

XXL-TYPE PERSONALITY. Personality traits promoting excess body weight

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Article history: Received: 25.05.2019 Accepted: 05.08.2019 Published: 04.09.2019

ABSTRACT:

The aim of the study: The study aimed to determine whether persons suffering from obesity may be characterised by specific personality traits which promote the development of excess body weight. Additionally, the aim involved finding whether persons suffering from morbid obesity differed from healthy individuals and somatic patients as regards selected personality traits.

Material and methods: The study enrolled 34 patients with the diagnosis of morbid obesity in the process of qualification for surgical treatment of obesity. The patients' BMI ranged from 35 to 54 kg/m². Study participants completed NEO-FFI personality inventory (Costa, McCare; 1998) and the authors' questionnaire designed to collect demographic data and anthropometric measurements.

Results: The study showed that patients with morbid obesity significantly differed from healthy individuals and somatic patients as regards the analysed measurements of the Big Five.

Conclusions: The traits which were significantly distinctive in morbidly obese patients included lowered conscientiousness and increased neuroticism. The results indicate that the above pattern of personality traits may promote the development of excessive body weight.

KEYWORDS:

bariatric surgery, morbid obesity, personality traits

ABBREVIATION

BMI – Body Mass Index

INTRODUCTION

Excess body weight is becoming a worldwide epidemic which encompasses individuals regardless of their age [1]. The World Health Organization recognises obesity as the most dangerous chronic disease which does not tend to subside spontaneously, which is why it should be treated. The consequences of obesity are seen both in somatic and mental functioning [2, 3, 4, 5]. Obesity is diagnosed when the BMI exceeds 30 kg/m², while severe obesity is found when BMI exceeds ≥ 40 kg/m² [6, 7].

Due to an increasing number of patients with a very high BMI additional subcategories have been introduced. For people with BMI in the range of 50 to 59.9 kg/m², class 4 obesity is diagnosed as super-obesity, and in the case of people with BMI ≥ 60 kg/m² – class 5 obesity is referred to as super-super obesity [7]. Obesity with BMI over 40 kg/m² reduces the quality of functioning and increases the risk of premature death in patients [5, 8, 9]. Obesity belongs to a group of metabolic and endocrine disorders. It consists in increasing the amount of the adipose tissue above physiological reference values and needs of the body (over 25% of body weight in men and over 30% in women) [10].

Conservative treatment does not bring long-lasting effects in patients with BMI over 35 kg/m² and obesity complications and in patients with BMI of 40 kg/m². Bariatric surgery is a chance for those patients as it is viewed as the most effective modality in the treatment of obesity and its complications [11, 12]. The effective-

ness of such operations has been described and documented in the professional literature [9, 11, 12, 13, 14]. Postoperative body weight loss is associated with improved health parameters. Regrettably, therapeutic success is not achieved in approx. 20% of patients which is mainly due to psychological factors [6, 15, 16, 17]. Psychologically, obesity is the focus of the psychology of health, which was distinguished from psychosomatic medicine at the end of the 1970s. The human is viewed holistically as a biopsychosocial individual. Its main areas of interest include promotion of health involving all preventive actions which aim at maintaining health in healthy individuals and restoring health involving improvement of the quality of life in somatic patients [18].

Analyses aiming to determine the relationship between personality traits and the development of somatic diseases have been conducted for many years. Investigating the cause-effect relationship between personality and predisposition to the disease is difficult, as personality is one of many factors determining the health of an individual [19]. Personality is a set of traits which determine the coherence of behaviour and individual identity.

The intensity and configuration of traits is shaped by the interaction of genetic and environmental factors, creating a personality structure that affects the specific adaptation of the individual to function in the environment and society [20]. Research indicates the stability of personality traits throughout life [21].

The Big Five Model, a five-factor personality model, is the most popular among numerous personality concepts [22]. Research corroborated that a specific pattern of personality traits may co-occur with the presence or absence of somatic diseases due to the fact that specific traits promote non-adaptive techniques of dealing with discomfort and negative emotions [20].

Tab. I. Descriptive statistics and Shapiro-Wilk test results of raw scores in NEO-FFI scales and respective values in sten scores in the study group.

