

# COPENHAGEN BURNOUT INVENTORY (CBI): A VALIDATION STUDY IN AN ITALIAN TEACHER GROUP

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The aim of this study was to validate the Italian version of the Copenhagen Burnout Inventory (CBI; Kristensen, Borritz, Villadsen, & Christensen, 2005), a public domain questionnaire evaluating the level of physical and psychological fatigue experienced by individuals with respect to personal, work-related, and client-related burnout. Participants in the study were 1,497 teachers (89.3% female). The dimensionality of the CBI was explored by means of confirmatory factor analysis (CFA). The scale's internal consistency was also examined. Concurrent validity was explored by investigating the associations of the CBI dimensions with the Utrecht Work Engagement Scale (UWES; Schaufeli & Bakker, 2004) and an ad hoc measure of self-efficacy. Results of CFA supported a model of measurement composed of three correlated factors: personal, work-related, and student-related burnout. Associations among the CBI factors, UWES, and self-efficacy scores were found to be in the expected directions and reliability of scales was consistent. Results suggest that the Italian version of the Copenhagen Burnout Inventory is psychometrically robust and could be adopted for empirical uses.

**Key words:** Teacher; Copenhagen Burnout Inventory; Self-efficacy; Engagement; Burnout.

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The present study aimed at evaluating the model of measurement and the psychometric properties of the Italian version of the Copenhagen Burnout Inventory (CBI; Kristensen, Borritz, Villadsen, & Christensen, 2005), a public domain questionnaire assessing the level of physical and psychological fatigue experienced by individuals with respect to personal and work-related burnout. With regard to the Italian literature, a previous study proposed a first contribution with the same aim, administering the CBI to a small group of teachers (Avanzi, Balducci, & Fracaroli, 2013). In the present study we aimed to address this gap by examining the reliability and validity of the CBI in a much larger group of Italian teachers.

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From the Maslach Burnout Inventory  
to the New Perspective of the Copenhagen Burnout Inventory

The Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981) is the instrument most widely used to evaluate burnout. It has been estimated that 90% of all empirical research on burnout used the MBI (Schaufeli & Enzmann, 1998). Although it enjoys worldwide recognition, questions were raised concerning the MBI's limitations. One criticism concerns the fact that the MBI was originally designed for administration to professionals who work with people, thereby conveying the message that burnout mainly affects workers in the human services sector and therefore does not represent a key issue for those in other types of occupation. This approach remained largely unchanged, even after a revised version of the questionnaire targeting all types of workers was brought out in 1996 (Kristensen et al., 2005).

Other critiques focused on the theory underpinning the MBI: this instrument operationalizes a definition of burnout as a syndrome comprising emotional exhaustion, depersonalization, and reduced personal accomplishment. In contrast, recent studies using the original MBI found that reduced personal accomplishment can be developed independently of the other two dimensions of burnout (Schutte, Toppinen, Kalimo, & Schaufeli, 2000). It was questioned whether reduced personal accomplishment therefore might not be a dimension of the burnout syndrome and therefore studied independently (Schaufeli & Taris, 2005). Similarly, according to Kristensen and colleagues (2005), the depersonalization dimension can be approached as one of the many strategies for coping with stress. Therefore, burnout should not be regarded as a multidimensional but rather as a one-dimensional phenomenon, defined in terms of exhaustion, both physical and psychological (Pines & Aronson, 1988; Shirom, 2005). This is precisely the first core assumption of the CBI. Its second assumption is that exhaustion could be attributed to different specific domains or spheres in the person's life, such as work in general and work with clients.

The CBI is made up of three parts that evaluate personal burnout, work-related burnout, and client-related burnout. The personal burnout dimension is defined as the degree of physical and psychological fatigue and exhaustion experienced by the person. This is the generic section of the instrument and may apply to anybody, irrespective of work experience or occupational status (including, for example, young people, people who are unemployed or have taken early retirement or are of retirement age). This part of the questionnaire therefore treats burnout as a generic, context-free phenomenon, with — intentionally — no effort to distinguish between physical and psychological fatigue or exhaustion. Such an approach, necessarily implies that burnout is the same thing as exhaustion, given that, as Schaufeli, Leiter, and Maslach (2009) observed, “a retired or unemployed person may feel exhausted, but it is impossible to identify the ‘something’ about which unemployed or retired people should feel cynical or inefficacious” (p. 212). Work-related burnout is defined as the degree of physical and psychological fatigue and exhaustion that is perceived by the person to be related to his/her work. This scale is intended to explore the individual's attribution of symptoms to her/his work, without aiming to assess this dimension in terms of objective causality. Comparison of the personal burnout and work-related burnout scales should thus enable to identify people who are tired but attribute their fatigue to non-work factors such as health problems or family demands.

