

Occupational Self-Efficacy Scale – Short Form (OSS-SF): Adaptation and evidence of construct validity of the Brazilian version

Bruno Figueiredo Damásio¹

Federal University of Rio de Janeiro, Rio de Janeiro-SP, Brazil

Clarissa Pinto Pizarro de Freitas

Sílvia Helena Koller

Federal University of Rio Grande do Sul, Porto Alegre-RS, Brazil

Abstract

This study aimed to adapt the Occupational Self-Efficacy Scale – Short Form (OSS-SF) to the Brazilian context. Participants were 514 professionals (86.4% women, mean age = 37.91 years, $SD = 10.78$). The sample was randomly split in two halves, and exploratory and confirmatory factor analyses were conducted to evaluate the factor structure of the Brazilian OSS-SF. Excellent goodness-of-fit indexes were achieved. Convergent validity was assessed using the Job-related Affective Well-being Scale and the Maslach Burnout Inventory. Correlations in the expected direction and magnitude were achieved. Further, significant differences were found in the levels of occupational self-efficacy among professionals who exhibited prevalence of job-related positive affect instead of job-related negative affect. The OSS-SF presented adequate psychometric properties, which suggests its usefulness in evaluating occupational self-efficacy in the Brazilian context.

Keywords: occupational health, self-efficacy, validation, factor analysis

Resumo: Escala de Autoeficácia Ocupacional – Versão Breve (EAO - VB): adaptação e evidências de validade de construto da versão brasileira

Este estudo buscou adaptar a Escala de Autoeficácia Ocupacional – Versão Breve (EAO-VB) para o contexto brasileiro. Participaram do estudo 514 profissionais (86,4% mulheres, idade média 37,91 anos, $DP = 10,78$). A amostra foi aleatoriamente dividida em duas partes, e análises fatoriais exploratórias e confirmatórias foram conduzidas para avaliar a estrutura fatorial da EAO-VB. Excelentes índices de ajuste foram obtidos. A validade convergente foi testada utilizando a Escala de Bem-Estar Afetivo no trabalho (JAWS) e o Inventário Maslach de *Burnout* (MBI). Foram encontradas correlações de sentido e de magnitude esperadas. Diferenças significativas nos níveis de autoeficácia ocupacional foram encontradas entre os profissionais que apresentaram preponderância de afetos positivos ao invés de afetos negativos. A EAO-VB apresentou adequadas propriedades psicométricas, sugerindo a sua utilidade para avaliação da autoeficácia ocupacional no contexto brasileiro.

Palavras-chave: saúde do trabalhador, autoeficácia ocupacional, validação, análise fatorial

Resumen: Escala de Autoeficacia Ocupacional – Versión Breve (EAO-VB): adaptación y evidencias de validez de constructo de la versión brasilera

Este estudio buscó adaptar la Escala de Autoeficacia Ocupacional – Versión Breve (EAO-VB) para el contexto brasilero. Participaron del estudio 514 profesionales (86,4% mujeres, edad media 37,91 años, $DP = 10,78$). La muestra fue aleatoriamente dividida en dos partes, y los análisis factoriales exploratorios y confirmatorios fueron conducidos para evaluar la estructura factorial de la EAO-VB. Excelentes índices de ajuste fueron obtenidos. La validez convergente fue testeada utilizando la Escala de Bienestar Afetivo en el trabajo (JAWS) y el Inventario Maslach de *Burnout* (MBI). Fueron encontradas correlaciones de sentido y de magnitud esperadas. Diferencias significativas en los niveles de autoeficacia ocupacional fueron encontradas entre los profesionales que presentaron preponderancia de afectos positivos en vez de afectos negativos. La EAO-VB presentó adecuadas propiedades psicométricas, sugiriendo su utilidad para la evaluación de la autoeficacia ocupacional en el contexto brasilero.