NEO-FFI TRAIT	MIN WS	MAX WS	M	SD	SHAPIRO-WILK	SIGNIFICANCE
Neuroticism	6.00	39.00	24.29	8.40	.976	.976
Extraversion	16.00	38.00	27.88	5.60	.975	.975
Conscientiousness	16.00	41.00	29.82	6.51	.954	.954

THE AIM OF THE STUDY

The study aimed to determine whether persons suffering from obesity may be characterised by specific personality traits which promote the development of excess body weight. Additionally, the aim involved finding whether persons suffering from morbid obesity differed from healthy individuals and somatic patients as regards selected personality traits.

MATERIAL AND METHODS

The study enrolled 34 patients with morbid obesity. The age of the patients was from 25 to 62 ($M = 41$; $SD = 10$). The study group included persons who had partners (76.5%), followed by persons who described themselves as spinsters or bachelors (17.6%). Two persons were divorced (6%). Almost half of the participants completed secondary education (47%), 35% – tertiary, 12% – vocational and two persons completed primary education (6%).

BMI in the patients with morbid obesity ranged from 35 to 54 kg/m² ($M = 43$; $SD = 4.7$) which is categorised as class II, III and IV obesity [6, 7]. Two measurement tools were used in the study: NEO – FFI inventory and demographic data questionnaire. In order to find whether persons suffering from morbid obesity differed from healthy individuals and somatic patients as regards selected personality traits, the obtained data were compared against the results described by other authors: Ogińska-Bulik and Juczyński [18].

NEO-FII PERSONALITY INVENTORY

NEO – FFI personality inventory was authored by Costa and McCrae and adapted to Polish conditions by Bogdan Zawadzki, Jan Strelau, Piotr Szczepaniak and Magdalena Śliwińska [22]. It is used to measure 5 personality traits included in the Big Five Model (neuroticism, extraversion, openness to experience, agreeableness and conscientiousness). The inventory is designed for testing adolescents and adults. It consists of 60 self-descriptive statements. Each statement is commented on by the patient who selects appropriate answer from 'I strongly disagree' to 'I strongly agree'.

Reliability coefficients of the Polish adaptation are satisfactory. According to the authors of the manual the coefficient reached the following values: NEU 0.80 (neuroticism), EKSTRA 0.77 (extraversion), OTW 0.68 (openness), UGD 0.68 (agreeableness), SUM 0.82 (conscientiousness). The present study showed good reliability for the scale of neuroticism at 0.852 and conscientiousness at 0.808, while the scale of extraversion was lower at 0.605. The scales of openness and agreeableness proved unreliable ($\alpha < 0.5$). Therefore, they were not used in the analysis of study results.

HISTORY QUESTIONNAIRE

Demographic data were collected with the authors' questionnaire which also had complementary functions. The obtained data provided information concerning BMI, height, body weight, age, level of education and marital status.

RESULTS

The obtained empirical data underwent quantitative analysis. SPSS 24.0 statistical software was used for data analysis.

Diversity of personality traits in the study group of patients with morbid obesity

Statistical analyses were performed in order to determine the pattern of personality traits in patients with morbid obesity. Tab. I. presents the results of analysed personality traits which make up the Big Five Model. Two scales were not included in the analyses: the scale of agreeableness and openness, as the current reliability of those scales was low ($\alpha < 0.5$).

The obtained data indicate that persons with morbid obesity achieved high results in the scale of neuroticism, average results in the scale of extraversion and low results in the scale of conscientiousness.

Comparison of personality traits between patients with morbid obesity and healthy individuals and other somatic patients

Just like other somatic diseases, obesity may be a consequence of non-adaptive stress management and negative affect. The obtained data were compared with the results presented by Ogińska-Bulik and Juczyński [18] in order to determine the pattern of personality traits in patients with morbid obesity and find whether they differed from healthy individuals or somatic patients as regards selected personality traits. Statistical analysis of the study results was conducted with Student's t-test. The results are presented in Tab. II.

Statistically significant differences were found between three personality traits analysed in patients with morbid obesity and individuals from control groups: healthy individuals, oncological patients and persons with ischemic disease [18]. Neuroticism was significantly higher in study group patients than in healthy individuals and oncological patients, but it did not differ significantly from patients with ischemic disease. Patients with morbid obesity had a significantly lower level of extraversion than healthy individuals. However, they did not differ significantly from two remaining groups of patients. Conscientiousness was significantly lower in the study group than in controls, both in healthy individuals and in somatic patients.

DISCUSSION

Excessive body weight has become a major health problem of the contemporary world. On account of negative consequences of excessive body weight, it is crucial to seek and undertake actions to investigate psychological and personality-related factors influencing the etiopathogenesis of obesity. Tackling the subject of obesity from the psychological viewpoint is fully justified, as psychological

Tab. II. Average results of the present study and other studies compared with Student's t-test.

