Prospective study to identify the presence and prevalence of personality traits and other influences relevant to cosmetic surgery interest, patient selection and surgical outcome in a diverse aesthetic surgery practice

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ABSTRACT

The key to a successful cosmetic surgery procedure lies in the selection of the patients. An anonymous voluntary participant study to evaluate whether not very well studied personality traits and secondary influences related to the decision to have cosmetic surgery could be negative predictors for cosmetic surgery patient selection and potentially surgical outcomes was performed. The mean Rosenberg Self-Esteem_Scale score was 35.30 (SD = 4.22), indicating overall, the subjects had high self-esteem. Rosenberg score was 3 units lower for those that reported it would matter if no one thought the results looked good at least a little. There was a statistically significant difference in scores of Rosenberg based on age group. The mean Short Form-12 Mental Component Summary score was 51.93 (SD = 8.99), indicating that overall, the mental health of the subjects in this study may be slightly above the average. Short Form-12 scores were borderline significantly higher by almost two units for those that reported it would matter if no one thought the results looked good. The mean score on Body Image Questionnaire was 52.95 (SD = 5.48), indicating overall, subjects had a moderate level of body satisfaction. There was no statistically significant difference in scores of Body Image Questionnaire. The mean Dependent Personality Questionnaire score was 11.50 (SD = 2.88), indicating overall, subjects had mild to moderate level of dependent personality. Dependent Personality questionnaire yielded a significantly higher score for those that reported it would matter if no one thought the results looked good a little compared to not at all. Dependent Personality Questionnaire was borderline significantly lower for those reporting other race compared to white. The mean Beck's Depression Inventory score was 4.90 (SD = 6.22), indicating overall, subjects had very mild depressive symptoms. When Beck's was converted to a descriptive classification the majority of the subjects were considered to have minimal depression (86%) or normal ups and downs (84%). Beck's was lower by over 5 units for women 31-45 compared to over 46.

Keywords: Cosmetic surgery, aesthetic surgery, personality disorders, self-esteem, body image, RSES, BIQ, BDI, SF-12, DPQ.

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INTRODUCTION

Specifically, 15.6 to 17.7 million cosmetic procedures, including both minimally invasive and surgical, were performed in the United States between 2014 and 2018 which reflected a total cost of $12.9 to 16.5 billion

(Walker et al., 2014; ASPS, 2014).

Increasing interest in cosmetic surgery highlights the need to investigate the motives of cosmetic patients and to choose the patients who will benefit from the aesthetic procedures (Milothridis et al., 2016).

The patient's motivations for surgery should be evaluated during the initial consultation. Motivations have been categorized as internal (undergoing the surgery to improve one's self-esteem) or external (undergoing the surgery for some secondary gain, such as obtaining a promotion or starting a new romantic relationship). Studies have suggested that being motivated for surgery in order to please a romantic partner is associated with a poor postoperative outcome (Cook et al., 1997). Given the relationship between body image and cosmetic surgery, the assessment of patients' body image concerns is a critical part of the evaluation (Brown et al., 2007). A comprehensive review by Ching et al. (2003) found a patient's body image and perceived quality of life to be the strongest and most consistent determinants of aesthetic surgery outcomes.

Females with low self-esteem, low life satisfaction, low self-rated attractiveness and little religious beliefs who were heavy television watchers reported a greater likelihood of undergoing cosmetic surgery (Furnham and Levitas, 2012).

High quality of relationship with one's parents has been found to be a negative predictor of interest in cosmetic surgery (Cook et al., 1997).

Higher (general) media exposure is also thought to predict the likelihood of cosmetic surgery (Brown et al., 2007).

Women therefore may consider cosmetic surgery to improve their physical attractiveness as part of a Benefit-Provisioning strategy to retain a long-term mate (Atari et al., 2017). Objective assessments of surgical outcome were not found to be necessarily predictive of a patient's ultimate satisfaction. This research identified those personality types most likely to be dissatisfied, along with those personalities who tended to withhold their approval of an excellent surgical result (Atari et al., 2017).

Through our research presented here we hope to gain further insight into the relevant factors influencing patient cosmetic surgery choices that may or may not lead to favorable surgical case selection and patient cosmetic surgical outcomes.