Palabras clave: salud del trabajador, autoeficacia ocupacional, escala, validez, análisis factorial

¹ Endereço para correspondência: Pasteur Avenue, 250, 22290-902, Rio de Janeiro-RJ. E-mail: brunofd.psi@gmail.com

Self-efficacy can be broadly defined as an individual belief in one's capabilities to organize and execute the courses of action required to produce given attainments (Bandura, 1997). Self-efficacy can be analyzed in a general way (Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002) or within a specific context, for example, work (Bandura, 1997). Albeit general self-efficacy is an important predictor of positive outcomes in several areas of human development (e.g., Kamen et al., 2013; Mystakidou et al., 2013), some authors have argued that investigating specific dimensions of self-efficacy produce more robust results and provide greater clarity regarding its predictors and its impact in specific areas of human's life (Maddux, 2011; Salanova, Peiró, & Schaufeli, 2002).

In the work context, self-efficacy is known as occupational self-efficacy (OS) and can be defined as the perceptions of an individual about his/her abilities to effectively perform his/her work tasks (Rigotti, Schyns, & Mohr, 2008). OS has been positively associated with professional performance, development of skills, job engagement, positive attitudes toward the organization, job satisfaction (Del Líbano, Llorens, Salanova, & Schaufeli, 2012; Rigotti et al., 2008) and positive affect at work (Salanova, Llorens, & Schaufeli, 2011). On the other hand, low levels of OS are associated with negative occupational outcomes, such as burnout (Brotheridge & Grandey, 2002; Guglielmi, Simbula, Schaufeli, & Depolo, 2012), and job-related negative affect (Kafetsios & Zampetakis, 2008).

Due to these well-known and important associations, an increasing effort is being made toward the effective measurement of OS. Up to date, several instruments have been developed to investigate this construct (for example, *Work Self-Efficacy Scale* – WSES, Avallone, Pepe, & Porcelli, 2007; *Self-Efficacy in Occupational Activities Scale* – SOAS, Nunes & Noronha, 2011; *Occupational Self-Efficacy Scale* – OSS, Schyns & von Collani, 2002; and *Occupational Self-Efficacy Scale – Short Form* – OSS-SF, Rigotti et al., 2008). In particular, the OSS (in its original and short form) has been used worldwide (Rigotti et al., 2008). The original version of the scale consisted of 20 items. With a sample of German adults ($N = 153$), the authors tested the psychometric properties of the scale. Principal component analysis with oblique rotation revealed a one-dimensional structure consisting of the component “occupational self-efficacy.” Confirmatory factor analysis revealed excellent fit indices for the measure ($\chi^2 = 263.9$, $df = 156$, CFI = .982, RMSEA = .072; Schyns & von Collani, 2002).

Because research instruments used in occupational contexts are required to be brief to allow an effective procedure of data collection, Schyns and von Collani (2002)

developed a suitable reduced version of the OSS with only eight items ($N = 326$, $\chi^2 = 21.0$, $df = 19$, CFI = .996, RMSEA = .028; internal consistency $\alpha = .88$). More recently, Rigotti et al. (2008) reduced this eight-item scale to a six-item one-dimensional version, presenting the OSS-SF. In their study (Rigotti et al., 2008), the OSS-SF validity and measurement invariance was sought in five countries (Germany, Sweden, Belgium, United Kingdom and Spain), and showed satisfactory internal consistency, ranging from $\alpha = .85$ in Belgium to $\alpha = .90$ in the United Kingdom. To check for cross-cultural measurement invariance of the OSS-SF, a multigroup confirmatory factor analysis (MGCFA) was performed between countries and adequate fit indices were obtained for all samples ($N = 1535$, $\chi^2 = 274.90$, $df = 45$, GFI = .94, CFI = .94, RMSEA = .05; Rigotti et al., 2008).

The OSS-SF offers a number of advantages over other existing scales for assessing OS. First, it is the smallest scale developed to assess this construct, allowing the inclusion of other measures in the same study without overloading the participants. It consists of a single dimension for evaluating OS, with generic OS items (e.g., “I feel prepared for most of the requirements of my work”), which permits its use in various occupational settings. This advantage is especially relevant considering the various forms of work in the contemporary world. In general, OS scales are designed for particular working contexts, especially organizations. Questions that assess, for example, the capacity for teamwork or customer relations skills (parts of the *Work Self-Efficacy Scale* – WSES, Avallone et al., 2007) are very specific, which limits its usefulness.