	PATIENTS WITH MORBID OBESITY N = 34 ²		HEALTHY INDIVIDUALS ¹ N = 107		ONCOLOGICAL PATIENTS ¹ N = 50		PATIENTS WITH ISCHEMIC DISEASE ¹ N = 60	
	M	SD	M	SD	M	SD	M	SD
Neuroticism	24.29	8.40	13.02	4.86	18.70	8.02	24.82	6.67
Extraversion	27.88	5.60	31.67	4.89	28.18	4.71	26.96	6.77
Conscientiousness	29.82	6.51	35.30	4.93	36.20	5.32	35.12	5.82
Student's t-test result for the comparison of patients with morbid obesity			NEU t (33) = 7.83 ^{***} EKSTRA t (33) = 3.94 ^{***} SUM t (33) = 4.91 ^{***}		NEU t (33) = 3.88 ^{***} EKSTRA t (33) = 0.31ni SUM t (33) = 5.71 ^{***}		NEU t (33) = 0.37ni EKSTRA t (33) = 0.96ni SUM t (33) = 4.74 ^{***}	

¹source Ogińska-Bulik, Juczyński [17]; ²source – the present study

*** significance at p < 0.001; ** p < 0.01, * p < 0.05

factors play a significant role in the aetiology of numerous somatic diseases. The analyses included not only individual traits, but also trait patterns. Therefore, we may indicate specific personality types, e.g. type D personality (distressed), type A personality (tendency towards cardiac disease), or type C personality (cancer-prone) [23]. Specific personality types may predispose to the development of diseases, as specific traits promote non-adaptive techniques of stress management and negative emotions. The influence of personality traits on the development of diseases was studied and documented in the professional literature and the obtained results are applied in prophylaxis and treatment [20]. The issue appears to be extremely important because of 'the epidemic of obesity', but mostly because of its negative consequences which refer both to the somatic and mental health of patients suffering from morbid obesity. According to Sekuła et al. patients with morbid obesity experienced discomfort in the psychological and physical sphere of life. The patients reported dissatisfaction with their body weight and shape and declared that food constituted a significant element of their lives [24]. The present data indicate that the intensity of personality traits of patients with morbid obesity significantly differed from healthy individuals, oncological patients and persons with cardiac diseases [18]. High neuroticism and low conscientiousness were characteristic for study group participants.

High neuroticism indicates high sensitivity and emotional susceptibility to experiencing negative emotions. Low conscientiousness is related to spontaneous action without planning, poor organisational skills, low endurance and motivation [22]. Those traits are certainly associated with specific behaviours which may lead to the development of excess body weight and obesity, e.g. emotion-

al eating, succumbing to temptations, difficulty introducing desired changes in behaviour, lower motivation for achieving goals. The available study results showed that personality traits and the level of self-control determine the nutritional process. High neuroticism and low conscientiousness lead to developing unhealthy dietary habits [20, 25]. Research confirmed that excessive eating functions as a regulator of negative emotional status in persons with nutritional disorders and excessive body weight [15, 25, 26].

Therefore, the present results may reveal personality-related determinants of obesity. The results should be interpreted carefully because of a small sample size. It seems justified to repeat the study on a larger study group and conduct the study with repeated measurements, introducing other variables for observation, such as stress measurement or stress management strategies.

CONCLUSIONS

- The subjects significantly differed as regards experiencing negative emotions (high level of neuroticism) and low level of self-control (low conscientiousness);
- Patients with morbid obesity significantly differed from healthy individuals and somatic patients as regards the analysed measurements of the Big Five;
- Lowered conscientiousness and intensified neuroticism were significantly visible in the group of patients with morbid obesity compared to other groups of somatic patients, which may highlight the role of those personality traits in the development of excessive body weight.

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Word count: 2560

Page count: 4

Tables: 2

Figures: –

References: 26

DOI: 10.5604/01.3001.0013.4177

Table of content: <https://ppch.pl/issue/12160>

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Competing interests: The authors declare that they have no competing interests.



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Cite this article as: Sekuła M., Jarczewska-Gerc E., Boniecka I., Jędrzejewski E., Paśnik K.: XXL-TYPE PERSONALITY. Personality traits promoting excess body weight; *Pol Przegl Chir* 2019; 91 (5): 1–4