METHODS

Participants

One hundred and twenty-five random cosmetic surgery seeking patient subjects who showed up to a Miami -based aesthetic surgery practice desiring surgery for their own reasons were asked to participate in a research study. Males and females age > 18 years having had or seeking cosmetic surgery at this facility among 3 surgeons from July 14th 2019 to December 31st 2019 were invited to freely participate. Subjects were asked participate in a voluntary survey if they were willing and able to do so autonomously without compensation; and were willing and able to complete ALL study questionnaires completely.

Exclusion criteria

1. Non-voluntary, non-anonymous prospective and former adult male and female age >18 year olds of any race/ethnicity seeking or having had cosmetic surgery of any type at the study facility with the study investigators.
2. Known history of psychiatric illness (any behavioral type) prior to consultation.
3. Unwilling to complete ALL the study questionnaires being used for the study.

Removal of subjects and subject materials from the investigation

Subjects were free to withdraw from turning in their study packet at any time during the questionnaire completion for any reason. This reason did not need to be disclosed. The subjects were not asked whether they have turned in a packet after they have been invited to participate in the survey. Incomplete study packets were discarded from the research investigation at the study closing date.

Safety monitoring

Subjects were advised that should any adverse experiences arise during the completion of study packets that they should not discontinue completion of the packet, unless the experience is severe and significant in some way. They were encouraged to report signs, symptoms or any unexpected changes in health brought on by the completion of study questionnaires to the lead investigators. The investigators then judged the relationship of the reported event experience to the study using the following classifications: unrelated; remote, possible, probable, or definite.

Study document and collection

Study packets comprised of a male packet and a female packet. Materials sent to the patients electronically or through postal mail were asked to be returned without identifier information (name, address, etc.) after full completion. They were told to send it back via postal mail to the lead investigators private mailing address provided. After the closing date for materials, statistical analysis of all the data were performed. All anonymous source data collected would be retained for 5 years.

Tool and procedures

Age groups (1 = 21-30 y, 2 = 31-45 y,3 => 46 y), gender, race (1 = white, 2 = latino, 3 = black, 4 = other), locality, time of surgery, and body part seeking or having surgery were recorded for each subject without names, dates of birth, social security numbers, address or any other specific identifier information.

5 validated survey questionnaires were used in this study, including Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965; Schmidt and Allik, 2005), SF-12 (Ware et al., 1994; Ware et al., 1995; Ware, 2000), Body-Image Questionnaire (BIQ) (Koleck et al., 2002), Dependent Personality Questionnaire (DPQ) (Tyrer et al., 2004), and Beck's Depression Inventory (BDI) (Beck et al., 1996).

Rosenberg Self Esteem Scale (10 questions) – measures global

self-worth by measuring both positive and negative feelings about self.

SF 12 – general wellness (12 questions) – measures physical functioning, role limitations due to physical , body pain, general health, vitality, social functioning, role limitations due to physical health problems, and mental health.

Body Image (19 questions) – assess frequency of negative emotions about physical appearance.

Dependent Personality Questionnaire – (8 questions) – assess presence of dependent personality traits as defined by DSM-IV criteria.

Beck Depression Inventory (21 questions) - presence or absence of depression.

All data analysis was performed with SAS/STATv14.2. First we generated summary statistics including means and standard deviations for continuous outcome scales (SF12, BI, DPQ, BECKS and RSES) followed by frequencies and percentages for independent variables (age group, race, other opinion and belief in results). We checked for outliers and normality of distributions for continuous variables using Shapiro-Wilk and Kolmogorov-Smirnov test. Correlation between five outcome scales was assessed with Pearson correlation coefficient. Univariate mean comparison of five outcome scales by categorical independent variables was done with analysis of variance (ANOVA) or two-sample t-test depending on the number of levels for each independent variable, respectively (Table 1). ANOVA was followed by Bonferroni adjusted multiple comparisons between groups. Finally, we applied multivariable linear regression models, one for each outcome, to test the effects of independent variables of interest on outcome scales while controlling for other variables in the model. All associations were considered significant at the alpha level of 0.05.