With regard to Brazil, few tools are available to assess occupational self-efficacy (Nunes & Noronha, 2011). Although a small number of scales have been validated for the Brazilian context, they focus on assessing self-efficacy for possible career choices (Ambiel, Noronha, & Santos, 2011; Nunes & Noronha, 2008, 2011; Vieira, Soares, & Polydoro, 2006), and not on the perception of individuals' abilities to effectively perform work tasks. That is, they are useful tools for career choice counseling and for use in vocational guidance contexts because they allow the individual to assess the areas in which he/she might have higher efficacy (e.g., artistic, social, enterprising, etc.). Considering the limitations in the assessment of OS in the Brazilian context, as well as the importance of the construct, this study aims to present the adaptation process and the psychometric properties of the Brazilian OSS-SF (Rigotti et al., 2008), a measure that directly investigate the individuals' perception of his/her work capabilities.

Overview of the Current Research

This study is part of a larger project, which aimed to train professionals who work on the protective network of children and adolescents in the state of Rio Grande do Sul (Brazil). The training program included several topics, such as: Definition and consequences of maltreatment and of domestic violence on children and adolescents; human rights; actions that should be taken to identify cases of right violations; conflict mediation, etc.

Beyond the training program, an impact evaluation study was also conducted to investigate the factors that contributed or not to the promotion of the workers qualifications. The impact evaluation included a battery of occupational self-efficacy, burnout, and positive and negative affect questionnaires, which are constructs that relate with levels of organizational commitment, development of new skills and job performance (Del Líbano et al., 2012; Maslach, Schaufeli, & Leiter, 2001; Schaufeli & van Rhenen, 2006). Among these scales, there was the OSS-SF, which is the focus of the present study.

Method

Participants

The training program was released across several institutions which were part of the children and adolescents' protective network in the state of Rio Grande do Sul (Brazil). Participants interested in participating on the training program made their inscriptions and responded to the questionnaires before and after the training program. The inclusion criterion for the professionals to participate in the study was to work in an institution of children and adolescents' protections (e.g. hospitals, shelters, and schools).

The final sample consisted of 514 subjects (86.4% women), aged from 18 to 68 years old ($M = 37.91$; $SD = 10.78$). Of the total, 15.6% had completed high school, 52.8% had a college degree, and 31.3% had completed graduate training.

Instruments

– *Occupational Self-efficacy Scale – Short form* (OSS-SF; Rigotti et al., 2008): The OSS-SF refers to a reduced form of the OSS (Schyns & von Collani, 2002). The OSS-SF is composed of six items that are answered on a Likert scale of six points, ranging from 1 (strongly disagree) to 6 (strongly agree).

The adaptation process of the OSS-SF for the Brazilian context included several steps based on the guidelines

presented in Borsa, Damásio, and Bandeira (2012). Initially, the questionnaire was translated from English to the Brazilian-Portuguese by two independent translators who were instructed to emphasize the meaning of each phrase rather than its literal expression. The authors of this study synthesized the two translated versions into a preliminary adapted version. This adapted version was evaluated by a target population and by a group of researchers, psychologists and experts in the fields of psychometrics and occupational health. At this stage, few changes were made. For example, the original scale consists of a six-point Likert rating scale, with anchors only at point 1 (Not at all true) and point 6 (Completely true). Once this type of grading is unusual in Brazilian psychology research, we decided to put anchors on all of the scale grades. In performing this procedure, we decided to change the anchors (now ranging from totally disagree to totally agree) and to reduce the response options from six to five points, so that a midpoint could be maintained (3 - Neither agree nor disagree). These changes were necessary to provide a coherent gradual sequence of possible responses to the scale. Furthermore, this decision was supported by the use of the five-point Likert scale in the Spanish adaptation of the OSS elsewhere (European Commission, 2006), and approved by the original author of the scale.

This adapted version was then back-translated from Portuguese to English by two other independent translators, and again, the study's authors conducted a synthesis of the back translations. This synthesized back-translated version was evaluated by the group of experts, who agreed that the translated and back-translated versions were adequately adapted, and presented semantic and idiomatic equivalence to the original version of the scale.