Client-related burnout is defined as the degree of physical and psychological fatigue and exhaustion that is perceived by the person to be related to his/her work with clients. This scale is

designed to evaluate the extent to which respondents subjectively attribute their fatigue to their work with clients, rather than to objectively assess how their levels of exhaustion are impacted by working with people. What matters here is how much individuals connect their fatigue with their “people work.” “Clients” is interpreted quite broadly, to include, for example, patients, inmates, children, students, residents, and so forth. When the CBI is implemented, the most appropriate term for the specific group of respondents is used in place of “client” (Schaufeli, Leiter, et al., 2009).

### Teacher Burnout

Schaufeli, Leiter, et al. (2009) proposed that teacher burnout is caused by an imbalance between the resources available to workers and the demands placed on them, perceived as unsustainable. A significant body of research provides support for a triadic structure of burnout symptoms, whereby emotional exhaustion is the inability to accept and manage new emotional situations; cynicism or depersonalization involves distancing oneself from others within relationships; and finally lack of professional fulfillment leads to feelings of inefficacy regarding one’s work and a general lack of confidence in one’s own abilities (Baruch-Feldman, Brondolo, Ben-Dayan, & Schwartz, 2002; Brackett, Palomera, Mojsa-Kaja, Reyes, & Salovey, 2010; Dal Corso, Floretta, Falco, Benevene, & De Carlo, 2013; Hakanen, Bakker, & Schaufeli, 2006).

From a dynamic perspective, the stress and emotional demands associated with the teaching profession may lead to emotional exhaustion, cynical attitudes about teaching, a reduced feeling of personal accomplishment, and lower job satisfaction (Skaalvik & Skaalvik, 2007). When demands increase over personnel job resources people fail to cope with demands (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002). Insufficient opportunities to rest and regenerate depleted energy aggravate the exhausting impact of demand/resource imbalances. More specifically, stress-related diseases among teachers arise after strong mental fatigue, which is, therefore, a prestrain condition (Guglielmi, Simbula, & Panari, 2012).

The principal demands on teachers include: work/family conflict, learning difficulties and/or aggressive behavior on the part of students, ambiguity and conflict amongst colleagues, problematic relationships with parents, time pressures, and large classes (Benevene & Fiorilli, 2015; Chang, 2009; Guglielmi et al., 2012; Kyriacou, 2001; Simbula, Mazzetti, & Guglielmi, 2011). No less important are social factors such as continual legislative changes, poor remuneration, and low social recognition, all of which undermine the efficacy of teachers as a collective (Ballet, Kelchtermans, & Loughran, 2006).

In turn, teacher burnout may negatively impact on the atmosphere in the classroom, contributing to problem behavior and poor academic performance on the part of students (Skaalvik & Skaalvik, 2007, 2010). As further potential side effects, teachers who experience high levels of burnout are at increased risk of experiencing both physical and mental health problems, which in turn can lead to a decline in performance and increased absenteeism (Schaufeli, Bakker, & Van Rhenen, 2009). Lack of job resources emerged also as a critical factor among Italian teachers, as it jeopardizes the teachers’ ability to cope with their job demands (Simbula, Panari, Guglielmi, & Fraccaroli, 2012).

