INTRODUCTION

Cosmetic surgery is an elective medical practice that aims to improve the physical appearance of one's body using surgical techniques (e.g., rhinoplasty) and non-surgical techniques (e.g., filler treatments) (1).

The dimensions of personality traits, singled out by Tuples and Christal are extraversion, agreeableness, conscientiousness, emotional stability, and culture (later called openness to new experiences) (2). Highly extraverted individuals enjoy socializing with others in contrast, introverted individuals tend to be socially and emotionally reserved (3).

Individuals who score high on the agreeableness dimension are more likely to use negotiation to resolve conflicts, and are more likely to withdraw from social conflicts (4). As opposed to agreeableness, aggression, such individuals try to use their social power to resolve conflicts (5). High conscientiousness is characterized by ambition, accuracy, and responsibility in work and interpersonal relationships (6). On the other hand, those who achieve lower results in this dimension are not concerned about a tidy environment and a tidy schedule of activities and make decisions more impulsively (7). Neuroticism implies weaker impulse control, irrational ideas, and weaker tolerance for frustrations (4). Finally, Openness to Experience represents differences in intellectual curiosity, aesthetic sensitivity, and imagination (3).

Definition of body image

Grogan defined body image as "a person's perception, thoughts, and feelings about their body" (p. 3), and further defined dissatisfaction with body image (BD) as negative thoughts and feelings toward one's body (8). In a society that advocates unrealistic body ideals while imposing great value on body appearance, people do not have much choice about avoiding dissatisfaction with body image or achieving the desired body image. Not surprisingly, dissatisfaction with body image is becoming a normative dissatisfaction in contemporary society (9). Body image is influenced by an individual's physical characteristics, personality, and the context in which he/she lives. Numerous studies have shown that dissatisfaction with body image is a major factor motivating people to undergo cosmetic surgery (10). Body dysmorphic disorder (BDD) is integral to body image disorder (11).

Perfectionism

Perfectionism is a multidimensional personality disposition characterized by striving for flawlessness and setting exceedingly high standards of performance, accompanied by overly critical evaluations of one's behavior (12). It seems that perfectionist persons are the majority of applicants for cosmetic surgery, especially rhinoplasty, and a major portion of dissatisfaction after surgery is observed in these individuals (13). According to a study by Tavari and Jafari, there is a significant relationship between psychological needs, perfectionism, and the perception of the body image of applicants for cosmetic surgery (14). Perfectionism shown to have strong significant effects on body image (13, 14).

Previous research on the relationship between personality traits and body image

Results of Swami Chamorro-Premuzic, et al., suggest that more conscientiousness, less agreeable, less open individuals were more likely to consider cosmetic surgery, thus centrally implicating the Big Five personality framework in such decisions (15). Openness to Experience, in particular, was a strong negative predictor of considering having cosmetic surgery. The results of the study by Danesh and Foroozandeh showed that among personality traits, only conscientiousness could predict 2.7% of body image changes (16). According to these findings, conscientiousness can play a significant role in individuals propensity to perform cosmetic surgery. The scores for the Body Cathexis Scale and the personality trait of extraversion by Oritz were found to be higher in the rhinoplasty group than in the control group (17). Neuroticism and extraversion are associated with positive affectivity, and extraverted people are considered to be agreeable in social interactions (18).

To the results of previous research and theoretical assumptions, the relationship between personality traits and body image is expected. Considering the stated goals and earlier results of the research, the following problems and hypotheses were set: 1. To examine the relationship between body image and the big five; We expect a positive relationship between body image and the following personality traits: neuroticism, conscientiousness, extraversion, and a negative relationship between body image and agreeableness and openness to new experiences. We expect that personality traits will be significant determinants of body image. 2. Examine the mediating role of perfectionism on the relationship between personality traits and body image. We expect perfectionism to be a significant mediator of the relationship between personality traits and body image.

RESEARCH METHODOLOGY

Sample and procedure

The study was conducted on a non-random sample of individuals who used different surgical treatments. Of the 380 participants who completed the questionnaire, 150 participants were included in the analysis. The age ranged from 21 to 65 years; M = 32.57 SD = 7.76. Out of 150 participants, 134 are from the Republic of Croatia, 14 from Bosnia and Herzegovina, and 2 from the Republic of Serbia. The study involved 2 men and 148 women. In terms of education, 33 of them are Bachelors, 2 are Doctors of Science, 67 of them have completed a master's degree, 35 have a secondary education, 2 are students, and 11 have a higher education. Of the 150 participants; 80 reported nasal surgery, 35 breast surgery, 8 ear surgery, 9 blepharoplasty, 8 lipoinjections, 3 jaw surgery, 3 abdominoplasties, 1 chin surgery, 1 laparolasty, 1 surgical removal of scars, 1 surgical removal of moles.

