



## Empirical Articles

# Confirmatory Factor Analysis of the ISB - Burnout Syndrome Inventory

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## Abstract

**Aim:** Burnout is a dysfunctional reaction to chronic occupational stress. The present study analysis the psychometric qualities of the Burnout Syndrome Inventory (ISB) through Confirmatory Factor Analysis (CFA).

**Method:** Empirical study in a multi-centre and multi-occupational sample (n = 701) using the ISB. The Part I assesses antecedent factors: Positive Organizational Conditions (PC) and Negative Organizational Conditions (NC). The Part II assesses the syndrome: Emotional Exhaustion (EE), Dehumanization (DE), Emotional Distancing (ED) and Personal Accomplishment (PA).

**Results:** The highest means occurred in the positive scales CP (M = 23.29, SD = 5.89) and PA (M = 14.84, SD = 4.71). Negative conditions showed the greatest variability (SD = 6.03). Reliability indexes were reasonable, with the lowest rate at .77 for DE and the highest rate .91 for PA. The CFA revealed RMSEA = .057 and CFI = .90 with all scales regressions showing significant values ( $\beta = .73$  until  $\beta = .92$ ).

**Conclusion:** The ISB showed a plausible instrument to evaluate burnout. The two sectors maintained the initial model and confirmed the theoretical presupposition. This instrument makes possible a more comprehensive idea of the labour context, and one or another part may be used separately according to the needs and the aims of the assessor.

**Keywords:** burnout, occupational stress, Burnout Syndrome Inventory, factorial analysis, psychological assessment

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The burnout syndrome was first researched in the 1970s in the United States and several studies have been published by different authors in multiple countries, as pointed out by Gil-Monte (2007) and Schaufeli and Enzmann (1998). About 20 years after, the burnout syndrome started to be object of research in Brazil (Benevides-Pereira, 2002). Belonging to the labour milieu as a reaction to chronic stress, this syndrome has been described as a contingency of high indexes of emotional stress and depersonalization with a reduced level of personal accomplishment in work (Maslach & Jackson, 1986). Emotional exhaustion is characterized by the feeling of lack of physical and emotional energy to undertake one's occupational activities. Depersonalization is described as an emotional distance from others by treating people as objects, with

cynicism and irony and lack of courtesy; consequently, personal accomplishment with work and one's profession decrease and a feeling of inefficiency takes over (Benevides-Pereira, 2015; Gil-Monte, 2007; Maslach & Jackson, 1986; Moreno-Jiménez, 2007).

The syndrome's main characteristics have been established by the Maslach Burnout Inventory (MBI) in two versions, Human Services Survey and Educator Survey (Maslach & Jackson, 1986) with three dimensions — Emotional Exhaustion (nine items), Depersonalization (five items) and Personal Accomplishment (eight items) — that restricted the burnout syndrome to healthcare and educator professionals. Since these authors and other researchers perceived that other professionals may develop the syndrome (Maslach, Jackson, & Leiter, 1996; Maslach, Schaufeli, & Leiter, 2001), a new version, Maslach Burnout Inventory-General Survey applicable to all workers was launched in 1996 (Maslach et al., 1996). The items in the later editions do not refer to attendance to students or patients and terms as depersonalisation and personal accomplishment in work were respectively changed into cynicism and inefficiency.

When explored the dimensions proposed for this syndrome, Emotional Exhaustion has been focused upon as the central and representing element of stress in the syndrome. Depersonalization or cynicism is a defence reaction and an attempt to decrease the physical and psychological symptoms through isolation and distancing from colleagues and people to whom one's work is devoted. Reduced Personal Accomplishment/inefficiency is perceived as a parallel phenomenon and does not necessarily belong to the burnout issue (Bakker, Demerouti, de Boer, & Schaufeli, 2003; Maslach et al., 2001; Schaufeli & Bakker, 2004) but arises as a result of disillusion and non-satisfaction with occupational activities.