Burnout researchers have argued that the way teachers cope with stressful school events is associated with their sense of efficacy (Moè, Pazzaglia, & Ronconi, 2010; Skaalvik & Skaalvik,

2007). According to Bandura's (1983) social cognitive theory, self-efficacy involves the teacher's belief in his or her own ability to organize and execute the courses of action required to successfully accomplish a specific teaching task in a given context. Thus, efficacy beliefs affect how teachers perceive stressful events and how much effort they expend in pursuing their objectives (Bandura, 2006a). Teacher burnout is moderately associated with teacher self-efficacy (Evers, Brouwers, & Tomic, 2002; Skaalvik & Skaalvik, 2007). In this regard, Skaalvik and Skaalvik (2010) argued that teachers with low self-efficacy, concerning, for example, classroom management, incur increased occupational stress, which in turn may lead to increased levels of burnout symptoms. These authors have also suggested that because self-efficacy beliefs are based on experience, it is reasonable to hypothesize a reciprocal relationship between teacher self-efficacy and teacher burnout. In fact, other scholars who investigated Italian teachers, found that there is a reciprocal relationship between self-efficacy and job resources on the one hand and work engagement (the opposite of burnout) on the other (Simbula, Guglielmi, & Schaufeli, 2011).

More recently, research has focused on the positive opposite of burnout syndrome, labeling it as work engagement (Schaufeli & Bakker, 2004). This concept was developed within the theoretical framework known as positive psychology (Seligman & Csikszentmihalyi, 2000) which focuses on optimal human functioning and development in contrast to psychology's traditional focus on disease, damage, disorder, and disability. One such positive state is work engagement, viewed as the antipode of burnout (Schaufeli, Leiter, et al., 2009).

Specifically, engagement is defined as an energetic state of involvement with personally fulfilling activities that enhance one's sense of professional efficacy. This multidimensional concept of engagement provides a more complex and comprehensive perspective on people's relationships with their work than single constructs such as organizational commitment, job satisfaction, or job involvement (Borrelli, Benevene, Fiorilli, D'Amelio, & Pozzi, 2014; Di Sipio, Falco, Kravina, & De Carlo, 2012; Falco, Girardi, Dal Corso, Di Sipio, & De Carlo, 2013). Engagement is characterized by energy, involvement, and efficacy. In line with this perspective, recent studies have found significant negative correlations between burnout syndrome and work engagement. More specifically, with regard to Schaufeli and Bakker's (2004) measures, work engagement is composed by three subdimensions: vigor, dedication, and absorption. In detail, vigor is characterized by high levels of energy and effort to invest in one's work. Dedication refers to being strongly involved in one's work with positive affect like enthusiasm, inspiration, pride, and challenge. Finally, absorption is characterized by being fully concentrated with difficulty in detaching oneself from work. Exhaustion and vigor, as well as cynicism and dedication, are situated at the opposite poles of a continuum going from an energetic psychological condition to an exhausted state (González-Romá, Schaufeli, Bakker, & Lloret, 2006; Schaufeli & Salanova, 2007).

Given the importance of analyzing and disseminating accurate and comprehensive information on the well-being and potential burnout factors of teachers we aimed to test the validity of CBI in the Italian culture. With regard to the Italian literature, to the best of our knowledge only one study to date has used the CBI with a small group of teachers exploring the associations between burnout and symptoms of stress, neuroticism and job satisfaction (Avanzi et al., 2013). In the present study we aimed to confirm the indications of the reliability and validity of the Italian version of CBI, evidenced in the mentioned study, using a larger group of Italian school teachers. Furthermore, we examined the CBI criterion validity with respect to the expected negative correlation between burnout and work engagement and self-efficacy.

## Aims and Hypotheses

The main purpose of the present study was to validate the Italian version of the CBI by testing its model of measurement with a large group of teachers. Confirmatory factor analyses (CFAs) were performed to test the three-factor model structure hypothesized by the original authors (Kristensen et al., 2005). We also aimed to verify the CBI's internal validity and to explore its concurrent and divergent validity by establishing whether and how it was related to two other constructs: teachers' self-efficacy and work engagement. We expected to find that the Italian version of the CBI displayed a model of measurement composed of three correlated factors, similar to the original structure proposed by Kristensen et al. and consistent with the Italian study by Avanzi et al. (2013); we also expected that internal validity would be satisfactory. Finally, we hypothesized that there would be negative correlations between the three CBI scales (personal burnout, work-related burnout, and client-related burnout) on the one hand and the two dimensions of teacher well-being (self-efficacy and work engagement) on the other.