– *Maslach Burnout Inventory* (MBI; Maslach & Jackson, 1981, adapted by Lautert, 1995): The MBI aims to ascertain the level of burnout in workers. In its original version, the scale exhibited satisfactory alpha coefficients (α), ranging from .71 to .90. In the Brazilian validation study (Lautert, 1995), the scale yielded the following results: $\alpha = .86$ for the factor 'emotional exhaustion'; $\alpha = .69$ for the factor 'depersonalization'; and $\alpha = .76$ for 'low personal accomplishment in work'. In the present study, the alpha coefficients comprised the following values: $\alpha = .68$ for the factor 'emotional exhaustion'; $\alpha = .66$ for the factor 'depersonalization'; and $\alpha = .83$ for 'low personal accomplishment in work.'

– *Job-Related Affective Well-being Scale* (JAWS; Van Katwyk, Fox, Spector, & Kelloway, 2000, adapted by Gouveia, Fonsêca, Lins, Lima, & Gouveia, 2008): The JAWS assesses the job-related positive and negative affect. The original questionnaire consists of 30 items, 15

of which assess positive affect (PA) and 15 of which assess negative affect (NA). In the original validation study, a two-factor instrument showed adequate psychometric properties with reliability indices of .94 for PA and .87 for NA. In the present study, we used a shortened version of the JAWS (Gouveia et al., 2008) that consisted of 12 items, six of which assess PA and six of which assess NA. In this study, alpha reliability indexes were $\alpha = .78$ for PA and $\alpha = .80$ for NA.

Data Collection

Data were collected during the first module of the training program above mentioned. Participants were asked to respond to the instruments after they have received a copy of the Free and Informed Consent Form. We explained that their participation was voluntary, and if they decided not responding to the questionnaires, it would not preclude their participation in the training program. The instruments were applied collectively in auditoriums and classrooms where the training program was conducted. The study was initiated following the approval of the Ethics Committee (Institutional Review Board) of the Federal University of Health Sciences of Porto Alegre (UFCSA).

Data Analysis

Initially, the sample was randomly divided into two parts. An exploratory factor analysis (EFA) was conducted on the first ($n_1 = 250$). Considering the ordinal measurement level of the variables and the violation of the assumption of multivariate normality of the data (Mardia, 1970), the analysis was conducted based on a polychoric correlation matrix (Holgado-Tello, Chacón-Moscoso, Barbero-García, & Vila-Abad, 2010; Muthén & Kaplan, 1992) with the Minimum Rank Factor Analysis extraction method (MRFA, Shapiro & ten Berge, 2002). MRFA minimizes the residual common variance in the factor extraction process and enables the interpretation of the proportion of common variance that is explained by the retained factors (Lorenzo-Seva & Ferrando, 2006). The scale reliability was assessed using Alpha coefficient (Cronbach, 1951).

With the second part of the sample ($n_2 = 264$), two confirmatory factor analyses (CFA) were conducted using the robust maximum likelihood extraction method with corrections for non-normality (Satorra & Bentler, 2001) and using the polychoric correlation matrix. The first CFA aimed to evaluate the fit indices of the exploratory model obtained from sample 1. The second CFA aimed to evaluate a concurrent model that had been described in the original validation study of the scale (Rigotti et al., 2008).

The following fit indicators were used: chi-squared by degrees of freedom ratio (χ^2/df), comparative fit index (CFI), Tucker-Lewis index (TLI), root mean square error of approximation (RMSEA), standardized root mean square residual (SRMR) and consistent Akaike information criterion (CAIC). According to guidelines, the values of χ^2/df should be less than 3 or 5; CFI and TLI values should be greater than .95; RMSEA values should be less than .06 to indicate a good fit (and the 90% confidence interval must not be greater than .10); SRMR values should be closer to 0, with values below .80 considered acceptable; and smaller values of CAIC are most parsimonious and most suitable for the model (Brown, 2006; Byrne, 2010; Schreiber, Nora, Stage, Barlow, & King, 2006).

Convergent validity was assessed using Spearman's *rho* correlations between the OSS-SF, JAWS and MBI scales. Spearman's correlation was employed due to the ordinal and non-normal nature of the data. Based on the literature, it is expected that the OSS-SF should be positively correlated with the 'Positive Affect' factor (PA) and negatively correlated with the 'Negative Affect' factor (NA) of JAWS, as well as the 'emotional exhaustion', 'depersonalization' and 'low-achievement at work' factors of the MBI.