Gil-Monte and Peiró (1997), Gil-Monte (2005), and Moreno-Jiménez (2007) underscore how MBI determines the syndrome and insist that it may manifest itself with other issues. The onset of Burnout may be caused from dysfunctions of the work environment. Unhealthy organisational conditions of work without any solutions may cause/bring out the syndrome (Bakker et al., 2003; Maslach et al., 2001; Schaufeli & Enzmann, 1998), which has been considered by the Brazilian Health System as a work-related illness since 1999 (Brazil, 1999, 2010). Brazilian authors such as Lautert (1997), Benevides-Pereira (2002), Tamayo (2003) and Carlotto and Câmara (2004) have analysed MBI, pin-pointed inconsistencies in the depersonalization scale which indicate a low Cronbach's alpha index ( $< .70$ ), corroborated by several international studies (Gil-Monte, 2005; Schaufeli & Enzmann, 1998). It may be observed that MBI has better results for its psychometric qualities in English-speaking countries. Other instruments, such as the CBP-R - Revised Brief Questionnaire for Teachers (Benevides-Pereira, 2009) and the Copenhagen Burnout Inventory (Fonte, 2011), have been translated and adapted into Portuguese, coupled to inventories specifically adapted for the Brazilian milieu, such as the ECB - Burnout Characterization Scale (Tamayo & Tróccoli, 2009) and the IBP - Burnout Inventory for Psychologists (Benevides-Pereira & Moreno-Jiménez, 2000; Biehl, 2009).

The Burnout Syndrome Inventory - ISB (Benevides-Pereira, 2015), an instrument developed in Brazil, has an additional advantage over the others, because it measures not just the burnout syndrome but also the elements that can trigger it, enabling a comprehensive vision of the emplacement. The ISB, has also the depersonalization/cynicism dimension which subdivided into two others: dehumanization and emotional distancing. This fact can provide a more refined assessment of the burnout process, as showed by Salanova et al. (2005) about MBI-HSS or ES and MBI-GS, which is most adequate to some kind of professional and shows the way they use some defences in contact with the people. However, there is no psychological assessment

tool that would estimate the Burnout Syndrome and approved by Assessment System of Psychological Tests (Satepsi, Department of the Brazilian Federal Council of Psychology). Thus, this study was conducted with the aim of evaluate the psychometric qualities of the structure obtained in early researches of the ISB when applied to Brazilian workers from an industrial sector institution (Benevides-Pereira, 2015).

The current analysis implies a Confirmatory Factor Analysis (CFA) to evaluate the structure obtained in previous researches (Benevides-Pereira, 2015) so that the psychometric qualities of the ISB could be verified and a measurement to be employed in Brazil could be obtained.

## Method

### Study Design

It was conducted a cross-sectional study with non-probabilistic sample design. Current analysis was confirmatory, descriptive, and correlational.

### Participants

All organizational workers ( $n = 2,050$ ) were invited to participate through individuals emails, work meetings and advertisements in specific areas for announcements. Participants who were on vacation or sick, less than 18 years or who filled the same answers for all the items were excluded. The participation was voluntary, completed in the workplace during the work schedule, and without any financial incentive. The attendees had computer skills, since their daily activities involved computer use and could ask for assistance to the researchers when required. The total sample comprised 701 workers from industries in a south state of Brazil, with different professional categories.

### Measures

The applied questionnaire assessed socio-demographic data (e.g., sex, age, educational level, profession, work environment), and included the informed consent and the Burnout Syndrome Inventory preliminary version (ISB; Benevides-Pereira, 2015). The present research was approved by Sant'Ana Faculty committee of ethics, as indicated by the Brazilian Health Council, Document 466/2012 (Brazil, 2012).

ISB started to be prepared in 2007 by Benevides-Pereira (2015). After its reliability and factor analyses, the ISB (Benevides-Pereira, 2015) encompassed 36 items subdivided into two parts, to be answered in a five point Likert scale (from 0 as “never” to 4 as “very often”). Part I, comprised by antecedent factors that may stimulate or minimize the syndrome, is composed by 2 dimensions: Positive Organisational Conditions (PC), with 8 items (e.g. “*My work milieu is pleasant*”) and Negative Organisational Conditions (NC), with 8 items (e.g. “*Where I work, submission is more valued than competence in work activities*”). Part II assesses the syndrome itself and consists of 4 scales: Emotional Exhaustion (EE) with 5 items (e.g. “*I feel myself without energy after a day’s work*”); Dehumanisation (DE) with 5 items (e.g. “*I had to use all my efforts to stay at work*”); Emotional Distancing (ED) with 4 items (e.g. “*I feel that I am avoiding closer contact with people in my work place*”) and Professional Accomplishment (PA) with 5 items (e.g. “*My work gives me satisfaction in my profession*”).

