



ELSEVIER

Contents lists available at ScienceDirect

## Journal of Affective Disorders

journal homepage: [www.elsevier.com/locate/jad](http://www.elsevier.com/locate/jad)

## Research report

## Dysfunctional traits in obese women and underweight men

Wyllians V. Borelli<sup>a</sup>, Diogo R. Lara<sup>a,b,\*</sup><sup>a</sup> Hospital São Lucas da Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil<sup>b</sup> Faculdade de Biociências, Pontifícia Universidade Católica do Rio Grande do Sul, Porto Alegre, Brazil

## ARTICLE INFO

## Article history:

Received 16 July 2014

Accepted 22 July 2014

Available online 30 July 2014

## Keywords:

Temperament

Obesity

Underweight

BMI

Personality

Traits

## ABSTRACT

**Background:** The prevalence of obesity is rapidly increasing worldwide, together with its comorbidities. Our aim was to assess the emotional traits and affective temperaments, according to various Body Mass Index (BMI) groups, in a large sample.

**Methods:** Data was collected by a web-survey on psychological and psychiatric measures (BRAINSTEP). The BMI was evaluated by self-reporting and temperament was evaluated by the Affective and Emotional Composite Temperament Scale (AFFECTS). The final sample consisted of 10,786 individuals (mean age  $27.9 \pm 7.8$  years, 70% females).

**Results:** About 40% of the sample had a BMI score higher than normal. The overall BMI score was particularly associated with a higher Desire and a lower Control and Volition ( $p < 0.001$  for all), especially in women. Obese females also had significantly lower Coping, Stability, and Caution. In males only, underweight individuals were more fearful and sensitive, and they had a lower Coping and Volition character than normal weight subjects, suggesting a more fragile and immature profile. Linear regression with several adjustments confirmed these associations. Regarding affective temperaments, a Depressive type was more prevalent among underweight subjects, an Obsessive type was associated with a normal BMI, and a Hyperthymic type was apparent in overweight individuals of both genders. Underweight males and females were more prone to having an internalized temperament.

**Limitations:** Only self-reporting measures were used in a cross-sectional design.

**Conclusions:** Obese women and underweight men have a more dysfunctional trait profile. Addressing these traits may be important for prevention strategies and, possibly, for weight reduction in women.

© 2014 Elsevier B.V. All rights reserved.

## 1. Introduction

Obesity plays a massive role in public health issues: globally, around 35% of adults aged 20 or more were overweight in 2008 (WHO, 2014), and its prevalence is still increasing. A Body Mass Index (BMI) is the most common classification of weight and classes. In adults, they are underweight if ( $< 18.50$ ), of normal weight if ( $18.50$ – $24.99$ ), overweight if ( $25.00$ – $29.99$ ) and obese if they are ( $\geq 30$ ), according to the WHO. Given the substantial impact of weight in several systemic diseases, health professionals should devote a special focus on this subject.

Specific personality traits have shown an association with a higher BMI ( $> 25$ ). A study (Suzuki et al., 2009) applied the Cloninger TCI questionnaire, to a sample of 567 healthy Japanese volunteers, and reported higher BMI to be associated with increased Harm Avoidance and decreased Self-Directedness, but only in women. Also, a recent study (Dalle Grave et al., 2013) found

significantly lower Self-Directedness and Cooperativeness in 586 obese individuals, in comparison to 185 controls. Sullivan et al. (2007) also reported that obese subjects ( $n=56$ ) have a lower Self-Directedness and Persistence, but observed a higher Novelty Seeking, than in lean individuals ( $n=265$ ). Thus, these three studies agree about Self-Directedness, but the findings regarding the other traits were variable. Among larger studies, with other personality measures, an epidemiological research team (Terracciano et al., 2009), evaluated 5693 individuals, using the Revised NEO Personality Inventory for the Five-Factor Model. They found that high Neuroticism was associated with being underweight and that low Conscientiousness was related to being obese. Similarly, an interesting cohort (Hampson et al., 2013), reported that lower levels of Conscientiousness in childhood was a predictor of greater obesity in adult life, among other metabolic alterations. Accordingly, a meta-analysis (Jokela et al., 2013) of nine cohort-studies was performed, regarding personality traits and obesity, in 78,931 individuals, using the Five-Factor Model. Its main finding showed that a low Conscientiousness score when compared with a high Conscientiousness score has 38% chance and has higher odds of being obese, without consistent differences for other traits.

\* Corresponding author at: Faculdade de Biociências–PUCRS, Av. Ipiranga, 6681–Pd12A, Porto Alegre, RS, 90619–900, Brazil. Fax: +55 51 33203612.

E-mail address: [drlara@pucrs.br](mailto:drlara@pucrs.br) (D.R. Lara).

Previous studies suggest that overweight and obesity are significantly associated with a higher risk of developing mental disorders. For example, obesity is associated with 25% increase in the odds of mood and anxiety disorders (Simon et al., 2006), and individuals with a history of major depression disorders are more likely to be obese (McIntyre et al., 2006). Likewise, a cross-sectional analysis in Spain reported a higher body mass index (BMI > 28.8) in individuals with a bipolar disorder (Sicras et al., 2008). Moreover, an Italian study (Maina et al., 2008) has shown that the percentage experiencing a depressive episode to be significantly higher in overweight patients (83%) when compared to the non-overweight group (58%); and excessive weight is significantly more prevalent in patients with a bipolar disorder than in other psychiatric patients.

