

# Personality Assessment in Morbid Obesity

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## Abstract

*Objective:* To analyze the personality traits and psychological discomfort, eighteen months after bariatric surgery (vertical banded gastroplasty) in morbidly obese patients. *Method:* We used the Millon Clinical Multiaxial Inventory-II (MCMI-II) for assessing personality traits in 100 morbidly obese patients. *Results:* Six basic factor dimensions in the mental state were obtained: (1) Personality traits and Psychological Discomfort, (2) Histrionic-Narcissistic-Antisocial, (3) Neurotic, (4) Paranoid, (5) Alcohol dependence, and (6) Dependent. *Conclusions:* Our results suggest that people with morbid obesity after bariatric surgery share characteristics of personality disturbances and psychological discomfort, and that subtypes of different personality dimensions are associated with wide groups of psychopathological symptoms (*German J Psychiatry* 2002; 5(4): 90-94).

*Keywords:* Morbid obesity, bariatric surgery, psychiatric disorders, personality disorders

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## Introduction

Clinical experience suggests that morbidly obese persons seeking treatment for their obesity do have significantly more psychological problems than the normal population (Grana, 1989; Berman, 1993) and often exhibit passive-dependent and passive-aggressive personality traits (Castelnuovo-Tedesco, 1975, 1987). They may appear passive but express their hostility in interpersonal relationships (Bruch, 1973). Other authors have reported immaturity and poor impulse control (Hutzler, 1981), higher scores on the oral cluster traits (self-doubt, insecurity, sensitivity, dependence, compliance and emotional instability) (Larsen, 1989), eccentric cluster traits (paranoid, schizoid, schizotypal) and dramatic cluster traits (histrionic, narcissistic, borderline, antisocial) (Black, 1992) in these patients. After bariatric surgery, morbidly obese patients seem less disturbed, with more control of their situation, the psychological discomfort decreasing after one year follow-up (Larsen, 1989; Charles, 1987; Solow, 1977; Harris, 1982; Garner, 1983; Chandarana, 1988; La Manna, 1992; Adami, 1994; Karlsson, 1998; van Gemert, 1998; Guisado, 2001).

Studies on this subject have found a poor response to surgery with little weight loss in the presence of preoperative personality disorder (psychopathy and borderline traits) (Jonsson, 1986; Barrash, 1987; Larsen, 1990), and this finding may indicate that patients with a personality disorder diagnosis have more difficulties adapting to the strong demands of controlled eating behavior imposed on them by the surgical operation (Jonsson, 1986).

Patients with morbid obesity are considered to be psychologically different due to the existence of determined behaviour patterns and personality models which have an influence on calory intake and energy expenditure and, consequently, on weight loss (Charles, 1987). The high rates of psychiatric disorder (clinical syndromes and personality disorders) in obese clinic patients (Berman, 1992) suggest that if psychopathology has an impact on weight loss and weight maintenance, it may be an important mediating factor for weight control treatment planning (Berman, 1993).

The goal of this study was to analyse the relationship between psychological symptoms and personality traits in a group of patients with morbid obesity following surgery,

and to set up a common model for the identification of determined patterns of behaviour, which are of such importance in the assessment of these patients.

## Subjects and Methods

Subjects were 100 morbidly obese patients (85 female, 15 male) who had received surgical treatment (vertical banded gastroplasty) for weight reduction. The patients were evaluated by three psychiatrists and an endocrinologist in the Obesity Unit of the San Carlos University Hospital of Madrid, 18 months after surgery. At that point, most of the patients had adapted to new eating habits, the psychological distress resulting from obesity had decreased, and any surgical complications that had arisen were resolved. This procedure is supported by others studies that have shown a decrease in personality features and psychological discomfort one year after surgery in morbidly obese patients (Larsen, 1989; Charles, 1987; Solow, 1977).

