Structural validity of the Maslach Burnout Inventory and influence of depressive symptoms in banking workplace: Unfastening the occupational conundrum

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A B S T R A C T

Burnout and mental disorders have been reported in the financial industry. This study aims to examine the structural validity of the Maslach Burnout Inventory (MBI) and to investigate the connection between the dimensions of burnout and depressive symptoms in a sample of 1046 bank employees from North Brazil who completed the MBI and the Patient Health Questionnaire-9 (PHQ-9. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to cross-check the factorial structure of the MBI. One-way analysis of variance and correlation analysis were applied to elucidate the relationship between burnout and depressive symptoms. Both 3-factor and 4-factor oblique solutions were plausible EFA models of the burnout syndrome. Results of CFA supported the 19-item 4-factor structure as the best fitting model to data, with two exhaustion factors ("exhausted" and "strained"), depersonalization, and personal accomplishment. The PHQ-9 total score and individual score of depressive items were significantly correlated with all MBI dimensions, notably with the emotional exhaustion dimension. The moderate-to-high correlation observed between burnout and depression suggest the potential utility of the MBI for evaluating burnout among bank employees as well as to point out the need to evaluate systematically the burnout and depressive symptoms given to their potential association.

1. Introduction

Profound changes in modern economic market and current monetary hardship have rendered the financial industry as one of most stressful occupational sectors worldwide. Recurrently, bank employees complain of excessive work demands and increased violence in the bank branch (Giga and Hoel, 2003). Hectic labour conditions of bank workplace are associated with high level of distress, resulting in burnout (Li et al., 2015; Valente et al., 2016a), poor health (Silva and Barreto, 2012) and depressive symptoms (Valente et al., 2016b).

The intersecting relationship between burnout and depression has been debated in different occupational settings (Ahola et al., 2014; Bianchi et al., 2014; Wurm et al., 2016). However, studies investigating the relationship between burnout and depression among bank workers are scant. While depression is considered a ubiquitous mental state with huge impact in one's quality of life and productivity in different environments (Evans-Lacko and Knapp, 2016), burnout is usually regarded as a job-related condition (Maslach and Leiter, 2016). Nevertheless, it is still unclear if depression and burnout represent distinctive phenomena (Bianchi et al., 2014; Schaufeli and Enzmann, 1998) or the symptomatic overlap of burnout and depression holds common causal relationship (Bianchi et al., 2015; Wurm et al., 2016). Possibly, insufficient characterization of burnout construct in specific populations has hampered the advance of investigations.

The occupational literature has popularized the concept of staff burnout since Freudenberger (1974). Previous studies using the well-accepted Maslach Burnout Inventory (MBI) have indicated substantial variability of construct of burnout across different types of occupation and workplace (e.g. Densten, 2001; Loera et al., 2014; Mészáros et al., 2014). Insufficient reliability and unstable factorial structure of burnout syndrome are further shortcomings of the construct (Carlotto and Câmara, 2007; Lautert, 1997; Tamayo, 1997). Distinct language versions of the assessment tool, inadequate sample size, different population characteristics, and dissimilar analytical methods also have impeded more meaningful comparisons. Even though burnout in banking workers increasingly occurs as a relevant phenomenon (Amigo et al., 2014), there is no validity study of the MBI focusing this occupational context. Moreover, companies are reluctant to change work conditions

and incorporate protective measures to employees due to lack of confident methods to quantify burnout-associated disability (absenteeism and sick leave) and productivity loss (presenteeism). As such, validated measures of burnout are necessary to build organizational programs to control and mitigate its occurrence.

In Brazil, the financial service was one of work sectors with the highest rate of sickness benefit claims due to mental disorders (Barbosa-Branco et al., 2012) and high prevalence (32%) of depressive symptoms was identified among bank employees (Valente et al., 2016b). Therefore, it is judicious to hypothesize that investigations on core dimension of burnout might constitute the essential step to prevent its manifestation in financial workplace. Besides, burnout and depression share a lot of symptoms (Ahola et al., 2014), and it may be that early identification of signs of burnout facilitate to search correlated depressive symptoms in this labour context. The aims of the present study were to (a) examine the psychometric properties of the MBI in a sample of bank employees through exploratory and confirmatory factor analysis, and b) investigate the overlap between burnout and depressive symptoms.

2. Methods

2.1. Sample and procedures

Data of this investigation were drawn from a cross-sectional survey conducted among bank employees of the Pará and Amapá states, northern Brazil, during 2012–2013 (Valente et al., 2016b). Participants were current employees in bank sectors, men aged ≥ 18–66 years and with 1–30 years of work, and women aged ≥ 18–61 years and with 1–25 years of work. All eligible individuals were first invited through email. For those non-responders, a subsequent invitation delivered the questionnaires in person. Retired workers and those near retirement age were excluded. Similarly, employees on temporary or permanent leave, receiving sickness benefits, and absent for personal reasons were eliminated. Anonymity and confidentiality were guaranteed for all participants: a private email link or sealed envelopes containing the survey were delivered to the workers.