## METHOD

### Participants

Participants were 1,497 teachers (89.3% female) aged 18-65 years ( $M = 48.36$ ,  $SD = 8.09$ ), of which 74.3% married, 18.4% single, 5.7% separated/divorced, and 1.6% widowed; 72.9% of respondents had children. This was a group of highly qualified workers: about 70% held a degree or postgraduate qualification, and only 30% a high school diploma. Participants were employed in kindergarten (7.4%), primary school (41.8%), lower secondary (middle) school (19.3%), and high school (31.5%). With regard to contractual status, 88.4% had permanent contracts, while 11.6% held temporary positions.

### Measures

*Copenhagen Burnout Inventory (CBI)*. The CBI (Kristensen et al., 2005) comprises 19 items evaluating three subdimensions of burnout (personal burnout, work-related burnout, and client-related burnout). In the current study we used the Italian version by Avanzi et al. (2013). The first subscale assesses personal burnout and comprises six items concerning the physical and psychological fatigue and overall exhaustion experienced by an individual. The second subscale, entitled work-related burnout, is made up of seven items concerning the physical and psychological fatigue experienced by respondents due to their teaching work. Finally, the third subscale termed client-related burnout is composed of six items evaluating the physical and psychological fatigue experienced by people who work with clients, in our case specifically with students. In the current study, all items were rated on a 5-point Likert scale: *never* (1), *rarely* (2), *sometimes* (3), *often* (4), *always* (5) (see Appendix).

*Utrecht Work Engagement Scale (UWES-17)*. We assessed engagement by means of the UWES-17 (Schaufeli & Bakker, 2004), in the Italian version by Balducci, Fraccaroli, and Schaufeli

(2010). The scale is composed of 17 items grouped into three subscales of engagement: vigor (six items), dedication (five items), and absorption (six items). All items are scored on a 7-point frequency rating scale ranging from 0 (*never*) to 6 (*always*). Cronbach's alpha was .96.

*Teacher Self-Efficacy (TSE)*. We designed a short ad hoc scale to evaluate teachers' self-efficacy. The instrument comprised five items linguistically constructed following the recommendations of Bandura (1997, 2006b): specifically, we used verbs such as "can" or "be able to"; formulated items in the first person singular "I"; and made explicit reference to obstacles to be surmounted. Following Skaalvik and Skaalvik (2010), each statement referred to one of five core components of teacher's self-efficacy regarding: management of difficult students; use of new technology; coping with educational challenges; collaboration with colleagues; meeting teaching objectives and targets. Cronbach's alpha was .75.

### Data Analyses

Since the aim of the present study was to evaluate the model of measurement of the CBI, a conservative roadmap of analysis included a first exploratory screening of data before evaluating the fit of statistical model (Singer & Willett, 2003). To this end, we firstly evaluated descriptive statistics of items (means, standard deviations, skewness, and kurtosis) in order to support the robustness of further analysis. No excess skewness or other major violations to normality were found. Multivariate outliers were found among the cases using  $p > .001$  criterion for Mahalanobis distance.

In line with recommendations on measure development tradition (Brown, 2006), confirmatory factor analysis (CFA) represented the best tool to evaluate the structure of a given model measurement. CFA is particularly appropriate in contexts in which a prior factor structure has already been evaluated and researchers need to test the number of factors, their potential relations and loadings of empirical indicators on a different sample (Ruscio & Roche, 2012). The logic of CFA is to compare a reproduced matrix of covariance of the a priori hypothesized structural model with the "real" matrix observed with empirical indicators (Kline, 2010). The degree of overlap between the matrices is finally evaluated by using goodness of fit indexes. In line with common recommendations in the field of CFA (Cheung & Rensvold, 2002; Hu & Bentler, 1999; McDonald & Ho, 2002), the following absolute and relative indexes were checked: model  $\chi^2$ , normed chi-square (NC), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR), normed fit index (NFI), Tucker-Lewis index (TLI), comparative fit index (CFI). Cut-off values for model acceptance were .07 and .05 for RMSEA (Steiger, 2007) and SRMR (Byrne, 1998) respectively. A value above the level of .95 for TLI (Tabachnick & Fidell, 2013), NFI and CFI (Hu & Bentler, 1999) indicated appropriate model fit. Finally, we found a value of less than 5.0 for NC (Schumacker & Lomax, 2004). All analyses were conducted with Amos 21.0.