RESULTS

Demographics and descriptive characteristics

There were 50 respondents. All respondents were female. Twenty-nine of 50 patients were in the age group 31-45 years old. The average weight for this respondent population was 170lbs. Nineteen of 50 identified as latino, 17/50 black, 11/50 white and 3/50 as "other". 31/50 subjects indicated this was their first cosmetic surgery procedure. Most of the study participants (28/50) were domestic U.S. travel patients to the study conduct facility in Miami, FL. Eighteen of 50 were local to the state of Florida. Four out of 50 of these respondents were from outside of the country travelling for medical tourism. Forty-one of 50 subjects were at the facility to receive or had already received combination breast and/or body contouring cosmetic procedures like mommy makeover, liposuction, gluteal fat transfer and breast lift +/- augmentation with implants. Twenty-three of 50 respondents indicated that they were not influenced by anyone other than themselves in deciding to have cosmetic surgery. The next largest group (18/50) indicated a relative/friend was instrumental in their final decision to have cosmetic surgery. Twenty-six of 50

subjects indicated that the surgery experience of someone else was a positive influence on their decision to pursue cosmetic surgery. Twenty-six of 50 participants said that their satisfaction with surgery results would be influenced by the **"opinion of others"** that are important to them. Nearly every subject when asked about who paid for their cosmetic surgery procedure (even in part) indicated that they themselves were responsible for the costs alone 49/50. Fifty percent of respondents cared if others felt their cosmetic surgery result did not turn out well. Fifty percent did not care what other felt as long as personally **"believed the results"** looked good on them.

Personality and general wellness inventories

Rosenberg Self Esteem Scale (RSES)

According to Schmitt and Allik (2005), the RSES consists of 10 items rated from 1 (strongly disagree) to 4 (strongly agree), with 5 items that should be reverse scored (Items 2, 5, 6, 8 and 9). Scoring consisted of a summation of the 10 items for an overall self-esteem score, with a range of 10 to 40 (Schmitt and Allik, 2005). The coding for RSES required a correction, where responses of all items should have been coded as 1 = strongly disagree, 2 = disagree, 3 = agree, and 4 = strongly agree. After correction, coding and computing the total RSES scores; the RSES scores ranged from 27 to 40, which fell within the theoretical range for the questionnaire. The mean RSES score was 35.30 (SD = 4.22), indicating overall, the subjects had high self-esteem (Table 2).

Interpretation of the results for bivariate analysis (one-way ANOVAs and t-tests) indicated there was a statistically significant difference in scores of RSES based on age group ($F(2, 47) = 4.45$, $p = 0.0170$). The mean scores for RSES for the three age groups were 23.00 (SE = 0.77), 25.41 (SE = 0.40), and 24.15 (SE = 0.60), for age group = 1, age group = 2, and age group = 3, respectively. Note that higher RSES scores indicate higher self-esteem. According to the results of pairwise comparisons using Bonferroni's method, participants in age group = 2 had statistically significantly higher self-esteem than participants in age group = 1 ($p = 0.0228$).

There was a statistically significant difference in scores of RSES based on 'other opinion' ($F(2, 47) = 4.73$, $p = 0.0134$). The mean scores for RSES for the three groups were 24.09 (SE = 0.65), 23.46 (SE = 0.60), and 25.58 (SE = 0.42), for other opinion = 1, other opinion = 2, and other opinion = 3, respectively. Note that higher RSES scores indicate higher self-esteem. According to the results of pairwise comparisons using Bonferroni's method, participants with other opinion = 3 had statistically significantly higher self-esteem than participants with other opinion = 2 ($p = 0.0175$). There was no statistically significant difference in self-esteem between participants in other opinion = 1 and the other

Table 1. Summary statistics and unadjusted univariate comparisons of five metal health outcome scales by demographic and survey questions.

