 (12.39)	2.26	0.16	-0.83
Pd	69.63 (8.71)	70.20 (11.45)	0.01	0.92	-0.05
Mf	48.63 (16.48)	36.40 (16.65)	1.68	0.22	0.73
Pa	56.63 (5.75)	63.60 (10.16)	2.55	0.13	-0.84
Pt	45.13 (14.08)	50.60 (29.58)	0.20	0.65	-0.23
Sc	57.25 (8.79)	63.40 (9.91)	1.37	0.27	-0.68
Ma	71.63 (15.34)	47.80 (7.22)	10.34**	0.00	1.98
Si	47.25 (13.22)	69.60 (8.98)	10.93**	0.00	-1.97
Anx	52.75 (7.00)	64.00 (10.88)	5.24*	0.04	-1.22
Frs	38.75 (24.97)	60.20 (16.20)	2.87	0.11	-1.01
Obs	46.38 (8.55)	60.20 (10.03)	7.07*	0.02	-1.48
Dep	51.75 (8.13)	65.00 (11.64)	5.91*	0.03	-1.31
Hea	51.63 (15.14)	50.60 (4.98)	0.02	0.88	0.09
Ang	64.88 (14.73)	43.00 (7.34)	9.33**	0.00	1.88
Cyn	66.00 (11.53)	47.20 (9.55)	9.22**	0.01	1.77
Asp	74.38 (16.69)	50.40 (8.17)	8.76**	0.01	1.82
Tpa	66.13 (8.80)	44.80 (8.31)	18.77***	0.001	2.49

D'Agostino, A., Aportone, A., Rossi Monti, M., & Lemma, A. (2018). Beauty matters. Psychological features of surgical and nonsurgical cosmetic procedures. *Psychoanalytic Psychology, 35(2),* 244-253.

Lse	47.63 (4.98)	66.80 (13.64)	13.54**	0.00	-1.86
Sod	46.87 (12.75)	71.20 (15.62)	9.46**	0.01	-1.70
Fam	77.63 (14.04)	61.60 (14.02)	4.01*	0.07	1.14
Wrk	52.25 (6.45)	68.00 (11.00)	10.82**	0.00	-1.74
Trt	60.37 (3.11)	67.40 (12.75)	2.32	0.15	-0.75
MAC-R	67.38 (22.76)	39.20 (6.22)	7.10*	0.02	1.68
APS	45.13 (9.74)	42.80 (12.98)	0.13	0.71	0.20
AAS	66.25 (12.15)	65.20 (14.04)	0.02	0.88	0.07
PSTD	57.38 (8.08)	64.00 (9.13)	1.87	0.19	-0.76
O-H	45.00 (4.24)	55.60 (5.07)	16.59**	0.00	-2.26
MDS	67.12 (10.32)	68.60 (14.01)	0.04	0.83	-0.12

Note. N= 13; Group N = People showing narcissistic personality disorder or narcissistic traits (*n*= 8); Group D = People showing depressive personality disorder or depressive traits (*n*= 5).
[a]Hy = Hypochondriasis Scale; D = Depression Scale; Hy = Hysteria Scale; Pd = Psychopathic Deviation Scale; Mf = Masculinity/Femininity Scale; Pa = Paranoia Scale; Pt = Psychasthenia Scale; Sc = Schizophrenia Scale; Ma = Hypomania Scale; Si = Social Introversion Scale; Anx = Anxiety Scale; Frs = Fears Scale; Obs = Obsessiveness; Dep = Depression Scale; Hea = Health Concerns Scale; Biz = Bizzarre Mentation Scale; Ang = Anger Scale; Cyn = Cynicism Scale; Asp = Antisocial Practices Scale; Tpa = Type-A Scale; Lse = Low Self-Esteem Scale; Sod = Social Discomfort Scale; Fam = Family Problems Scale; Wrk = Work Interference Scale; Trt = Negative Treatment Scale; MAC-R = MacAndrew Revised Scale; APS = Addiction Potential Scale; AAS = Addiction Admission Scale; PSTD = Post-Traumatic Stress Disorder Scale; O-H = Overcontrolled Hostility Scale; MDS = Marital Distress Scale.
*$p < .05$.** $p < .01$. *** $p < .001$.

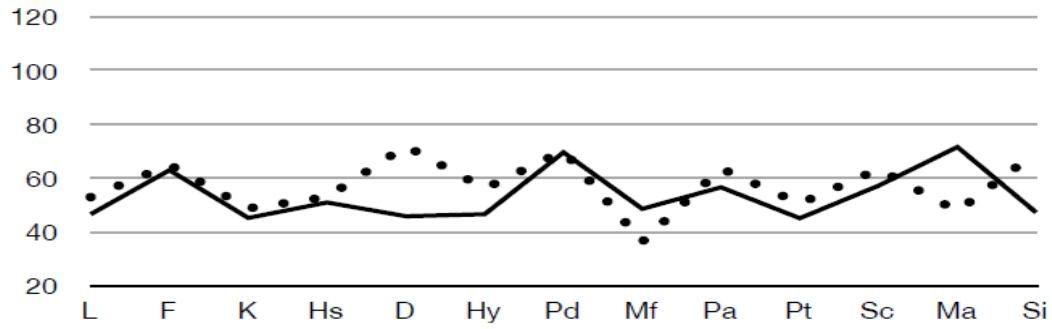

Figure 1. MMPI-2 Profile of the Grandiose and the Vulnerable Narcissistic Subtypes in the Validity and Clinical Scales. Grandiose/Exhibitionist Narcissistic Subtype (Group N: solid line)**.** Vulnerable/Sensitive Narcissistic Subtype (Group D: dotted line).

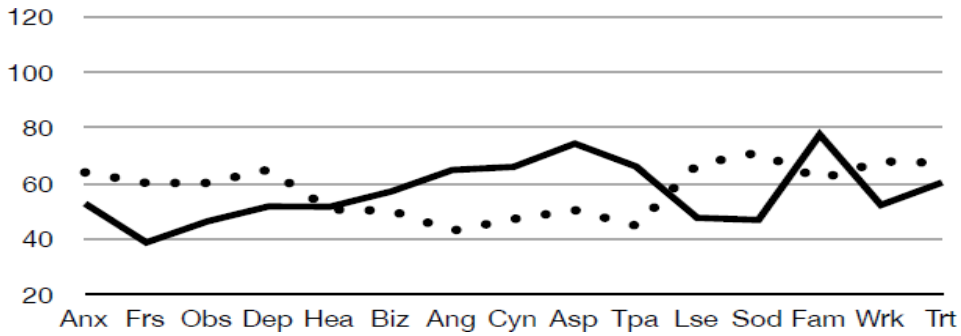

Figure 2. MMPI-2 Profile of the Grandiose Narcissistic Subtype and the Vulnerable Narcissistic Subtype in the Content and Supplementary Scales. Grandiose/Exhibitionist Narcissistic Subtype (Group N: solid line)**.** Vulnerable/Sensitive Narcissistic Subtype (Group D: dotted line).