### Results

The main item's descriptive statistics are reported in Table 1. The exploration of items' descriptive statistics did not report major violation of the assumptions for CFA. In particular, skewness



and kurtosis values revealed acceptable levels. Since there were minor violations to the most stringent cut-off point of |1| for skewness (Tabachnick & Fidell, 2013) and no violations to the cut-off point of |2| (George & Mallery, 2010), results indicated a substantial normal distribution for all indicators.

TABLE 1  
Exploratory descriptive statistics of items included into the Copenhagen Burnout Inventory (CBI)

Item	<i>M</i>	<i>SD</i>	Skewness	Kurtosis
PB1	2.57	1.17	.26	-.67
PB2	2.54	1.09	.21	-.51
PB3	3.10	1.13	-.33	-.49
PB4	3.52	1.17	-.46	-.52
PB5	3.37	1.10	-.28	-.45
PB6	3.68	1.15	-.60	-.37
WB1	3.12	1.21	-.07	-.85
WB2	3.99	1.10	-.89	-.02
WB3	3.49	1.20	-.40	-.70
WB4_rev	3.55	1.15	-.45	-.54
WB5	3.04	1.27	.00	-.95
WB6	4.12	1.10	-1.04	.18
WB7	3.98	1.14	-.85	-.21
SB1	3.00	1.35	.07	-1.11
SB2	3.23	1.30	-.16	-1.01
SB3	4.25	1.04	-1.34	1.10
SB4	2.95	1.31	.03	-1.02
SB5	4.32	1.04	-1.48	1.39
SB6	3.29	1.41	-.23	-1.18

Note. PB = personal burnout; WB = work-related burnout; SB = student-related burnout.

We tested the dimensions of the burnout measure using CFA. From this point of view, the strategy of analysis was based on a multistage approach: first, a unidimensional solution (i.e., all 19 items loading together on a single latent variable) was specified (M1); then, we tested a three-factor solution with uncorrelated dimensions (M2); finally, we evaluated a three-factor solution with correlated latent variables and allowed item uniqueness (M3). The results of the CFAs on different models are reported in Table 2.

Results of CFA provided no support to the hypothesis of unidimensionality (M1) of the measure of burnout: both the absolute and relative index show poor fitting values. A similar result emerged when a three-factor model with uncorrelated latent variables (M2) was specified: the evaluation of indexes led to a full rejection of the model. We obtained some improvements in the model fit when the model (M3), similar to the original structure proposed by Kristensen et al. (2005) and consistent with the Italian study by Avanzi et al. (2013), was specified. In this case, the model provided a still not fully satisfactory fit given that all indexes were below the acceptance criteria  $\chi^2(149) = 1,205.4, p < .001$ ; CMIN = 8.1; SRMR = .04; NFI = .92; NNFI = .92; CFI = .93; RMSEA = .07. To respecify the model, we checked items' standardized residual in order to find indicators reporting a high number of values above the cut-off of 1.96 (MacCallum, Roznowski, & Necowitz, 1992). As a result, we excluded item WB1 and WB6 both loading on the latent variable "working burnout." Thus, the final short CBI scale included a three-factor solution with 17 items. The new model

(M3a) revealed a good fit (see Table 2), meaning that the model of measurement of CBI was composed of three correlated dimensions (personal, work-related, and student-related burnout) measured through 17 items (Figure 1).

TABLE 2  
Summary of goodness-of-fit indexes for different models of measurement

	$\chi^2$	<i>df</i>	<i>p</i>	NC	RMSEA	SRMR	NFI	TLI	CFI
Unidimensional (M1)	3,291.2	153	.0001	21.5	.12	.07	.78	.77	.79
Three uncorrelated factors (M2)	3,710.1	143	.0001	25.8	.13	.32	.75	.77	.72
Three correlated factors (M3)	1,205.4	140	.001	8.1	.07	.04	.92	.92	.93
Three correlated factors (M3a) without items WB1 and WB6	591.8	105	.01	5.6	.06	.04	.95	.95	.96

Note. NC = normed  $\chi^2$ ; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; NFI = normed fit index; TLI = Tucker-Lewis index; CFI = comparative fit index.