In total, the survey invitation was sent to 2806 eligible subjects from a list provided by the local Union of Bank Employees. For a participation rate of 52%, 670 workers responded by email to the electronic form and 775 filled-out the paper-and-pencil version of the survey, yielding 1445 questionnaires. After exclusion of incomplete responses ($n = 399$), the final sample consisted of 1046 complete answers. More details on methodological description of the survey were reported elsewhere (Valente et al., 2016b).

The Research Ethics Committee involving human beings of the University of São Paulo Medical School approved this study. Informed consent was obtained from all participants.

2.2. Instruments

2.2.1. The Maslach Burnout Inventory

Burnout symptoms were assessed with the version for Human Services Survey of the Maslach Burnout Inventory (MBI-HSS), Portuguese translation (Tamayo, 1997). The MBI-HSS has been widely used in several occupational groups (e.g. Carlotto and Câmara, 2007; Densten, 2001), including sample with bank employees (Gil-Monte, 2005). This 22-item MBI comprises three sub-scales: emotional exhaustion (EE; 9 items), depersonalization (DP; 5 items), and reduced personal accomplishment (PA; 8 items). The seven-point ordinal response options ranged from 0 (never) to 6 (every day). The scores ranged from 0 to 54 for EE, 0 to 48 for PA, and 0 to 30 for DP. The severity of burnout is given by subscale scoring as follows: EE, 0–16 (low), 17–26 (moderate), and > 26 (high); DP, 0–6 (low), 7–12 (moderate), and > 12 (high); and PA, 0–31 (high), 32–38 (moderate), and > 39 (low). High EE and DP scores and low PA scores indicate high degree of burnout (Maslach et al., 1996). Brief description of each MBI

item can be found in Table S1, available as Supplementary data at Psychiatry Research Online.

Evidence of three-factor structure of MBI was presented in its original validation study (Maslach and Jackson, 1981) and for healthcare professionals (Tamayo, 1997), which acceptable internal consistency ranged from 0.67 to 0.84. However, this factorial structure was not always replicable in all studies (Loera et al., 2014) and reliability indexes were not routinely reported (Carlotto and Câmara, 2007; Lautert, 1997; Tamayo, 1997). Evidence of concurrent validity and cross-cultural comparisons was also reported (Poghosyan et al., 2009; Schaufeli et al., 2001).

2.2.2. The Patient Health Questionnaire-9 (PHQ-9)

Depressive symptoms over the previous 2 weeks were assessed through the Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001). This 9-item instrument is scored in four ordinal responses, from 0 (never) to 3 (almost every day), with possible scores ranging from 0 to 27. The cut-off point ≥ 9 for screening major depressive episodes was determined in general population, with acceptable sensitivity (78%) and specificity (87%) (Santos et al., 2013). Table S2 (available as Supplementary data at Psychiatry Research Online) presents a concise information of PHQ-9 items. We used an algorithm following PHQ-9 instructions (Kroenke et al., 2001), which take into account the Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV) criteria for major depression. Thus, symptomatic levels of depression were classified based on the participants' endorsement of symptoms as follows: (a) no depressive symptoms (NDS) for cases not included in the "a" and "b" items; (b) major depressive symptoms (MDS) was defined if present five or more of nine depressive symptom criteria (DSC) for more than half the days and requires one of them be depressed mood or anhedonia; (c) other forms of depressive symptom (ODS) was entailed if two to four of nine DSC are present on more than half the days and one of the symptoms as depressed mood or anhedonia. The only exception to the time requirement was endorsement of the suicidal ideation item, which was counted as a positive response regardless of duration (several days or more than half the days or nearly every days).

2.3. Statistical analysis

Descriptive analyses calculated the mean (*M*) and standard deviations (*SD*) for each item and sub-scale of the MBI for entire sample and by sex. The difference between the mean score for men and women was calculated by one-way analysis of variance (*ANOVA*). The reliability and item-total correlation of the scale were estimated through Cronbach's alpha coefficient of internal consistency.

Exploratory factor analysis (EFA) was performed in the first random-half sub-sample ($n = 523$). The figure of Kaiser–Meyer–Olkin measure of sampling adequacy (KMO = 0.91) and significant Bartlett test of sphericity ($\chi^2 = 5849.60$; $p < 0.001$) favoured the use of the factorial model for the data (Kanste et al., 2006). The method of maximum likelihood was used for factor extraction and Kaiser's rule of thumb criterion (eigenvalue > 1.0) determined the number of factors to be retained. MBI items with factor loading ≥ 0.40 were considered relevant to the retained factor (Maslach and Jackson, 1981). Both orthogonal (varimax) and oblique (promax) rotations were performed. Indicators of communality (h^2) were estimated to identify the contribution of each item to factorial model.

Subsequently, confirmatory factory analysis (CFA) compared eight plausible models with the second random-half sub-sample ($n = 523$). The model fitness was evaluated using following indicators: chi-square (χ^2), root mean-square error of approximation (RMSEA), comparative fit index (CFI), the Tucker–Lewis index (TLI), Akaike's information criterion (AIC), and Bayesian information criterion (BIC). Inspection of 3-factor and 4-factor solutions of the EFA was considered for model modification in CFA. Low factor loading (< 0.40) and low communality (< 0.20) were the rationale for deleting non-relevant items or poor