PSYCHOSOCIAL WORK DIMENSIONS, PERSONALITY, AND BODY MASS INDEX: SEX DIFFERENCES

ANGEL BLANCH1,2 and ANTON ALUJA1,2

1 University of Lleida, Lleida, Spain
Department of Pedagogy and Psychology
2 Institute of Biomedical Research (IRB Lleida), Lleida, Spain

Abstract
Objectives: The association between psychosocial work dimensions (i.e. demand and control) and obesity has been found to be inconclusive, indicating that individual differences factors might also contribute to explain the variability in BMI.

Materials and Methods: The interaction between work dimensions and personality variables in a group of male and female workers (N = 506), and its associations with BMI were analyzed with a cross-sectional study with self-report data. Hierarchical regression analyses were used to predict the BMI levels from work and individual differences variables and their interactions for males and females.

Results: The main effects of personality variables were not significant, physical workload interacted with neuroticism for males, whereas control interacted with activity for females.

Conclusions: Psychosocial work dimensions and personality traits were related to BMI for men and women. These outcomes reinforce the notion that different models might account for the explanatory mechanisms of BMI in regard to sex.

Keywords: BMI, Work demand and control, Personality

INTRODUCTION

Overweight is an important risk factor for cardiovascular disease, diabetes, cancer, and other health-related problems, and has become one of the most relevant public health problems in contemporary societies. In addition to this, the general health costs for the society and the economic costs of obesity in the workplace in terms of absenteeism, sick leave, or job injuries have also been highlighted [1,2], eliciting the implementation of obesity prevention programs at worksites [3]. Recent longitudinal research in industrialized regions such as Europe [4,5], the United States [6], and Japan [7] has attempted to link psychosocial work stressors with weight gains. The findings in these studies have been usually interpreted within the Demand – Control (DC) model [8], suggesting that high job demands, low job control, and poor social relationships at work could be related to significant gains in the body mass index (BMI) and increased abdominal obesity.

The psychological correlates of excess weight are not well documented [9,10], therefore, a relevant question is whether the psychological correlates of obesity might vary among individuals. Evidence points out to demographic variables, individual differences, and lifestyle factors that might influence coping with psychosocial work strain and the subsequent development of obesity [11–14]. For instance, sex might be a consistent moderator in the association of BMI with the DC psychosocial work dimensions, as indicated by several
works reporting variations in the association of stressors with BMI as a function of sex [6,9,15–19]. Moreover, there are dispositional individual differences associated with the body weight for males and females, whereas a greater social stigma is usually attributed to women than to men concerning being overweight [9,15]. Furthermore, a number of behavioral, emotional, and cognitive characteristics are deeply rooted in weight control disturbances for many people [11,20]. For instance, overweight has been associated with paranoid, antisocial, and avoidant personality disorders in women, with men displaying lower rates of the paranoid personality disorder, whereas underweight women showed higher odds ratios than men as regards the schizoid personality disorder [21]. Besides, different personality traits have been associated with BMI: a positive relation of neuroticism and extraversion for females and males, respectively, and a negative relation with agreeableness and conscientiousness for both males and females [15,22]. In addition, impulsiveness and conscientiousness (low self-discipline) have also been positively and negatively related to BMI [20,23]. To sum up, higher BMI levels have been related to increased neuroticism in women and to increased extraversion and psychoticism in men. Several empirical works suggest that addressing the relationship of psychosocial work dimensions with BMI through sex-specific models is utterly warranted. Furthermore, the moderating role of individual differences in personality might provide a more comprehensive approach to study the variations in BMI due to its psychological correlates [16,24]. However, as far as we know, no studies have explicitly analyzed whether psychosocial work dimensions and personality could be intertwined when associated with BMI. Therefore, the present study sought to assess under what exact individual differences in personality, the DC psychosocial work dimensions might be related to BMI for both males and females.

METHOD

Participants and procedure

The participants filled in self-report questionnaires that had been distributed at administration, management, technical and education services job posts in private and public companies in a mid-size city in Catalonia (Spain). The questionnaires were collected at each individual’s workplace after two weeks. In this way, data from 322 female, and 184 male full-time workers were obtained. The participants worked approximately 40 h per week.

Measures

Body Mass Index

Body Mass Index (BMI) is a measure used to evaluate obesity, usually expressed as kg/m$^2$ – weight in kilograms divided by height in meters squared. Both parameters were self-reported by the participants, even though these types of BMI measures tend to correlate with the measures of BMI when being directly estimated [25].

Demographic factors

Age and education were used as the control variables. Age was measured in years. Education was measured with one item asking the top education level attained, and it was coded from 1 (elementary school) to 6 (doctoral studies).

Work variables

Three job characteristics were evaluated with the Job Content Questionnaire [26]:

1. Psychological work demand (9 items): measures the degree of psychological workload (I have sufficient time to finish the work).
2. Physical workload (3 items): evaluates the degree of physical workload required by one’s job (My job requires a lot of physical effort).
3. Control (9 items): assesses the degree of skill utilization at the workplace (My job requires me to learn new things), and the availability to make decisions over