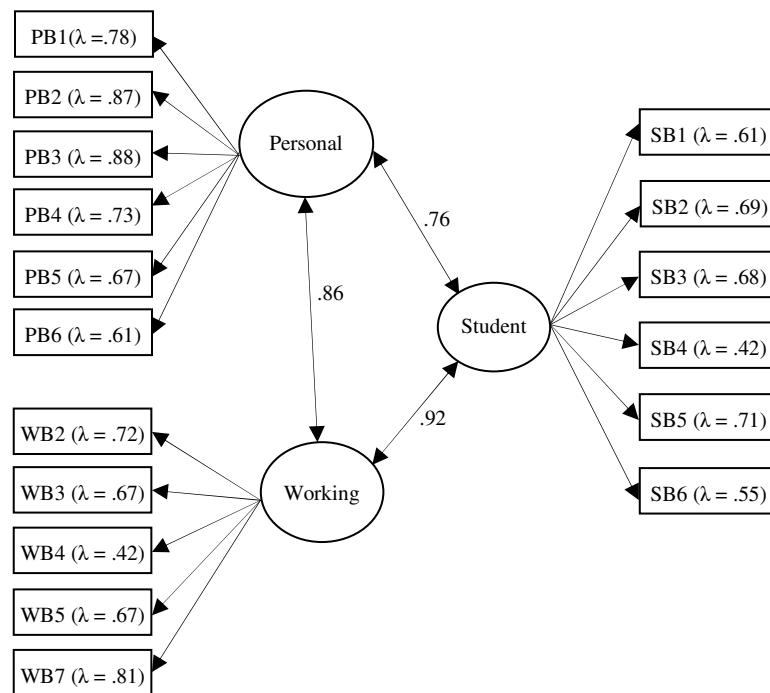


FIGURE 1  
Final model of measurement of the Italian version of CBI  
as specified by confirmatory factor analysis.  
PB = personal burnout; WB = work-related burnout; SB = student-related burnout.



In Table 3 are summarized the main psychometric proprieties of the different dimensions of the CBI Italian version. It is important to note that all measures reported robust psychometric proprieties. For instance, the measures included into the CBI resembled an approximately normal distribution and their use is suggested for applications in the multivariate framework. Finally, the reliability analysis of questionnaire scales measured through Cronbach's alpha and composite reliability (Raykov, 1997) revealed excellent values.

TABLE 3  
Psychometric proprieties of the CBI's measures

	<i>M</i>	<i>SD</i>	95% CI	Skewness	Kurtosis	Reliability	Composite reliability
Personal burnout	19.08	5.47	[18.81, 19.36]	-.30	-.30	.89	.89
Work-related burnout	18.05	4.33	[17.83, 18.28]	-.43	-.27	.78	.78
Student-related burnout	21.03	5.20	[20.76, 21.30]	-.45	-.24	.78	.79

### Convergent and Divergent Validity

Criterion validity is reported in Table 4. The highest correlation (convergent validity) was found to be among personal burnout, work-related burnout and student-related burnout, and the negative correlation (divergent validity) among the three burnout scales on the one hand and work engagement (vigor, dedication, and absorption) and self-efficacy on the other.

TABLE 4  
Zero order correlation matrix among all variables

	1	2	3	4	5	6	7
Self-efficacy (1)	1						
Vigor (2)	.474**	1					
Absorption (3)	.408**	.848**	1				
Dedication (4)	.471**	.832**	.835**	1			
Work-related burnout (5)	-.280**	-.510**	-.369**	-.474**	1		
Personal burnout (6)	-.201**	-.375**	-.230**	-.325**	.769**	1	
Student-related burnout (7)	-.232**	-.409**	-.293**	-.427**	.732**	.624**	1

\*\*  $p < .001$ .