This first sample with 604 professionals hailing from different jobs showed that Part I of ISB provided a total variance of 43.29%, with PC’s factorial loads ranging between .793 and .576 ( $\alpha = .843$ ) and NC’s between .672

and .346 ( $\alpha = .782$ ). In Part II, with a total variance of 62.65%, EE had saturations between .850 and .654 ( $\alpha = .864$ ); DE between .864 and .477 ( $\alpha = .738$ ), ED between .825 and .384 ( $\alpha = .793$ ) and PA between .849 and .724 ( $\alpha = .902$ ) (Benevides-Pereira, 2015).

The inclusion of the organisational conditions (Part I) indicates the resources and demands available in the work environment, allowing a more comprehensive view of the context that may trigger the syndrome. The depersonalisation dimension of the MBI, subdivided into DE and ED, appears to be relevant to highlight different aspects depending on the occupation performed (Benevides-Pereira, 2015; Salanova et al., 2005).

In this way, the ISB proposed model is presented in Figure 1, as conceived in a previous analysis (Benevides-Pereira, 2015).

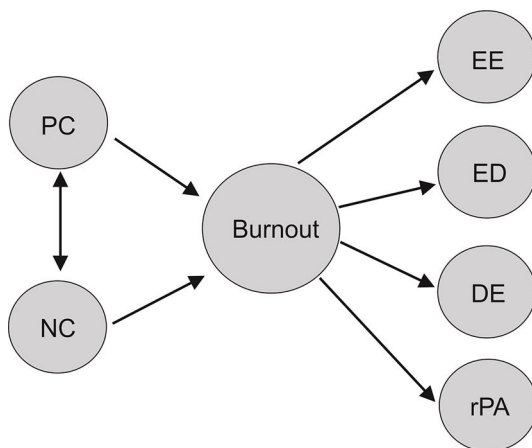


Figure 1. Conceived Burnout Syndrome Inventory model.

Note. PC = Positive Organisational Conditions; NC = Negative Organisational Conditions; EE = Emotional Exhaustion; DE = Dehumanisation; ED = Emotional Distancing; rPA = Reduced Professional Accomplishment.

## Procedure

After the authorisation conceded by each institution, the participants were called to receive information regarding the procedure of the research. Online application was personal and free; fulfilled in the same place of the daily work, all data was analysed exclusively by the research team to guarantee privacy. The first page included the informed consent, which stated the aims of the study and, if accepted and signed by the participant, allowed the start of the assessment. Additionally, all participants were informed that they could interrupt their collaboration at any time, without any consequences.

## Statistical Analysis

The softwares IBM SPSS Statistics (IBM Corp. Released 2011 v. 20.0) and AMOS (v. 20.0) were used to perform the statistical analysis needed in this study (such as descriptive analysis, validity and suitability, Pearson's correlation, Cronbach's alpha and Confirmatory Factor Analysis [CFA]).

The multivariate normality was evaluated by Mardia's (1970) multivariate skewness and kurtosis coefficients. The multivariable outliers' analysis was undertaken by Mahalanobis' distance.

A CFA, with Structural Equations Model (SEM), was performed to confirm the proposed structure. Scales for SEM were treated as latent variables and the items as observed variables. Regressions were undertaken from the latent to the observed variables; adjustment, beta and co-variance indexes were also verified. Errors were fixed at 1 and the Maximum Likelihood Estimation (MLE) was employed to analyse co-relationship matrixes. The model's correction criteria followed Byrne (2010) to the residual errors of the respective items of the same latent variable were co-variants.

The indexes below were employed for adjustment test and model's fitness:  $\chi^2$  and  $\chi^2 / \text{Degrees of Freedom}$ ; maximum rate of five was allotted to the latter, as estimated by Pimentel, Maynard, Vieira, Mendonça, and Santos, 2012 and Schumacker and Lomax (2004), preferentially less than three, following Hair, Black, Babin, and Anderson (2010), Kline (2005) and Ullman (2001). Non Normed Fit Index (NNFI), (Comparative Fit Index (CFI), Adjusted Goodness of Fit Index (AGFI) were estimated with parameter rates higher than .90 (Arbuckle, 2012; Byrne, 2010; Hu & Bentler, 1995; Moss, 2009; Pimentel et al., 2012; Silva, 2006). Following Byrne (1994, 2010), the Root Mean Square Error of Approximation (RMSEA) was estimate close to or lower than .08 (Byrne, 2010; Silva, 2006). Standardised Root Mean Square Residual (SRMR) was evaluated for rates with maximum .05 as model adjustment index (Rodríguez-Carvajal, Méndez, Moreno-Jiménez, Abarca, & Van Dierendock, 2010; Silva, 2006). The factor loadings were evaluated considering loads equal or above .60 as high, meaning a strength factor, and below .30 as low (Hair et al., 2010; Kline, 2005).