The questionnaire was applied online from 15 February 2022, to 28 February 2022. The questionnaires were distributed through 3 different closed groups on Facebook (Recenzije Estetskih Zahvata i Tretmana; Rinoplastika Info-Hrvatska i Worldwide and Estetski zahvati-savjet). Each participant was guaranteed anonymity and could withdraw from the questionnaire at any time.

INSTRUMENTS

The following instruments were used in the study: An adjective measure of the five-factor model, perfectionism scale, and Appearance Anxiety Inventory.

The adjective measure of the five-factor model - starts from 1400 words, mostly adjectives, which are used in the Croatian language to describe various personality traits (19). Unlike questionnaire, adjective measures are much more transparent, and based on adjective scales, respondents can more easily identify which traits are being tested (20). The five factor model consists of the following subscales: extraversion ("social"), agreeableness ("ready to help"); conscientiousness ("diligent"), emotional stability ("calm"), and openness ("insightful"). The reliability of the type of internal consistency (Cronbach’s alpha) of individual factors of the adjective measure in our study is 0.89 for extraversion, 0.74 for agreeableness, 0.66 for conscientiousness, 0.78 for neuroticism, 0.77 for openness/intellect.

Burns scale of perfectionism - In the first attempts at measurement, perfectionism was seen as a one-dimensional construct focused on personal cognitions. This is how the Burns scale of perfectionism was created. It contains 10 items and measures self-directed perfectionism (21). The Burns scale of perfectionism contains 10 items, and the Likert scale of five degrees is used for answering. In the version of the scale adapted to the Croatian population, instead of degrees from +2 to -2, numerical symbols from 5 to 1 with the same meanings were used. The reliability of the internal consistency type (Cronbach alpha) in our study is 0.80.

Appearance Anxiety Inventory; AAII; Body image scale. The Appearance Anxiety Inventory is a 10- questi-
on self-assessment scale that measures the cognitive and behavioral aspects of body image anxiety in general, and body dysmorphic disorder (BDD) in particular. This scale is useful as a part of the diagnostic procedure for BDD as well as monitoring symptoms during treatment. AAI was developed by Veale et al. (22). Participants responded by rounding off the corresponding number on a Likert-type scale with five degrees, and the total score was formed as the sum of all items. The Croatian version was adapted by Anđelinović and Keresteš (23). The reliability of the internal consistency type (Cronbach alpha) in our study is 0.87.

RESULTS

In the first part, we will present the results of descriptive statistics for all variables used in this study. In the second part, the main analysis will be presented, based on which we will try to answer the research problems. Table 1 shows the results of descriptive statistics of measuring instruments used in this study.

Table 2 provides an overview of body image correlations with the big five models and body image. The corrected R2 results for the second model show that approximately 20.3% of the body image variability was explained by five predictors. The results of ANOVA show that this model is significant F (5; 144) = 8.609; p < 0.001. The results of standard regression analysis show that extraversion (β = -0.227; t = -2.617; p < 0.01), and neuroticism (β = -0.289; t = 3.305; p < 0.001) are significant predictors of body image. The results of this analysis showed that agreeableness, conscientiousness, and openness are not significant predictors of body image. Also, neuroticism (β = -0.289; t = 3.305; p < 0.001) has been shown to be the strongest predictor of body image. Table 2 shows that extraversion (β = -0.227; t = -2.617; p < 0.01), and neuroticism (β = -0.289; t = 3.305; p < 0.001) are significant predictors of body image. The results of this analysis showed that agreeableness, conscientiousness, and openness are not significant predictors of body image. Also, neuroticism (β = -0.289; t = 3.305; p < 0.001) has been shown to be the strongest predictor of body image. Table 2, see the Pearson correlation test in Table 2. where the association between body image and personality traits is shown and intercorrelations between perfectionism, personality traits, and body image (showing the correlations of all variables that were necessary to meet the conditions for testing the mediation effect).

To determine whether perfectionism is a mediator of the body image relationship with the big five models, we conducted a hierarchical regression analysis. Hierarchical regression analysis shows where the criterion is body image, the predictor is a five-factor model, and the potential mediator is perfectionism. Hierarchical regression analysis was performed in two steps. In the first step, the variables of the five-factor model were introduced, and in the second step, the variable perfectionism was introduced. Since all conditions were met for mediation testing, a hierarchical regression analysis was performed. The corrected R2 results for the second model show that approximately 30.2% of body image variability was explained by six predictors. The results of ANOVA show that this model is significant F (6;143) = 11.720; p < 0.001. While in the first block extraversion (β = -0.227; t = -2.617; p < 0.05) was a significant predictor of body image, after the inclusion of perfectionism, extraversion (β = -0.158; t = -1.909; p < 0.10) decreased although it is still significant, the declining significance of this predictor indicates the mediating role of perfectionism on the relationship between extraversion and body image. Also, in the first block neuroticism (β = -0.289; t = 3.305; p < 0.001) is a significant predictor of body image, and after the inclusion of perfectionism, neuroticism (β = -1.34; t = 1.513; p > 0.10) became insignificant a predictor indicating the mediating role of perfectionism on the relationship between extraversion and body image.