Variable	SF12		BIQ		DPQ		BECKS		RSES	
	M(SD)	p-value	M(SD)	p-value	M(SD)	p-value	M(SD)	p-value	M(SD)	p-value
Age		0.588		0.7566		0.3597		0.1318		**0.017**
21-30	31.5(1.3)		50.6(4.3)		12.3(3.1)		3.3(5.3)		23.0(2.9)	
31-45	30.9(3.7)		52.0(7.8)		11.0(2.4)		4.0(4.8)		25.4(2.1)	
46+	32.1(2.9)		53.5(11.7)		12.2(3.7)		7.8(8.6)		24.2(1.7)	
Race/Ethnicity		0.744		0.4273		0.6474		0.3101		0.368
White	31.3(3.1)		52.2(3.1)		12.0(2.5)		3.9(4.6)		25.1(1.7)	
Latino	31.3(3.4)		53.6(8.6)		11.7(3.3)		6.3(7.8)		24.6(1.9)	
Black	31.1(3.5)		49.7(7.2)		11.3(2.9)		3.3(4.7)		24.2(2.7)	
Other	33.3(1.2)		56.7(13.3		9.7(1.5)		9.0(6.9)		26.7(4.0)	
Feelings about results depend on others opinion		0.083		0.3526		0.31		**0.006**		**0.0134**
Lot	29.6(4.7)		50.1(6.3)		11.4(2.7)		2.3(2.8)		24.1(2.1)	
Little	32.5(3.3)		54.9(11.7)		12.5(3.1)		9.4(8.7)		23.5(2.9)	
No	31.5(2.1)		51.7(7.3)		11.0(2.8)		3.8(4.7)		25.6(1.7)	
If no one believed result looked good would it matter		**0.0189**		0.4293		0.8847		0.2895		0.2026
Yes	32.4(2.3)		51.2(8.7)		11.4(3.4)		5.8(6.8)		25.1(2.1)	
No	30.3(3.7)		53.1(8.3)		11.6(2.3)		4.0(5.5)		24.3(2.4)	

Data is presented as mean(standard deviation) - M(SD); p-values are based on two-sample t-test for binary independent variable and ANOVA for independent variables with three or more levels – bolded p-values indicate significant association at an alpha<0.05 level.

Table 2. Summary statistics (N = 50).

Instrument	Theoretical range	Mean	SD	Min	Max
RSES	1-40	35.30	4.22	27.00	40.00
SF-12, PCS	Norm-based scoring, with mean = 50 and SD = 10	48.41	8.18	26.50	61.97
SF-12, MCS	Norm-based scoring, with mean = 50 and SD = 10	51.93	8.99	26.79	66.24
BIQ	19-95	52.16	5.48	34.00	72.00
DPQ	0-24	11.50	2.88	6.00	18.00
BDI	0-63	4.90	6.22	0	25.00

two groups (p = 1.000 for other opinion 1 vs. 2; p = 0.1843 for other opinion 1 vs. 3).
Using the adjusted model (Table 3) RSES score was significantly lower for younger women in age range 21-30 compared to those 31-45 (23 vs 25.4), and among those whose feelings depend on the opinions of others at least a little compared to not at all (23.5 vs 25.6). Remaining associations were not significant.

Short Form 12 (SF-12)

The SF-12 contains 12 items measuring two sub-scales, physical component summary (PCS) and mental component summary (MCS) (Ware et al., 1995). For this project, the PCS and MCS scores were computed based on the 4 SF-12 scoring steps described on pp.21-23 of Ware et al. 1995. In this project, the scoring interpretations for SF-12 are based on Ware et al., 1994 and Ware 2000. According to Ware et al. (1994) content-based descriptions of the health states are associated with very high and very low scores on the PCS and MCS scales:

- Very low PCS: Substantial limitations in self-care, physical, social, and role activities; severe bodily pain; frequent tiredness; health rated poor
- Very high PCS: No physical limitations, disabilities, or decrements in well-being; high energy level; health rated excellent
- Very low MCS: Frequent psychological distress, substantial social and role disability due to emotional problems; health in general rated poor
- Very high PCS: Frequent positive affect; absence of psychological distress and limitations in usual social/role activities due to emotional problems; health rated excellent.

Also, according to Ware (2000), in norm-based scoring (each scale was scored to have same average (50) and the same standard deviation (10), if a scale score is below 50, health status is considered to be below average.

Table 3. Results of multivariable regression model adjusted associations between demographic and survey questions with five mental health outcome scales.