### DISCUSSION

The present study had the aim of validating the Italian version of the Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005) and of exploring its dimensionality in a large group of teachers. As previously found for both the original version of the CBI and the Italian adaptation by Avanzi et al. (2013), our findings confirmed that a three-factor model provided the best fit

for the data when two items of the work-related burnout factor were eliminated due to their excessive standardized error residual. More specifically, our results showed that the CBI was made up of three independent subscales labeled (1) personal burnout, (2) work-related burnout, and (3) student-related burnout. Furthermore, the present study indicated that the CBI was a reliable and valid measure for assessing burnout in Italian teachers, displaying satisfactory reliability and criterion-related validity. With regard to concurrent validity, the present study found strong negative correlations between CBI and work-engagement and self-efficacy measures. This is in line with previous studies, which found that CBI was related, in the expected direction, to measures of both the psychosocial work environment and well-being (Brauchli, Bauer, & Hämmig, 2011; Lin & Lin, 2013; Molinero-Ruiz, Quintero, & Moncada-Lluis, 2013). The CBI measure is then proposed as a new tool to address the limitations affecting the MBI (Kristensen et al., 2005; Pines & Keinan, 2005; Schutte et al., 2000). We now discuss the CBI from the point of view of its psychometric properties as well as in terms of the theoretical approach underpinning it.

### Three Factors for a Broad-Ranging Assessment of Teacher Burnout

The CBI is designed to evaluate burnout across different life domains. The three CBI subscales are intended to analyze the intensity and frequency of burnout in workers in three different domains: overall life context, work context, and work relationships. The dimensionality of the scale identified in the current Italian group substantially replicated the scale structure reported by Avanzi and colleagues (2013) in a study with a smaller group of teachers.

The first subscale, named personal burnout, focuses on general life context. Some examples of the six items loaded on the first scale are “How often do you feel tired?” “How often are you emotionally exhausted?” “How often do you feel weak and susceptible to illness?” This factor addresses one of the controversial aspects of the MBI, that is the implication that burnout is exclusively caused by work conditions (Borritz, Rugulies, Christensen, Villadsen, & Kristensen, 2006). In other words, the authors of the original CBI wished to allow for the fact that young, unemployed or retired people, can also experience the exhaustion and fatigue that is typical of workers.

The second factor, labeled work-related burnout, was loaded by seven items and focused on teachers’ attributions of physical and psychological symptoms to their work context. Some examples are “Are you exhausted in the morning at the thought of another day at work?” “Is your work emotionally exhausting?” This scale provides an effective synthesis of a number of aspects of professional exhaustion and depersonalization which are evaluated via separate subscales in the MBI (Maslach & Jackson, 1986). However, conversely to Kristensen et al.’s (2005) original validation work, as well as Italian validation by Avanzi et al. (2013), in our study we obtained the better fit of the three-factor model (M3a) when Item 1 (“Do you feel worn out at the end of the working day?”) and Item 6 (“Does your work frustrate you?”) were excluded from the latent factor.

Finally, our findings highlighted a third factor, originally named client-related burnout and here relabeled student-related burnout given that the instrument was administered to a teacher population. In line with previous findings (Avanzi et al., 2013; Kristensen et al., 2005) all six items in this subscale loaded onto a single factor. This subscale assessed teachers’ attribution of symptoms to their work-related relationships by taking into account the key role played by students. Some examples of items are: “Do you find it hard to work with students?” “Does it drain

your energy to work with students?” “Do you feel that you give more than you get back when you work with students?” As reported by Sutton and Wheatley (2003) and Chang (2009), the emotional effort involved in managing student-teacher relationships can contribute to teachers’ burnout.

Furthermore, our findings confirmed that the work-related and student-related subscales acted as independent measures in evaluating work-related versus student-related burnout, providing support for the idea that teachers may feel exhausted and yet maintain a good relationship with their students. It is well known that work burnout has a lot to do with relational factors, such as poor leadership and poor social support (Burke, Greenglass, & Schwarzer, 1996; Seltzer & Numerof, 1988). Nonetheless, working with students is not a risk factor per se, given that what generates burnout is more related to working conditions, both in their own right, and insofar as teachers themselves view them as the cause of their fatigue or exhaustion (Moore, 2000; Pyhältö, Pietarinen, & Salmela-Aro, 2011).