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Sobel Test was used to test the Significance of Mediation. Figure 1. shows the mediating effect of perfectionism on the relationship between extraversion and body image. The Sobel test showed significant mediation (-3.58; p < 0.001).

The Sobel test showed significant mediation (-2.62; p < 0.01). Figure 2. shows the mediating effect of perfectionism on the relationship between agreeableness and body image.

The Sobel test showed significant mediation (-1.96; p < 0.05). Figure 3. shows the mediating effect of perfectionism on the relationship between conscientiousness and body image.

The Sobel test showed significant mediation (4.77; p < 0.001). Figure 4. shows the mediating effect of perfectionism on the relationship between neuroticism and body image.

The Sobel test showed significant mediation (-3.32; p < 0.01). Figure 5. shows the mediating effect of perfectionism on the relationship between openness and body image.

These values, together with the results of correlation analysis indicate the mediating effect of perfectionism on the relationship between personality traits and body image.

DISCUSSION AND CONCLUSION

This study aimed to examine the relationship between body image and personality traits and to examine the mediating role of perfectionism in the relationship between personality traits and body image. Below we will present the findings, limitations, implications as well as suggestions for future work.

Given that Pearson's correlation coefficient showed that all personality traits are significant determinants of body image, we can conclude that the first hypothesis has been partially confirmed. Pearson's correlation coefficient showed that body image was significantly negatively associated with extraversion (r = -0.362; p < 0.001), agreeableness (r = -0.279; p < 0.001), conscientiousness (r = -0.281; p < 0.001) and openness (r = -0.214; p < 0.05), and positively associated only with neuroticism (r = 0.415; p < 0.001). We expected different results compared to previous research. Results Ozturk, showed a significant positive correlation between the Body Cathexis Scale score and the personality trait of extraversion (17).

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Goodness of fit in the final model confirmed the impact of neuroticism, conscientiousness and openness on maladaptive body image. Perfect mediation analysis showed a significant mediating effect of perfectionism on the relationship between all personality traits and body image. Complete mediation of perfectionism on the relationship between openness and body image was obtained, while partial mediation of perfectionism on the relationship between agreeableness and body image was shown; extraversion and body image; conscientiousness and body image; neuroticism and body image. This finding is consistent with research by Naomi and Salehi whose results showed that individuals who have perfectionist tendencies are not flexible in their thoughts and emotions and cannot accept their body as it is, without judgment (26). Also, they have closed personalities with negative evaluations of their appearance, and are more likely to seek cosmetic surgery because they consider cosmetic surgery as a way that helps them to reduce their negative emotions and obtain others approval As Sherry et al., emphasize in their research, perfectionists may 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 (27). Extreme perfectionism has been found to strongly and significantly increase individuals’ likelihood of undergoing cosmetic surgery.

The research conducted has several limitations.

The lack of research is certainly the nature of the study, it is a correlation study. The exact nature of the relationship can only be examined through experimental models. Based on the results of the research, we cannot conclude with certainty that certain personality traits lead to greater preoccupation with physical appearance, other variables should be considered, and it would be useful to examine some other mediators besides perfectionism. Also, future studies could use a longitudinal study to track a particular group of people over a longer period; the same group of participants monitored before and after surgery. One of the limitations of this research is that personality traits were measured by self-assessments, which could lead to socially desirable responses and motivated
Some of the recommendations for future research would be the introduction of a control group. It would also be interesting to examine psychological variables among groups using non-invasive aesthetic treatments (dramatological treatments, cosmetic treatments, and aesthetic treatments) and surgical treatments. It would also be interesting to explore these variables on high school students as well as on students of different universities as well as students from a wide range of different environments. The combination of factors and criterion-related validity coefficients for two measures of personality based on the five-factor model. In our research, the Burns matrix for promoting a healthier body image. We also suggest future empirical research which would be useful to include asse-
ments of others in future research. Family, close friends (5). We also suggest the use of qualitative research methods, such as in-depth interviews. The disadvantage of this research is related to the implementation of the research. It was an online survey, so the researcher could not control the conditions in which the survey was conducted, which is important to mention a slightly lower conscientiousness compared to other personality traits. Future empirical research should investigate whether lower dimensions of conscientiousness are an artifact in the study. In future research, it would be useful to include other variables in explaining body images such as self-esteem, socioeconomic status, or individual environmental factors.

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