Variable	SF12		BIQ		DPQ		BECKS		RSES	
	beta(SE)	p-value	beta(SE)	p-value	beta(SE)	p-value	beta(SE)	p-value	beta(SE)	p-value
Age										
21-30	1.86(1.64)	0.2623	-2.65(4.58)	0.566	0.18(1.52)	0.9065	-3.69(2.93)	0.2144	-0.51(0.97)	0.5983
31-45	-0.59(1.11)	0.5955	-4.01(3.09)	0.2017	-1.40(1.03)	0.1788	-5.23(1.97)	**0.0116**	1.75(0.65)	**0.0108**
Ref: 46+	0		0		0		0		0	
Race/Ethnicity										
Hispanic/Latino	-0.12(1.21)	0.9227	2.96(3.38)	0.3848	-0.14(1.12)	0.9013	3.17(2.16)	0.1502	-0.81(0.71)	0.2631
Black	-23(1.19)	0.8462	-3.18(3.33)	0.3453	-0.67(1.11)	0.55	-0.58(2.13)	0.7856	-0.95(0.70)	0.1857
Other	-0.29(2.29)	0.8988	5.61(6.42)	0.387	-4.16(2.13)	**0.0578**	-0.02(4.11)	0.9966	3.27(1.36)	**0.0206**
Ref: White	0		0		0		0		0	
Feelings about results depend on others opinion										
Lot	-2.52(1.35)	**0.0687**	-3.01(3.77)	0.4299	-0.16(1.25)	0.8962	-1.25(2.42)	0.607	-0.78(0.79)	0.3369
Little	1.3(1.19)	0.2777	1.13(3.31)	0.735	2.46(1.09)	**0.0308**	5.99(2.12)	**0.0072**	-3.09(0.69)	**<0.0001**
Ref: No	0		0		0		0		0	
If no one believed result looks good would it matter										
Yes	1.95(0.98)	**0.0538**	-4.59(2.74)	0.1016	0.19(0.91)	0.8379	0.55(1.76)	0.7557	0.31(0.58)	0.5993
No	0		0		0		0		0	

Data is presented as beta (standard error) [beta(SE)] based on the multivariable linear regression model; p-values are based on adjusted multivariable regression model results – bolded p-values indicate significant association at an alpha<0.05 level or trend at an alpha level of 0.1.

For this project, the PCS scores ranged from 26.50 to 61.97; the MCS scores ranged from 26.79 to 66.24 (Table 2). The mean PCS score was 48.41 (SD = 8.18), indicating that overall, the physical health of the subjects in this study may be slightly below the average (Table 2). The mean MCS score was 51.93 (SD = 8.99), indicating that overall, the mental health of the subjects in this study may be slightly above the average (Table 2).

The subjects PCS and MCS scores were further dichotomized using the mean score (50) as a threshold (Table 4). For PCS, 40.0% (N = 20) of the subjects had below-average physical health (PCS scores ≤ 50), and 60.0% (N = 30) of the subjects had above-average physical health (PCS scores > 50). For MCS, 34.0% (N = 17) of the subjects had below-average mental health (MCS scores ≤ 50), and 66.0% (N = 33) of the subjects had above-average mental health (MCS scores > 50).

Interpretations of the results for bivariate analysis (one-way ANOVAs and t-tests) indicate there was no statistically significant difference in scores of SF12, based on age group ($F_{(2, 47)} = 0.54$, $p = 0.5880$) race ($F_{(3, 46)} = 0.41$, $p = 0.7440$).

Table 4. Descriptive classifications of BDI.

Source	Classifications of BDI	N (%)
Beck et al. (1996)	Minimal depression (0-13)	43 (86.0)
	Mild depression (14-19)	5 (10.0)
	Moderate depression (20-28)	2 (4.0)
	Severe depression (29-63)	0
	These ups and downs are considered normal (1-10)	42 (84.0)
	Mild mood disturbance (11-16)	5 (10.0)
	Borderline clinical depression (17-20)	1 (2.0)

Dependent Personality Questionnaire (DPQ)

DPQ consists of 8 items and the total score of DPQ varies from 0 to 24, with a higher score corresponding to a more dependent personality according to Tyrer et al. (2004). The DPQ scores ranged from 6 to 18, which fell within the theoretical range for the score. The mean DPQ score was 11.50 (SD = 2.88), indicating overall, subjects had mild to moderate level of dependent personality (Table 2).

Interpretation of the results for bivariate analysis (one-way ANOVAs and t-tests) indicated there was no statistically significant difference in scores of DPQ, based on age group ($F_{(2, 47)} = 0.105$, $p = 0.3597$), race ($F_{(3, 46)} = 0.55$, $p = 0.6474$), other opinion ($F_{(2, 47)} = 1.20$, $p = 0.3100$), and belief results ($t_{(41.695)} = -0.15$, $p = 0.8848$).