**Table 1. Factor Analysis**

Variables	Factors					
	1	2	3	4	5	6
<b>Schizoid</b>					-0.803	
Avoidant	0.860					
Dependent						0.862
Histrionic		0.901				
Narcissistic		0.633				
Antisocial		0.742				
Aggressive-sadistic						
Compulsive						
Passive-aggressive	0.627					
Self-defeating	0.813					
Schizotypal	0.775					
Borderline	0.672					
Paranoid				0.871		
Anxiety			0.947			
Somatoform			0.853			
Manic disorder						
Dysthymic disorder		0.846	0.807			
Alcohol dependence					0.671	
Drug dependence		0.808				
Thought disorder	0.715					
Major depression	0.682					
Delusional disorder				0.823		
Variance						
% explained	22.34	19.95	14.59	13.12	6.08	6.01
% accumulated	22.34	42.29	56.89	70.02	76.11	82.12

## Assessment

Each patient completed the Millon Clinical Multiaxial Inventory-II (MCMI-II) (Millon, 1987). This test is a popular instrument for an objective assessment of DSM-III-R (APA, 1987) personality disorders and clinical syndromes. The test consists of Personality Disorder (PD) Scales derived from Millon's biopsychosocial theory of personality pathology (Millon, 1981, 1984, 1986a, 1986b) and symptom scales that derive from Millon's belief that psychological status is an extension of a person's basic personality style. The MCMI-II has been normed essentially on clinical populations and is not meant to be used with healthy subjects. It presently consists of a 175-item self-report inventory of 22 scales measuring basic personality style (Schizoid, Avoidant, Dependent, Histrionic, Narcissistic, Antisocial, Aggressive-sadistic, Compulsive, Passive-aggressive, Self-defeating), severe personality disorders (Schizotypal, Borderline, Paranoid), and clinical syndromes (Anxiety, Somatoform, Manic disorder, Dysthymic disorder, Alcohol dependence, Drug dependence, Thought disorder, Major depression, Delusional disorder).

## Statistics

An exploratory factor analysis (varimax rotation, Kaiser normalization) was performed using the typified scores for each of the items as variables, and a final solution was obtained based on six factors. Then, once the six factors had been isolated, the Pearson intercorrelations among these factors were calculated.

## Results

The mean age of the sample was 41.98 years (SD 11.43). The percentage of weight loss, after surgery, was 31.32 % (SD 10.39). There were no significant differences in sex and percentage of weight loss.

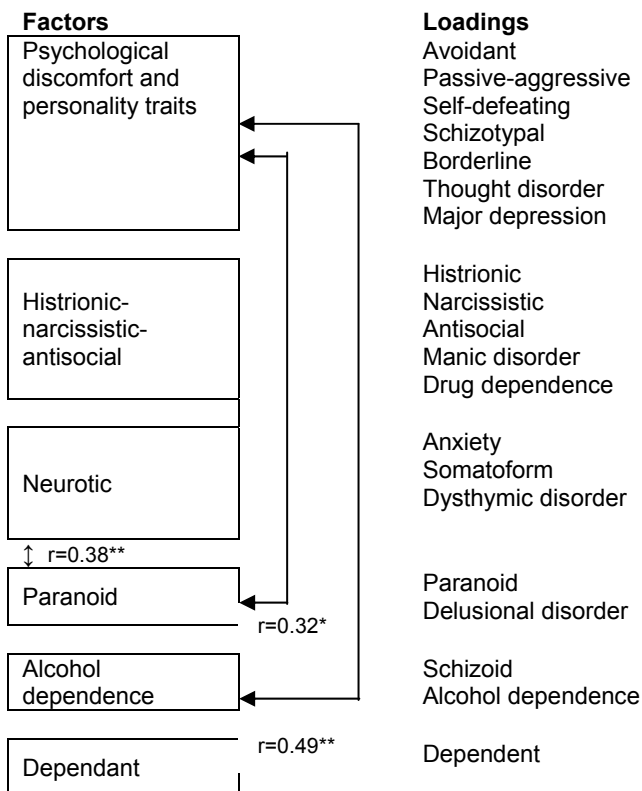
The results of the factor analysis with a solution based on six rotated factors are given in Table 1. These factors explained 82% of the variance. Only communalities with a score over 0.60 were considered for discussion.

The first factor contains 'personality traits' (avoidant, passive-aggressive, self-defeating, schizotypal, borderline) and 'psychological discomfort' (major depression, and thought disorder) and accounts for 22.34% of the variance. The second factor contains personality traits which we have designated as 'histrionic-narcissistic-antisocial', these being histrionic, narcissistic and antisocial personality, manic disorder, drug dependence variables. This factor explains 19.95% of the variance. The third factor was termed 'neurotic' and includes anxiety, somatoform, and dysthymic

disorders. We have designated the fourth factor as ‘paranoid’, as it includes paranoid personality traits and delusional disorder. The fifth factor contains alcohol dependence and schizoid personality traits (‘alcohol dependence’). The last factor (‘dependent’) encompasses dependent personality traits.