The questionnaire was answered by 701 individuals, with a return index of 34.19%. Most of the participants (Table 1) was made up of female professionals ( $n = 443$ , 63.49%), aged between 26 and 35 years ( $n = 313$ , 44.65%), with a university degree ( $n = 569$ , 81.17%), coupled to a post-graduate course ( $n = 399$ , 56.92%), with activities in the state capital and in the metropolitan region ( $n = 407$ , 58.92%).

With regard to the type of job, the professionals were categorised as: a) Technicians, a group composed by analysts, experts and/or consulting agents; b) Helpers and Operational assistants, healthcare professionals; c) Educators, such as teachers and pedagogues, and d) Managers, relating to coordinators and directors functions.

No blank replies were obtained and the compensation for omitted cases was not required. The Kaiser-Meyer-Olkin Measure displays the adequacy of the sample and the Bartlett's Test of Sphericity (Table 2) reveals the validity and suitability of the responses collected to the problem being addressed through this.

In the analysis of the skewness and kurtosis, each item have lower coefficients than 3 for skewness and the kurtosis less than 7 in absolute values, such as suggest Marôco (2010), with indicate the normality of the data. The reliability analysis, with the Cronbach's alpha index, showed dimensions with an acceptable internal consistency. The Table 3 presents the results of the descriptive analysis, Cronbach's alpha index and Pearson's correlation for the ISB scales.

Table 1

*Social and Demographic Characteristics of the Sample*

Characteristic, Category	<i>n</i>	%	<i>M</i>	<i>SD</i>
<b>Age</b>			35.09	9.49
<b>Gender</b>				
Female	443	63.2		
Male	258	36.8		
<b>Schooling</b>				
Elementary	3	0.4		
High school (unfinished)	4	0.6		
High school	40	5.7		
Higher education	85	12.1		
Higher education (without postgraduate degree)	170	24.3		
Higher education (with postgraduate degree)	399	56.9		
<b>Work region – Paraná/Brazil</b>				
South-central	65	9.3		
Capital/Metropolitan region	407	58.1		
North-western region	54	7.7		
Northern region	77	11.0		
Western/South-western region	98	14.0		
<b>Type of job</b>				
Technicians	266	37.9		
Helpers & Operational assistants	153	21.8		
Educators	133	19.0		
Coordinators	89	12.7		
Managers	60	8.6		

Table 2

*The KMO and Bartlett's Test of ISB*

Dimension	KMO	Bartlett's Test	<i>df</i>	<i>p</i>
Part I - Organisational Conditions	.927	4840.389	120	< .001
Part II – Burnout Syndrome	.912	7027.398	171	< .001

The highest means occurred in the positive scales PC ( $M = 23.29$ ,  $SD = 5.89$ ) and PA ( $M = 14.84$ ,  $SD = 4.71$ ). NC showed the greatest variability ( $M = 12.46$ ,  $SD = 6.03$ ). EE and ED had simple averages (EE:  $M = 6.88$ ,  $SD = 4.49$ ; ED:  $M = 6.56$ ,  $SD = 4.21$ ). Reliability indexes were reasonable, with the lowest rate at .77 for DE and the highest rate .91 for PA. All scales had significant Pearson's correlation ( $p < .001$ ), with positive associations between PC and PA and negative associations for the other scales (EE, DE, ED), as expected. Highest co-relationship occurred between DE and ED, which corresponded to MBI's cynicism ( $r = .660$ ). Similarly, the syndrome's antecedent factors (PC and NC) showed high co-relationship, albeit negative between them ( $r = -.632$ ), confirming the theoretical expectation. The fit indices for the ISB models, for first and second order recursive are described in Table 4.