Beck's Depression Inventory (BDI)

BDI consists of 21 items and the total score of BDI varies from 0 to 63, with a higher score corresponding to more severe depressive symptoms. The BDI scores ranged from 0 to 25, which fell within the theoretical range for the score. The mean BDI score was 4.90 (SD = 6.22), indicating overall, subjects had very mild depressive symptoms (Table 2).
Additionally, the total scores of BDI can be converted into descriptive classifications based on the following cut scores: (1) 0–13: minimal depression; 14–19: mild depression; 20–28: moderate depression; and 29–63: severe depression (Beck et al., 1996), and (2) 1-10 These ups and downs are considered normal, 11-16 Mild mood disturbance, 17-20 Borderline clinical depression, 21-30 Moderate depression, 31-40 Severe depression over, and >40 Extreme depression (scoring instruction provided by the client). The descriptive classifications of BDI are presented in Table 4. Based on both scoring instructions, majority of the subjects were considered to have minimal depression (86%) or normal ups and downs (84%).

Interpretation of the results for bivariate analysis (one-way ANOVAs and t-tests) indicated there was no statistically significant difference in scores of BDI, based on age group ($F_{(2, 47)} = 2.12$, $p = 0.1318$), race ($F_{(3, 46)} = 1.23$, $p = 0.3101$), and belief results ($t_{(48)} = 1.07$, $p = 0.2895$). However, there was a statistically significant difference in scores of BDI based on other opinion ($F_{(2, 47)} = 5.72$, $p = 0.0060$). The mean scores for BDI for the three groups were 2.27 (SE = 1.72), 9.38 (SE = 1.58), and 3.77 (SE = 1.12), for other opinion = 1, other opinion = 2, and other opinion = 3, respectively (Table 3). Note that higher scores of BDI correspond to more severe depressive symptoms. According to the results of pairwise comparisons using Bonferroni's method, participants with other opinion = 2 had statistically significantly more severe depressive symptoms than participants with other opinion = 1 ($p = 0.0112$) and other opinion = 3 ($p = 0.0167$). The severity of depressive symptoms was not statistically significantly difference between participants with other opinion = 1 and 3 ($p = 1.0000$).

Body Image Questionnaire (BIQ)

BIQ consists of 19 items and the total score of BIQ varies from 19 to 95, with a high score corresponding to body satisfaction (Koleck et al., 2002). The BIQ scores ranged from 34 to 72, which fell within the theoretical range for the score. The mean BIQ score was 52.95 (SD = 5.48), indicating overall, subjects had a moderate level of body satisfaction (Table 2).

Interpretations of the results for bivariate analysis (one-way ANOVAs and t-tests) indicate there was no statistically significant difference in scores of BIQ, based on age group (F(2, 47) = 0.28, p = 0.7566), race (F(3, 46) = 0.94, p = 0.4273), other opinion (F(2, 47) = 1.07, p = 0.3526), and belief results (t(48) = -0.80, p = 0.4293).

Table 5 shows the summary statistics of the 5 measures further segmented by age group (1 = 21 to 30, 2 = 31 to 45, 3 ≥ 46) and race (1 = white, 2 = latino, 3 = black, 4 = other).

Multivariable regression models

Adjusted multivariable models largely confirmed the findings of bivariate analysis with a couple of new associations after controlling for other variables. SF12 scores were borderline significantly higher by almost two units for those that reported it would matter if no one thought the results looked good (p=0.0538) and also trending by 2.5 units lower for those for whom opinions mattered a lot compared to not at all (0.0687).

DPQ yielded a significantly higher score for those that reported it would matter if no one thought the results looked good a little compared to not at all by 2.5 units (p=0.0308); while it was borderline significantly lower for those reporting other race compared to white (0.0578).
BECK's score was significantly higher by almost 6 units for those that reported it would matter if no one thought the result looked good at least a little compared to not at all (0.0072), but significantly lower by over 5 units for women 31-45 compared to over 46.
RSES score was 3 units lower for those that reported it would matter if no one thought the results looked good at least a little compared to not at all (p < 0.0001), 3 units higher for other race compared to white (p = 0.0206), and almost 2 units higher for 31-45 compared to 46+ year old age group (p = 0.0108).

Table 5. Summary statistics (mean (SD)) by age and race.