To assess discriminant validity, the scores on the OSS-SF were compared with the indices obtained from the JAWS. A 'General Affect' factor was computed for this purpose by calculating (PA - NA). A positive result on this index indicates a preponderance of positive affect over negative affect at work. A negative result indicates a preponderance of NA over PA. Subjects with positive scores (i.e., > 1) were considered to be the Positive Group (G1). Subjects with neutral and negative scores (i.e., ≤ 0) were considered to be the Negative Group (G2). It was expected that G1 subjects would have significantly higher occupational self-efficacy scores than would the G2 subjects. Student's *t*-tests were performed for this analysis using bootstrapping (1,000 re-samplings), with a 99% confidence interval for the mean difference (ΔM). Bootstrapping was used to achieve a greater reliability to the results, to correct non-normal distribution of the sample, differences in group sizes, and to present a 99% confidence interval for the mean differences (Haukoos & Lewis, 2005).

Results

Exploratory factor analysis

The polychoric correlation matrix proved adequate for extracting factors (Kaiser-Meyer-Olkin, KMO = .81, Bartlett's test of sphericity $\chi^2[15] = 389.100$; $p < .001$). A single-factor solution was achieved (eigenvalue = 2.86).

As observed in Table 1, all items loaded satisfactorily on the expected factor, except item 1. Reliability index of the structure with 5 items (without item 1 which did not loaded satisfactorily) was .78.

Confirmatory factor analysis

Two CFAs were performed on the second part of the sample. The first CFA aimed to evaluate the exploratory obtained model from sample 1, whereas the second CFA aimed to test a concurrent model described in the scale validation study (Rigotti et al., 2008), containing all six items of the OSS-SF.

As observed in Table 2, both models exhibit acceptable fit indices. Regarding the exploratory

model (5 items), only the RMSEA values were unacceptable (upper CI > .10). In relation to the concurrent model, all fit indices showed adequate values. When comparing the models (using the CAIC), it can be seen that the concurrent model was considered more parsimonious than the exploratory one ($\Delta CAIC = 304.57$).

Convergent validity

As the scale showed a better fit index to the original model, the six-item version of the instrument was used. Spearman’s *rho* correlations were initially performed between the OSS-SF, the JAWS and the MBI. All correlations were achieved in the expected direction.

Table 1
Exploratory Factor Analysis of the Occupational Self-Efficacy Scale

Items (short content)	Factor loadings
	Occupational self-efficacy
Item 1 (... to keep calm when facing difficulties...)	.25
Item 2 (... to find solutions to problems...)	.62
Item 3 (... to handle problems...)	.78
Item 4 (... preparation for professional future...)	.58
Item 5 (... to meet personal goals in the job...)	.66
Item 6 (... to feel prepared for the job demands...)	.77
Eigenvalue	2.86
Explained variance	47.73%

Table 2
Goodness of Fit Indices for the Exploratory and Concurrent Models for the OSS-SF

Models	Goodness-of-fit Indices					CAIC
	χ^2/df	SRMR	RMSEA (90% CI)	CFI	TLI	
Exploratory model (5 items)	3.45	.05	.09 (.05-.15)	.98	.95	461.669
Concurrent model (6 items)	1.64	.07	.05 (.00-.09)	.98	.96	157.099

Table 3
Spearman’s Rho Correlations Between Occupational Self-Efficacy, Positive and Negative Affect at Work and Burnout Dimensions

Constructs	1	2	3	4	5	6	7
1. Occupational self-efficacy	-						
2. Positive affect at work	.241**	-					
3. Negative affect at work	-.245**	-.661**	-				
4. General affect	.267**	.904**	-.919**	-			
5. Emotional exhaustion	-.185**	-.412**	.534**	-.522**	-		
6. Depersonalization	-.169**	-.515**	.592**	-.609**	.515**	-	
7. Low performance at work	-.276**	-.666**	.654**	-.724**	.461**	.657**	-

Note: ** correlation significant at level $p < .001$.