Overall, our findings encourage the widespread use of CBI, specifically with teacher groups, on the basis of its good psychometric properties and rigorous theoretical underpinnings. Although Kristensen and colleagues (2005) claimed that the rationale for having three distinct subscales was not statistical but theoretical and methodological, our findings suggest a robust three-factor structure. In summary, we see the CBI measure as offering two key advantages. Firstly, this test is able to distinguish between two different sources of burnout (personal versus working life), which increases the discriminatory power of the CBI, as well as providing valuable indications for treatment programs. Secondly, and most importantly, these three subscales may be used with different types of workers and not only with people involved in client-work.

### Limitations and Future Directions

The current findings need to be considered in light of the study’s limitations. A key drawback to using the CBI with teacher populations is the fact that it does not specifically examine burnout related to work relationships with colleagues and supervisors. Several studies (e.g., Cenkseven-Önder & Sari, 2009; Hobfoll & Freddy, 1993) argued that the work of teachers is entirely based on relationships with students, families, and colleagues, and that all of these significantly affect teachers’ well-being. In our opinion, a more exhaustive analysis of teacher burnout would be obtained by taking into account all the socio-relational variables involved in this specific helping-profession.

In addition, future research should investigate the association between the CBI and other better established measures of burnout, such as the MBI and the Teacher Burnout Scale (Seidman & Zager, 1986) in order to further enhance the validity of the CBI. To further assess the validity and reliability of the Italian version of CBI, it should be administered to different groups of people given that, as far as we are aware, to date in Italy it has only been used with teachers. Finally, given the significant impact of sociodemographic variables on teachers’ burnout (Hakanen et al., 2006; Kyriacou, 2001) in the future it will be of interest to analyze these variables in terms of predictive models.

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APPENDIX

Copenhagen Burnout Inventory (CBI) (Italian Version in Brackets)

*Personal burnout (PB)*

- Item 1: How often do you feel tired? [Quanto spesso si sente stanco?]  
Item 2: How often are you physically exhausted? [Quanto spesso si sente fisicamente esausto?]  
Item 3: How often are you emotionally exhausted? [Quanto spesso si sente emotivamente esausto?]  
Item 4: How often do you think: "I can't take it anymore?" [Quanto spesso pensa: "Non posso andare avanti così"?]  
Item 5: How often do you feel worn out? [Quanto spesso si sente sfinito?]  
Item 6: How often do you feel weak and susceptible to illness? [Quanto spesso si sente debole e suscettibile alle malattie?]

*Work-related burnout (WB)*

- Item 1: Do you feel worn out at the end of the working day? [Si sente sfinito alla fine di una giornata lavorativa?]  
Item 2: Are you exhausted in the morning at the thought of another day at work? [La mattina, al pensiero di un'altra giornata lavorativa da affrontare, si sente già esausto?]  
Item 3: Do you feel that every working hour is tiring for you? [Sente che ogni ora di lavoro è per lei stancante?]  
Item 4: Do you have enough energy for family and friends during leisure time? [Ha abbastanza energie per la famiglia e gli amici durante il tempo libero?] (Reverse)  
Item 5: Is your work emotionally exhausting? [Il suo lavoro è emotivamente spossante?]  
Item 6: Does your work frustrate you? [Si sente frustrato a causa del suo lavoro?]  
Item 7: Do you feel burnt out because of your work? [Si sente esaurito a causa del suo lavoro?]

*Note.* Items 1 and 6 were eliminated in the final Model 3a.

*Student-related burnout (SB)*

- Item 1: Do you find it hard to work with students? [Trova difficile lavorare a contatto con gli studenti?]  
Item 2: Does it drain your energy to work with students? [Lavorare con gli studenti esaurisce le sue energie?]  
Item 3: Do you find it frustrating to work with students? [Trova frustrante lavorare con gli studenti?]  
Item 4: Do you feel that you give more than you get back when you work with students? [Sente che dà di più rispetto a quanto riceve quando lavora con gli studenti?]  
Item 5: Are you tired of working with students? [È stanco di lavorare con gli studenti?]  
Item 6: Do you sometimes wonder how long you will be able to continue working with students? [Si chiede qualche volta quanto riuscirà ancora a lavorare con gli studenti?]