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Research Article

Measuring job and academic burnout with the Oldenburg Burnout Inventory (OLBI): Factorial invariance across samples and countries

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ABSTRACT

This study examined the factor structure and measurement invariance of the Oldenburg Burnout Inventory (OLBI) across different groups (German employees vs. German students) and tested academic burnout across samples from different countries (Greek vs. German students). Our results supported the proposed two-factor structure for each sample separately. In addition, multigroup analyses partially supported the equivalence of job and academic burnout within the German samples and the equivalence of academic burnout across Greek and German students. In sum, we suggest that the OLBI is a robust instrument for the measurement of burnout in both contexts: work and academic.

1. Introduction

Burnout was originally defined as a syndrome of exhaustion, depersonalization, and reduced professional efficacy that is encountered among employees who work with other people, such as in social work, health care, and teaching (Maslach & Jackson, 1981). Over the years, empirical research has shown that burnout concerns all employees irrespective of the job that they do (Leiter & Schaufeli, 1996; Maslach, Leiter, & Schaufeli, 2008) as long as they face an imbalance between their job demands and the available resources (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Karasek, 1979). At the same time, scholars began to investigate the burnout phenomenon in students (e.g., Gold & Michael, 1985; McCarthy, Pretty, & Catano, 1990). Given that the structure of the activities that students are involved in as well as the characteristics of the tasks that they have to fulfill greatly resemble those of numerous occupations (e.g., students have to attend classes and to achieve specific goals, such as passing exams; Schaufeli, Martínez, Pinto, Salanova, & Bakker, 2002), it is likely that students also feel exhausted and may develop an attitude of withdrawal with regard to their studies (Schaufeli & Taris, 2005).

Equivalent to employee burnout, student burnout has been defined as a three-dimensional syndrome that is characterized by feelings of exhaustion due to the demands of studying, a cynical attitude of withdrawal and detachment, and reduced personal efficacy regarding academic requirements (Schaufeli et al., 2002). In line with empirical evidence on job burnout, previous studies have shown that burnout symptoms are common in all students irrespective of the context of study or discipline. For instance, burnout was observed in both medical students (Boudreau, Santen, Hemphill, & Dobson, 2004; Dyrbye et al., 2006; Willcock, Daly, Tennant, & Allard, 2004) and students majoring in technical subjects (Yang & Farn, 2005). Considering how long it takes for burnout symptoms to subside (Taris, Le Blanc, Schaufeli, & Schreurs, 2005), it is likely that the symptoms of academic burnout will still exist when students begin their careers as first-time employees and young professionals. Thus, it is important to investigate the burnout phenomenon in university students because there is evidence suggesting that job burnout follows a developmental process that may have already been initiated during students' academic studies (Dyrbye et al., 2006).

Despite the fact that there are numerous studies on student burnout, very limited attention has been paid to the measurement of the construct. In most studies, academic burnout was measured by adapting the Maslach Burnout Inventory-General Survey (MBI-GS; Schaufeli, Leiter, Maslach, & Jackson, 1996) to the academic context and the three-factor structure was only partially supported

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in student samples (MBI-SS; Schaufeli et al., 2002). A major drawback of this approach is that it was automatically assumed that the concept of burnout was equivalent across employees and students. In other words, it has been taken for granted that employees and students refer to the same experiences when evaluating job and academic burnout, respectively. However, no empirical evidence has supported this assumption so far. Hence, it is important to determine whether the concept of burnout is equivalent for students and employees.

Furthermore, some scholars have criticized the psychometric qualities of the MBI-GS (Schaufeli et al., 1996) by emphasizing that it measures only affective exhaustion, that it includes the subdimension of professional efficacy, and that the wording of its items is one-directional (Halbesleben & Demerouti, 2005). On the basis of this criticism, we decided to use an alternative instrument to measure the concept of burnout: the Oldenburg Burnout Inventory (OLBI; Demerouti, Bakker, Vardakou, & Kantas, 2003), which was initially developed to overcome most of the limitations of the MBI-GS (Demerouti & Nachreiner, 1998; Demerouti et al., 2001). With this study, we examine the factor structure of the student version of the OLBI (OLBI-S) in a sample of German students. Second, we evaluate the equivalence of this instrument across German students and employees. Third, we test the ecological validity of the OLBI-S by investigating its invariance across German and Greek students and look for latent mean differences between these two samples.

1.1. Burnout: definition and measurement

Many scholars (e.g., Kristensen, Borritz, Villadsen, & Christensen, 2005; Shirom & Melamed, 2006) have commented that the current research on the construct of burnout and its history, development, and measurement are strongly related to the Maslach Burnout Inventory (MBI; Maslach, Jackson, & Leiter, 1996) and its different versions (e.g., MBI-GS; Schaufeli et al., 1996). Accordingly, burnout is defined and measured as a work-related syndrome that is characterized by emotional exhaustion (i.e., a state of energy draining), cynicism (i.e., a sense of disengagement and gradual loss of concern about the contents or the recipients of one's work), and reduced professional efficacy (i.e., feelings of incompetence) that individuals experience in relation to their work. As a matter of fact, the MBI is considered the gold standard for measuring burnout (Schaufeli & Taris, 2005) given that it is used in over 90% of the studies on the syndrome (Shirom & Melamed, 2006). Consequently, this close link between theory and measurement has resulted in "ignoring all other conceptual approaches to burnout" (Shirom & Melamed, 2006, p. 177) and in hindering the investigation of unsolved issues, such as the conceptualization of the underlying phenomenon and the development of an overarching theory of burnout (Shirom, 2005).