Discriminant validity

To determine discriminant validity of the OSS-SF, the JAWS was used as a criterion measure. The G1 ($n = 370$) consisted of participants who obtained scores of positive affect at work (scores > 1). The G2 ($n = 144$) consisted of participants who obtained neutral and negative scores of affect at work (scores ≤ 0). Student's t -test showed that G1 exhibited significant greater scores on OS than did G2 ($M_{G1} = 24.82$, $SD = 4.49$; $M_{G2} = 22.71$, $SD_{G2} = 3.28$; $\Delta M = 2.11$ [99% CI = 1.16-3.01], $SE = .37$, $t[512] = 5.137$, $p < .001$).

Discussion

The EFA presented a one-factor solution that consisted of five items, with item 1 ("I can remain calm when I face difficulties at work because I can trust in my abilities") not showing satisfactory factor loading. The semantic complexity of this item may have hindered understanding. It can be observed that the item makes two simultaneous assertions: 1) remaining calm in the face of difficulties; and 2) relying on one's own skills. When items have two or more assertions in one sentence, its comprehension and endorsement tends to be not easily achieved (Johnson, 2004). This hypothesis, however, should be investigated in further studies.

The CFAs showed acceptable fit indices for both models (the exploratory model with five items and the concurrent model with six items). Regarding the exploratory model, the RMSEA upper range value was above the acceptable limit of .10. However, it is important to note that there is a growing literature discussing the biases of the RMSEA index in models with low degrees of freedom (Chen, Curran, Bollen, Kirby, & Paxton, 2008; Curran, Bollen, Chen, Paxton, & Kirby, 2003). These simulation studies have suggested that as the degrees of freedom of the model decrease, the maximum RMSEA acceptable limit of .10 tends to be less reliable. We can, however, accept the plausibility of this model once all of the other fit indices showed adequacy.

In evaluating the second model (concurrent model), better fit indices were observed for all indicators, except the SRMR. The CAIC index, which was specifically used for model comparison, suggests that the concurrent model (six items) is more parsimonious and offers a better fit than the exploratory one. Considering this, all subsequent analyses conducted throughout the remainder of the study were performed using the six-item OSS-SF.

Convergent validity of the OSS-SF was adequately achieved. As observed in Table 3, occupational self-efficacy positively correlated with job-related PA and negatively correlated with NA, emotional exhaustion,

depersonalization and low achievement at work. The magnitude of the correlations (poor to moderate) shows that self-efficacy at work is correlated although different from the others constructs.

These findings reinforce the understanding that occupational self-efficacy is a personal resource, whereas positive and negative affect and indices of emotional exhaustion, depersonalization and low achievement at work refer to emotional states experienced by the professional in his/her work (Del Libano et al., 2012; Salanova et al., 2011; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). These results are also consistent with evidence of the influence of levels of self-efficacy on the emotional state of a professional (Del Libano et al., 2012; Salanova et al., 2011; Xanthopoulou et al., 2009). More specifically, longitudinal and mediation studies have shown that occupational self-efficacy, understood as a personal resource, is a variable that protects against burnout, so that higher levels of self-efficacy imply lower risk of burnout (Brouwers & Tomic, 2000; Schaufeli, Bakker, & Van Rhenen, 2009; Schwarzer & Hallum, 2008).

The indices of discriminant validity were also satisfactory. As expected, subjects with a preponderance of job-related positive affect had higher scores of self-efficacy when compared to those with a preponderance of job-related negative affect. These results are consistent with international literature, which demonstrates an association between these variables (Salanova et al., 2011; Tsai, Chen, & Liu, 2007). Occupational self-efficacy is a personal resource that affects the professionals' perceptions regarding his/her resources to cope with job demands (Del Libano et al., 2012; Salanova et al., 2011; Xanthopoulou et al., 2009). Therefore, perceptions of occupational self-efficacy influence the way that professionals face the demands and resources of their work and may therefore model the affect that is experienced at work. It should be noted that in the present study, the scores of self-efficacy were chosen as the dependent variable (DV), and the scores of affect were chosen as an independent variable (IV) to examine possible group differences. This choice, however, does not intend to suggest causality of the IV on the DV.