Table 3

Mean, Relative Mean, Standard Deviation, Minimum, Maximum, Cronbach's Alpha and Pearson Correlation of the Burnout Syndrome Inventory Scales

Scale	<i>M</i>	Relative Mean	<i>SD</i>	Min	Max	$\alpha$	<i>r</i>				
							PC	NC	EE	ED	DE
PC	23.39	2.92	5.89	.00	32	.88	–				
NC	12.46	1.56	6.03	.00	32	.81	-.632*	–			
EE	6.88	1.38	4.49	.00	20	.86	-.360*	.367*	–		
ED	6.56	1.31	4.21	.00	20	.83	-.446*	.525*	.468*	–	
DE	4.20	1.05	3.55	.00	16	.77	-.444*	.522*	.491*	.660*	–
PA	14.84	2.96	4.71	.00	20	.91	.493*	-.243*	-.370*	-.246*	-.261*

Note. PC = Positive organisational conditions; NC = Negative organisational conditions; EE = Emotional exhaustion; DE = Dehumanisation; ED = Emotional distancing; PA = Professional accomplishment.

\* $p < .01$ .

Table 4

Fit Indices for First and Second Order Recursive Models of the Burnout Syndrome Inventory, Including Antecedent Variables

Model	$\chi^2$	$\chi^2/df$	AGFI	NNFI	CFI	RMSEA	SRMR
ISB (burnout) recursive second order	742.707	4.985	.881	.902	.914	.075	.1567
ISB (burnout) recursive first order	500.009	3.425	.909	.940	.949	.059	.0495
ISB recursive Total	1798.778	3.275	.841	.892	.900	.057	.0731
ISB (burnout) recursive second order (12 outliers deleted)	525.387	3.574	.904	.937	.946	.061	.0651
ISB (burnout) recursive first order (12 outliers deleted)	483.313	3.333	.911	.943	.952	.058	.0504
ISB recursive Total (12 outliers deleted)	1774.671	3.233	.842	.894	.902	.057	.0719

Note.  $\chi^2$  = Chi-square;  $\chi^2/df$  = Chi-square/Degrees of freedom; AGFI = Adjusted Goodness of Fit Index; NNFI = Non-Normed Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardised Root Mean Square Residual.

The Specification Search Method, by the BIC criterion, showed that the model with the 19 items had the best indices.

In the “ISB recursive second order” model, the scales are not covariated; In the “ISB recursive first order” model, the scales are covariated. In the “ISB recursive total” model, the positive and negative organizational conditions (PC and NC) were included. The models, presented in Table 3, showed adequate statistical indices, especially the “ISB recursive first order” model.

Regarding specifically the “ISB Recursive second order” model, the regressions results are presented in Figure 2.

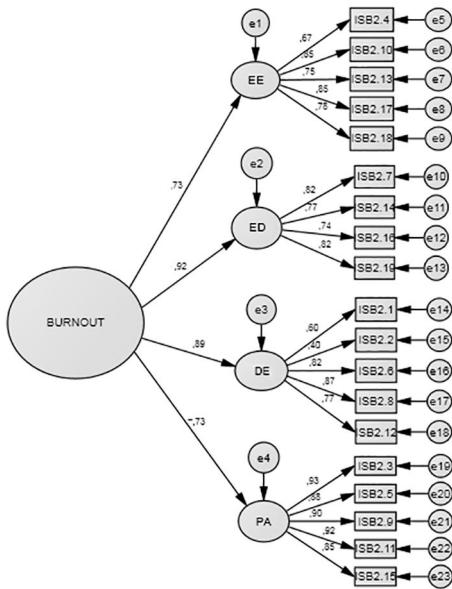


Figure 2. Recursive second order Burnout Syndrome Inventory model.

Note. EE = Emotional exhaustion; DE = Dehumanisation; ED = Emotional Distancing; PA = Professional accomplishment.

All regressions, from Burnout to its dimensions, were significant; likewise, all dimensions to their respective items: variations from  $\beta = .73$  for EE to  $\beta = .92$  for ED were given.

The regressions of the “ISB Recursive first order” model are presented in Figure 3.