Furthermore, the MBI exhibits several weak points both at the theoretical and at the psychometric level. Some authors have noted that the two subscales of the MBI (i.e., exhaustion and cynicism) are completely negatively worded, whereas the third subscale (personal accomplishment) is only positively worded (Demerouti et al., 2001). Although the correlations between the two other burnout dimensions and personal accomplishment increase when the latter is assessed with negatively worded items (Schaufeli & Salanova, 2007), some have argued that the wording has led to an artificial clustering of the subfactors (Halbesleben & Demerouti, 2005). For instance, an extensive review of 45 factor analytic studies on the MBI demonstrated that besides the original three-factor solution, empirical data have also supported alternative models (i.e., two-, four-, or five-factor solutions and models with a higher order factor; Worley, Vassar, Wheeler, & Barnes, 2008). In addition, previous findings have indicated that exhaustion and cynicism might be considered the core symptoms of burnout, whereas personal accomplishment might instead be interpreted as an antecedent or as a consequence of burnout (Taris et al., 2005).

To resolve these issues, Kristensen et al. (2005) developed the Copenhagen Burnout Inventory (CBI). However, this measure minimizes burnout to only one dimension (i.e., physical and mental fatigue/exhaustion) and differentiates only between personal, work-related, and client-related exhaustion. Similarly, Shirom and Melamed (2006), building on Hobfoll's Conservation of Resources Theory (COR; Hobfoll, 1998, 1989), developed the Shirom-Melamed Burnout Measure (SMBM; Shirom & Melamed, 2006) to assess burnout as the depletion of energetic resources. Nevertheless, the reduction of burnout to a unidimensional construct has been strongly discouraged by several researchers (e.g., Maslach, Schaufeli, & Leiter, 2001; Maslach et al., 2008; Schaufeli & Taris, 2005) because the second aspect of withdrawal and detachment appears essential for differentiating burnout from chronic fatigue (Huibers et al., 2003; Leone, Huibers, Knottnerus, & Kant, 2008).

An alternative instrument that was proposed to address the content-related and methodological disadvantages of the above-mentioned measures of burnout is the Oldenburg Burnout Inventory (OLBI; Demerouti & Nachreiner, 1998; Demerouti et al., 2003). In this scale, burnout is operationalized by means of (physical, affective, and cognitive) exhaustion and disengagement, whereas personal accomplishment is excluded. Specifically, the OLBI consists of 16 positively *and* negatively formulated items that are used to evaluate the two dimensions of burnout. These positive and negatively framed items reflect the theoretical assumption that the two main dimensions of burnout can be interpreted in terms of a continuum that ranges from disengagement to dedication (i.e., the identification continuum) and a continuum that ranges from exhaustion to vigor (i.e., the energy continuum). These two dimensions are supported by the fact that exhaustion and disengagement do not share the same antecedents (Demerouti et al., 2001; Demerouti, Mostert, & Bakker, 2010). Furthermore, the OLBI items assess cognitive and physical components of exhaustion in addition to the affective component included in the MBI. Finally, the OLBI (just like the MBI-GS; Schaufeli et al., 1996) is not restricted to human services, but it can be used to measure burnout in all employees, irrespective of their occupation.

Previous studies have demonstrated the convergent validity of the OLBI and the MBI-GS among Greek (Demerouti et al., 2003) and American (Halbesleben & Demerouti, 2005) employees. Furthermore, Halbesleben (2010) reported time stabilities of the OLBI dimensions ranging from $r = .45$ to $r = .68$. The reliability of the exhaustion subscale has been found to range from $\alpha = .74$ to $\alpha = .85$, and the reliability of the disengagement subscale from .73 to .85 across studies (Demerouti & Bakker, 2008; Demerouti et al., 2003; Halbesleben & Demerouti, 2005; Halbesleben, 2010; Sonnentag, Binnewies, & Mojza, 2010; Timms, Brough, & Graham, 2012). The above-mentioned empirical findings demonstrate that the OLBI is a psychometrically robust instrument that can be used to measure burnout. To add to these previous findings, the goal of the current investigation of its factor structure across different groups (i.e., German employees vs. German students) as well as its equivalence in an academic context (across German and Greek students) is to provide further support for the psychometric justification (i.e., construct and ecological validity) of the measure.

1.2. Academic burnout

One of the advantages of the MBI that explains its broad use is the fact that the instrument is available in several validated versions. Besides the original version, the MBI-HSS, which was addressed to employees who do "people work," and the later developed MBI-GS, which can be used in all kinds of occupations (Schaufeli et al., 1996),