This study has various strengths and limitations. The strengths include the robust methods of data analysis adopted. Exploratory and confirmatory factor analyses were performed with corrections for deviations from normality, and polychoric correlation matrices were used, taking the instrument scores as ordinal and non-scalar variables (for more information, see Holgado-Tello et al., 2010). Student's t -test was used with bootstrapping resampling procedures, providing greater power and reliability to the presented results. Based on

these techniques, we provided initial evidences that the OSS-SF is an adequate measure to evaluate professionals' perceptions of occupational self-efficacy.

The study limitations include the limited sample employed. The sample included professionals in health, education and welfare in a single state of Brazil. Furthermore, the sample consisted mostly of women. Future studies examining larger and more diverse samples are needed to corroborate or refute the data presented here.

Final Considerations

The present study aimed to adapt and present evidence of the validity of the Brazilian version of

the Occupational Self-Efficacy Scale – Short Form (OSS-SF). The results demonstrated adequacy of the construct validity of the measure, suggesting its usefulness in evaluating occupational self-efficacy. The OSS-SF is the smallest scale ever developed to assess occupational self-efficacy. Because of the instruments' characteristics, the scale can be used for both professionals working in several institutions and for autonomous professionals, which considerably extends its scope. Due to the importance of this construct for both the development of psychopathology and occupational well-being, the instrument may lead to important advances in research related to the well-being of workers in Brazil.

References

- Ambiel, R. A. M., Noronha, A. P. P., & Santos, A. A. A. (2011). Escala de auto-eficácia para escolha profissional: Avaliação preliminar das propriedades psicométricas. *Psicologia para América Latina*, 21(1), 1-9.
- Avallone, F., Pepe, S., & Porcelli, R. (2007). Autoefficacia percepita nella ricerca del lavoro: scale di misura. In *Bisogni, valori e autoefficacia nella scelta del lavoro* (pp. 133-142). Roma, Italia: ISFOL.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: Freeman.
- Borsa, J. C., Damásio, B. F., & Bandeira, D. R. (2012). Adaptation and validation process of psychological measures among cultures: Some considerations. *Paidéia*, 22(53), 423-432. doi:10.1590/1982-43272253201314
- Brotheridge, C. M., & Grandey, A. A. (2002). Emotional labor and burnout: Comparing two perspectives of “people work”. *Journal of Vocational Behavior*, 60(1), 17-39. doi:10.1006/jvbe.2001.1815
- Brouwers, A., & Tomic, W. (2000). A longitudinal study of teacher burnout and perceived self-efficacy in classroom management. *Teaching and Teacher Education*, 16(2), 239-253. doi:10.1016/S0742-051X(99)00057-8
- Brown, T. A. (2006). *Confirmatory factor analysis for applied research*. New York, NY: The Guilford Press.
- Byrne, B. M. (2010). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). New York, NY: Routledge, Taylor & Francis.
- Chen, F., Curran, P. J., Bollen, K. A., Kirby, J., & Paxton, P. (2008). An empirical evaluation of the use of fixed cutoff points in RMSEA test statistic in structural equation models. *Sociological Methods & Research*, 36(4), 462-494. doi:10.1177/0049124108314720
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297-334. doi:10.1007/BF02310555
- Curran, P. J., Bollen, K. A., Chen, F., Paxton, P., & Kirby, J. B. (2003). Finite sampling properties of the point estimates and confidence intervals of the RMSEA. *Sociological Methods & Research*, 32(2), 208-252. doi:10.1177/0049124103256130
- Del Líbano, M., Llorens, S., Salanova, M., & Schaufeli, W. B. (2012). About the dark and bright sides of self-efficacy: Workaholism and work engagement. *The Spanish Journal of Psychology*, 15(2), 688-701. doi:10.5209/rev_SJOP.2012.v15.n2.38883
- European Commission. (2006). *EU research on social sciences and humanities: Psychological contracts across employment situations: PSYCONES*. Luxembourg: Author.
- Gouveia, V. V., Fonsêca, P. N., Lins, S. L. B., Lima, A. V., & Gouveia, R. S. V. (2008). Escala de bem-estar afetivo no trabalho (JAWS): Evidências de validade fatorial e consistência interna. *Psicologia: Reflexão e Crítica*, 21(3), 464-473. doi:10.1590/S0102-79722008000300015
- Guglielmi, D., Simbula, S., Schaufeli, W. B., & Depolo, M. (2012). Self-efficacy and workaholism as initiators of the job demands-resources model. *Career Development International*, 17(4), 375-389. doi:10.1108/13620431211255842
- Haukoos, J. S., & Lewis, R. J. (2005). Advanced statistics: Bootstrapping confidence intervals for statistics with “difficult” distributions. *Academic Emergency Medicine*, 12(4), 360-365. doi:10.1197/j.aem.2004.11.018