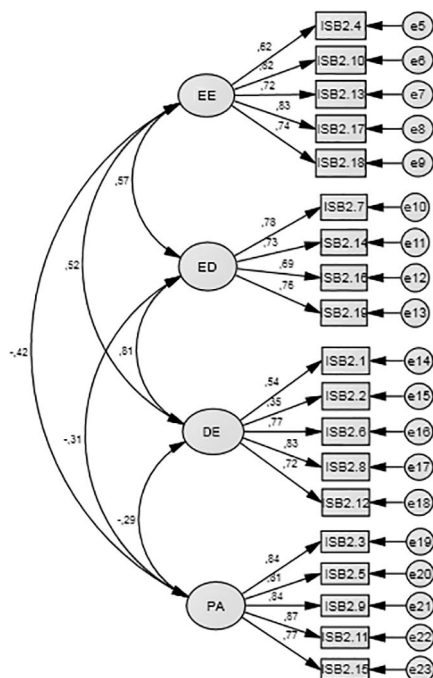


Figure 3. Recursive first order Burnout Syndrome Inventory model.

Note. EE = Emotional exhaustion; DE = Dehumanisation; ED = Emotional Distancing; PA = Professional Accomplishment.



In the model showed in Figure 3, all co-relationships were significant from beta negative ( $\beta = -.29$ ) between DE and PA to a higher positive ( $\beta = .81$ ) co-relationship between ED and DE.

The regressions, covariance and co-variations between residual errors of the Recursive First Order by Total Burnout Syndrome Inventory model are presented in Figure 4.

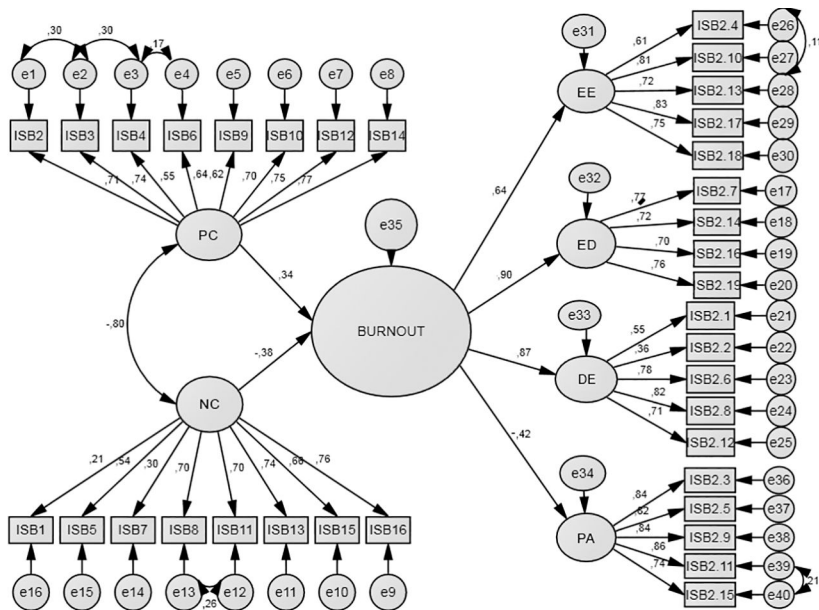


Figure 4. Recursive total Burnout Syndrome Inventory model.

Note. PC = Positive organisational conditions; NC = Negative organisational conditions; EE = Emotional exhaustion; DE = Dehumanisation; ED = Emotional Distancing; PA = Professional Accomplishment.

Only index RMSEA (.060) fitted within the model integrated to the syndrome’s antecedent elements – positive and negative organisational factors. Six co-variations between residual errors of items ISB2 and ISB3 (.31), ISB3 and ISB4 (.29) and ISB2.4 and ISB2.18 (.29) were required, presenting a satisfactory model (RMSEA = .057; CFI = .902).

All co-variances and regressions were significant and the beta indexes for latent variables were consistent among themselves. Standardised regressions from PC and NC scales with regard to burnout were significant (respectively, .34 and -.38); likewise, co-variance between PC and NC were significant and negative (-.80).

Additionally, 12 main outliers were removed and the Confirmatory Analysis was re-done and tested again. However, the results were similar.

## Discussion

As in previous studies, ISB results in the current sample revealed a good reliability index and co-relationship between the scales, consistent with the theory (Maslach et al., 1996; Schaufeli & Enzmann, 1998). EE, DE and ED were positively associated, and PA showed a negative and significant association with the previously enumerated dimensions.

The current analysis confirmed the structure initially proposed for ISB. Scales also foregrounded the associations among themselves and ratified not only the tool but also the theoretical presuppositions, as previously underscored.