After performing the study of bivariate correlations it was noted that the first factor was significantly correlated with the third and fourth factors (Figure 1). The third factor was significantly correlated with the fourth.

**Figure 1. Schematic Representation of Factors and Intercorrelations.** *r*, Pearson correlation coefficient; \*= $p < 0.001$ , \*\*= $p < 0.0001$



## Discussion

The present study demonstrates the heterogeneity of personality traits among the morbidly obese and encourages the search for variables, which may serve as predictors of the outcome of bariatric surgery (Charles, 1983; Webb 1990). Espmark et al. (1979, 1982) recognized difficulties in the expression of aggressive feelings in morbidly obese patients after surgery. He referred to the “eridophobic syndrome”, consisting of hypersensitivity to criticism and difficulties in showing aggressive feelings.

It has been reported that, in general terms, between 30-50% of patients with morbid obesity assessed in gastric surgery programmes present a psychiatric pathology that is receptive to treatment (Black, 1992; Larsen, 1990; Halmi, 1980; Lang 2000; Guisado, 2001). They are more likely to be diagnosed as having strong depression, agoraphobia, simple phobia, post-traumatic stress disorder, personality disorders, eating disorders and anomalous eating behaviour. The existence of psychiatric disorders shows that these patients run the risk of losing little weight after surgery (Lang, 2000; Yale, 1991; Kral, 1993; Hsu, 1996; Resch, 1999; Kriwanek, 2000), as they more and more frequently request surgical treatment to alleviate their psychological distress (Karlsson, 1998).

Our study confirms the relationship between psychological states and personality characteristics of patients with morbid obesity. We observed two large groups of clinical symptoms: on the one hand, symptoms of psychological discomfort, and on the other, personality traits. Thus we can see how these patients’ behaviour may be explained by means of a multidimensional model based on six factors, in decreasing order of influence: 1) *personality traits* and *psychological discomfort*; 2) personality traits such as histrionic, narcissistic, and antisocial personalities; 3) affective disorders such as anxiety, somatoform, and dysthymic disorders (*neurotic*); 4) paranoid personality traits and delusional disorder (*paranoid*), 5) dependence on alcohol and the schizoid personality pattern (*alcohol dependence*), and 6) dependent personality traits (*dependent*). Regarding the ‘alcohol dependence’ factor we found that some morbidly obese patients showed characteristics of alcohol use disorder, while patients with schizoid personality traits seemed to be protected from this disorder. The drug dependence (second factor) and alcohol dependence (fifth factor) confirm that our morbidly obese patients show substance use disorders in accordance with previous studies (Marcus, 1988; Keefe, 1984; Goldfein, 1993). The interest in these findings lies in detecting those patients with substance use disorders, because they seem to have greater difficulty in reducing their weight after surgery (Marcus, 1988).

Our study confirms that patients with morbid obesity who have undergone bariatric surgery have psychological discomfort and specific personality traits. It also confirms the association between specific personality characteristics and psychopathology in these patients, the bivariate correlation analysis, and the highly significant associations between the patients’ emotional state and their personality traits. This study therefore confirms the importance of assessing the mental state of patients undergoing weight loss treatment programmes. In agreement with other studies (Lyznicki, 2001; Scheen, 2001; Wadden, 201; Walen 2001), it is necessary to systematically assess the dimensions of psychopathology and personality in patients who request treatment, since there is evidence of a specific personality pattern among this population (Castelnuovo-Tedesco, 1975, 1987; Hutzler, 1981; Larsen, 1989; Black, 1992).

The scientific value of this paper is limited because the patients were not compared with a control group (e.g. a healthy control group, morbidly obese patients who did not undergo surgery, morbidly obese patients treated conservatively or declining surgery). Further studies should examine the association between mental state and personality traits before surgery, and also the evaluation of these factors after it, considering the possibility of initiating psychopharmacological treatment accordingly.

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