Variable	Group	RSES	SF-12, PCS	SF-12, MCS	BIQ	DPQ	BDI
Age	1 (N = 8)	34.25 (4.40)	48.97 (9.85)	51.26 (9.01)	50.63 (4.34)	12.25 (3.06)	3.25 (5.31)
	2 (N = 29)	35.03 (4.17)	48.12 (8.24)	52.34 (8.37)	52.00 (7.80)	11.00 (2.39)	4.03 (4.84)
	3 (N = 13)	36.54 (4.29)	48.70 (7.60)	51.41 (10.86)	53.46 (11.73)	12.15 (3.69)	7.85 (8.58)
Race	1 (N = 11)	35.18 (4.17)	52.11 (5.96)	52.08 (9.85)	52.18 (9.00)	12.00 (2.49)	3.91 (4.57)
	2 (N = 19)	34.95 (4.35)	45.00 (9.08)	50.61 (9.93)	53.63 (8.62)	11.68 (3.28)	6.26 (7.80)
	3 (N = 17)	36.76 (3.75)	51.15 (6.44)	53.80 (8.26)	49.71 (7.17)	11.29 (2.87)	3.29 (4.70)
	4 (N = 3)	29.67 (0.58)	40.88 (7.13)	49.06 (0.74)	56.67 (13.28)	9.67 (1.53)	9.00 (6.93)

DISCUSSION

Evaluating the reasons patients want to take part in cosmetic surgery is a necessary part of the perioperative cosmetic surgery patient encounter (Sarwer et al., 2005; Sarwer, 2001). Our ongoing prospective study intends to further explore and expand the evolving knowledge of how personality traits and other familial and societal influences on choice factor into and should be expected to factor into surgical satisfaction and outcome.

Being unhappy with personal body image and having low self-esteem has been shown to be a motivation for cosmetic surgery (Sarwer and Didie, 2002; Sarwer et al., 1998; Nikolic et al., 2013; Hexsel et al., 2013). Conversely, in one study 93.15% of patients seeking body contouring surgeries had high self-esteem (Aguila et al., 2019). The latter findings are more consistent with the RSES results found in our study population and would seem to suggest that aesthetic surgery practices having predominantly ethnic patients present with less body image and self-esteem issues. On balance, RSES score was 3 units lower in our study for those respondents that reported it would matter if no one thought the surgical results looked good at least a little.

Personality disorders have also been reported in studies about patients seeking cosmetic procedures (Kucur et al., 2016; Sing et al., 2006; Loron et al., 2018). The general mental health component of the subjects in the present study was found to be slightly above average on SF-12. Higher Beck's scores correspond to more severe depressive symptoms. On average our group had mild depressive symptoms; but Beck's score was significantly higher by almost 6 units for those that reported it would matter if no one thought the result

looked good at least a little compared to not at all (0.0072). Beck's was significantly lower by over 5 units for women 31-45 compared to over 46. Older women in the study group seemed to report more instances consistent with depressive state after age 30 compared to younger cohort groups. Dependent personality traits were present in our population at mild to moderate levels. Dependent personality was less prevalent in racial groups identifying as non-white. Dependent personality traits were also more prevalent among women who needed to feel that others felt their surgical results looked good on them.

Media exposure is also thought to predict the likelihood of cosmetic surgery (Brown et al., 2007). However, only 3 patients in our study group reported that magazines and/or television played an important role in influencing their final decision to have cosmetic surgery.

CONCLUSION

A major key to successful cosmetic surgery relies on keen selection of patients (Stevens and McGrath, 2006; Ohjimi et al., 1998; McGrath, 2007; Rohrich et al., 2007). Specific personality traits have been found to be significant negative predictors of an interest in cosmetic surgery in the univariate analyses (Javo and Sorlie, 2009). Interest in cosmetic surgery was associated with epidemiological factors, their social networks, their psychological characteristics such as: body image, self-esteem and other personality traits may either positively or negatively predict their motivation to seek and undergo a cosmetic procedure (Milothridis et al., 2016). The subjects in our study had high self-esteem. The general mental health of the subjects in this study may be slightly above the average on SF12 scoring. Subjects here had a moderate level of preop body satisfaction. Our subject group had mild to moderate level of dependent personality exhibited on Dependent Personality Questionnaire.

More study is needed in this interesting area of cosmetic surgery. We readily admit that our small sample population makes it important to continue assessments of this type into the future. We feel sure it will invaluably support the patient selection process for providers, as well as, improve patient satisfaction and surgical outcome in aesthetic surgery seekers.

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