In the present study, we studied the associations of BMI with temperament, using an integrative approach, named the Affective and Emotional Composite Temperament (AFECT) model (Lara et al., 2011). This model permits analyses of 10 emotional/cognitive dimensions, namely Volition, Desire, Anger, Fear, Caution, Emotional Sensitivity, Coping, Control, Anxiety and Stability (Table 1). The interaction of these independent emotional traits produces the affective temperament, which in turn reflects the prevailing mood and behavioral pattern. The affective temperament is classified in 12 categories: depressive, anxious, apathetic (internalized types), cyclothymic, dysphoric, volatile (unstable types), obsessive, euthymic, hyperthymic (stable types), irritable, disinhibited, and euphoric (externalized types). An assessment of emotional traits provides a dimensional, specific, and detailed evaluation, whereas the classification of categorical affective types offers a global perspective of temperament and mood. In order to evaluate these emotional traits and affective temperaments, we developed and validated the Affective and Emotional Composite Temperament Scale (AFECTS) (Lara et al., 2011).

Our aim was to assess how affective temperaments and emotional traits are related with BMI in the general population. We collected data from a large web-survey on psychological and psychiatric measures called the Brazilian Internet Study on Temperament and Psychopathology (BRAINSTEP) (Lara et al., 2012). Online questionnaires are useful tools to study behavior and attitudes (Gosling et al., 2004), and self-reporting of weight and height closely reflect their objective measures (Dahl et al., 2010). The principal hypothesis was that a high BMI is associated with: (1) high Emotional Sensitivity, Anger, Desire, Anxiety and (2) lower Volition, Caution, Coping, and Control, without any clear gender differences. Also, we expected euphoric, volatile, and cyclothymic types, to be more strongly associated with an excessive BMI.

## 2. Methods

### 2.1. Participants

All participants reported their electronic informed consent before completing the scale. This form was elaborated to fulfill the National Health Council of Brazil requirements (Resolution 196/1996) and the Code of Ethics of the World Medical Association (Declaration of Helsinki). Their participation was voluntary and they could cancel their participation at any time without any justification. This study was approved by the Institutional Review Board of Hospital São Lucas from Pontifícia Universidade Católica do Rio Grande do Sul, Brazil.

The present data is part of a large web-based survey BRAINSTEP. Volunteers answered by Internet ([www.temperamento.com.br](http://www.temperamento.com.br)) the AFECTS questions on weight, height, demographic data, and various other scales and questionnaires. To ensure data reliability, questions checking for attention were inserted within the instruments and throughout the system. They were associated with two specific questions at the end of the process, regarding the degree of attention,

**Table 1**  
Descriptions of AFECTS emotional/cognitive dimensions.

Dimension	Feature
Volition	Positive affect, motivation, energy, pleasure
Desire	Impulses, indulgence, cannot stop
Anger	Emotional intensity, aggressive behavior
Fear	Shyness, fearfulness, worry, freeze-proneness
Caution	Prudence, carefulness, risk-avoidance
Sensitivity	Emotional sensitivity to criticism, rejection, pressure, frustration, trauma
Anxiety	Prone to be tense, anxious, apprehensive
Coping	Ability to face and solve problematic situations, maturity, resourcefulness
Control	Attention, focus, discipline, duty, executive functions
Stability	Stable, reliable, regular

and the sincerity of the volunteer. Only those who stated being attentive and sincere throughout the study and had correct answers in the attention validity items were included. The initial sample consisted of 16,584 volunteers, who had all measures completed, but only 10,786 passed all of the validity checks and matched the age criteria (age > 18 and ≤ 50 years-old).

### 2.2. Instruments

#### 2.2.1. Affective and Emotional Composite Temperament Scale (AFECTS)

The AFECTS (see Lara et al., 2012, for the complete scale) consists of the following sections:

- (1). Emotional section: 52 seven-item multiple choice questions for the emotional traits of Volition, Anger, Emotional Sensitivity, Coping, and Control (8 items each) and Stability, Caution, Fear, Anxiety, and Desire (4 items). Questions were scored from 1 to 7, and the total score for each dimension was the sum of the scores of their respective questions. Except for the Desire dimension, each emotional dimension was composed by two facets of four questions as follows: Volition (positivity and energy), Anger (intensity and irritability), Inhibition (fear and caution), Sensitivity (interpersonal and to events), Coping (facing and solving), and Control (focus and order).
- (2). Affective section: Short descriptions of 12 affective temperaments (depressive, anxious, apathetic, cyclothymic, dysphoric, volatile, obsessive, euthymic, hyperthymic, irritable, disinhibited, and euphoric) were presented with 5-item Likert scale, from 'nothing like me' (rated as 1), to 'exactly like me' (rated as 5). This was the quantitative assessment of affective temperament. After these 12 descriptions, the subject had to select which of these profiles was the most suitable to represent his/her temperament. This allowed for a categorical evaluation of affective temperament (Table 2).

#### 2.2.2. Assessment of body mass index

Data was analyzed separately, by gender, and stratified in 5 BMI categories: underweight (< 18.5 kg/m<sup>2</sup>), normal weight (18.5–24.99 kg/m<sup>2</sup>), overweight (25–29.99 kg/m<sup>2</sup>), obese (30–34.99 kg/m<sup>2</sup>) and severely obese (≥ 35 kg/m<sup>2</sup>).

### 2.3. Statistical analysis

Age differences between the BMI groups were compared with ANOVA, followed by the Tukey Post-Hoc Test, and the proportions of males and females were analyzed with the Chi-Square Test. We

Download English Version:

<https://daneshyari.com/en/article/6232417>

Download Persian Version:

<https://daneshyari.com/article/6232417>

[Daneshyari.com](https://daneshyari.com)