Standardised regressions between positive (PC) and negative (NC) organisation conditions on Burnout are consistent with the theoretical postulate that the syndrome is triggered by the work organisation and not by the type of task (Almeida, 2002; Benevides-Pereira, 2002; Galindo, Feliciano, Lima, & Souza, 2012; Gil-Monte, 2007). Results also confirm the presupposition that the burnout syndrome or the profession exhaustion syndrome is a Mental Disorder and a Work-Related Behaviour, listed in Item XII of group V of Annex II, described among the Pathogenic Agents which cause Professional or Work-Related Illnesses, as presented in Art. 20 of the Decree 3048/1099 of the Brazilian Health System (Brazil, 1999).

Positive organisation conditions (PC) provide negative co-variance and endorse the theory that there are two organisational contingencies or, rather, resources (associated to positive organisational conditions) and demands (negative organisational conditions). Results are also consistent to the work resources and demands model described in several research works (Bakker, Demerouti, de Boer, & Schaufeli, 2003; Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Prieto, Salanova, Martínez, & Schaufeli, 2008; Schaufeli & Bakker, 2004) or as expressed by Karasek (1979) in which the equilibrium and intertwining of demands and control are verified. Although ISB has not been foregrounded on the above authors' tools, it has similar items and expresses the analogous acceptance (for instance, *My work colleagues are prepared to help me when required; There is flexibility to allow the full development of my work; I cannot stop to reflect on my work since there is no time for such a thing*).

The workers' perception on the PC in the work milieu is influential on their mental health. They may feel satisfied with their activities or they may develop EE, DE and/or ED when decreased or insufficient. The perception of NC causes the opposite effect; in other words, there is a rise in EE, DE and/or ED, and a decrease in PA.

Several instruments have been developed to assess the syndrome (Gil-Monte & Moreno-Jiménez, 2007) of which MBI is the most used worldwide (Schaufeli & Enzmann, 1998; Gil-Monte & Moreno-Jiménez, 2007). However, up to the present, validation studies have not been appreciated by the Assessment System of Psychological Tests (Satepsi) which controls the use of psychological instruments in Brazil. Therefore, ISB may be a viable option within the Brazilian context, coupled to the advantage that it may also evaluate the elements antecedent of the syndrome, giving a more comprehensive idea of the situation and, therefore, the possibility of intervene in active elements in order to control them (Gil-Monte, 2007).

On the other hand, the depersonalisation/cynicism stances in MBI, especially in studies from Latin America and from some European countries, have produced decreased levels of reliability, as has been underscored in other analyses (Kristensen, Borritz, Villadsen, & Christensen, 2005; Peeters & Rutte, 2005; Schaufeli & Enzmann, 1998). Coping with others as impersonal objects and experiencing attitudes of lack of consideration and cynicism especially by care-giving professionals are not what is expected of them. Since they frequently do not acknowledge such an attitude in themselves, it probably interferes in the results (Tamayo & Tróccoli, 2009).

Salanova et al. (2005) also attribute low levels of the Cronbach's alpha index to the composition of the scale, featuring items that include attitudes of ED and impersonal, inhuman treatment, which expresses distinct

attitudes. When the depersonalization scale of the 1986 MBI (in which dehumanization items are dominant) and the cynicism of the 1996 version (in which distancing is more pronounced) are employed, the above authors perceived that results might vary according to the occupational group and thus propose the use of the two scales. DE and ED in ISB are greatly related and correspond to the MBI's depersonalisation/cynicism but refer to different aspects, which may be a solution for the issue. Further research is required to prove this supposition.

## Conclusion

The study of the Burnout Syndrome Inventory (ISB) by the Structural Equations Models for the confirmatory factor analysis in a multi-central and multi-occupational sample reaffirmed the initial model and underscored the instrument's psychometric qualities.

It would be highly interesting to repeat this investigation in a different sample and test stability with regard to time by test and re-test, besides a convergence analysis with a similar tool.

It must be underscored that ISB not only assesses the burnout syndrome but also reveals some developing aspects of the syndrome, making possible a more comprehensive idea of the labor context. On the other hand, one or other part may be used separately according to the needs and the aims of the assessor. Its management may be done individually or collectively, with multi-occupational professionals, facilitating its use in different contexts and situations.

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## Competing Interests

The authors have declared that no competing interests exist.

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