- Holgado-Tello, F. P., Chacón-Moscoso, S., Barbero-García, I., & Vila-Abad, E. (2010). Polychoric versus Pearson correlations in exploratory and confirmatory factor analysis of ordinal variables. *Quality and Quantity*, 44(1), 153-166. doi:10.1007/s11135-008-9190-y
- Johnson, J. A. (2004). The impact of item characteristics on item and scale validity. *Multivariate Behavioral Research*, 39(2), 273-302. doi:10.1207/s15327906mbr3902_6
- Kafetsios, K., & Zampetakis, L. A. (2008). Emotional intelligence and job satisfaction: Testing the mediatory role of positive and negative affect at work. *Personality and Individual Differences*, 44(3), 712-722. doi:10.1016/j.paid.2007.10.004
- Kamen, C., Flores, S., Etter, D., Lazar, R., Patrick, R., Lee, S., . . . Gore-Felton, C. (2013). General self-efficacy in relation to unprotected sexual encounters among persons living with HIV. *Journal of Health Psychology*, 18(5), 658-666. doi:10.1177/1359105312454039
- Lautert, L. (1995). *O desgaste profissional do enfermeiro* (Tese de doutorado não publicada). Universidad Pontificia de Salamanca, Salamanca, España.
- Lorenzo-Seva, U., & Ferrando, P. J. (2006). FACTOR: A computer program to fit the exploratory factor analysis model. *Behavior Research Methods*, 38(1), 88-91. doi:10.3758/BF03192753
- Maddux, J. E. (2011). Self-efficacy: The power of believing you can. In S. J. Lopez, & C. R. Snyder (Eds.), *The Oxford handbook of positive psychology* (2nd. ed., pp. 335-343). New York, NY: Oxford University Press.
- Mardia, K. V. (1970). Measures of multivariate skewness and kurtosis with applications. *Biometrika*, 57(3), 519-530. doi:10.1093/biomet/57.3.519
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2(2), 99-113. doi:10.1002/job.4030020205
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52(1), 397-422. doi:10.1146/annurev.psych.52.1.397
- Muthen, B., & Kaplan, D. (1992). A comparison of some methodologies for the factor analysis of non-normal Likert variables: A note on the size of the model. *British Journal of Mathematical and Statistical Psychology*, 45(1), 171-189. doi:10.1111/j.2044-8317.1992.tb00975.x
- Mystakidou, K., Tsilika, E., Parpa, E., Gogou, P., Panagiotou, I., Vassiliou, I., & Gouliamos, A. (2013). Relationship of general self-efficacy with anxiety, symptom severity and quality of life in cancer patients before and after radiotherapy treatment. *Psycho-Oncology*, 22(5), 1089-1095. doi:10.1002/pon.3106
- Nunes, M. F. O., & Noronha, A. P. P. (2008). Escala de auto-eficácia para atividades ocupacionais: Construção e estudos exploratórios. *Paidéia*, 18(39), 111-124. doi:10.1590/S0103-863X2008000100011
- Nunes, M. F. O., & Noronha, A. P. P. (2011). Escala de autoeficácia para atividades ocupacionais: Estudo da estrutura interna e precisão. *Avaliação psicológica*, 10(1), 25-40.
- Rigotti, T., Schyns, B., & Mohr, G. (2008). A short version of the occupational self-efficacy scale: Structural and construct validity across five countries. *Journal of Career Assessment*, 16(2), 238-255. doi:10.1177/1069072707305763
- Salanova, M., Llorens, S., & Schaufeli, W. B. (2011). "Yes, I can, I feel good, and I just do it!" On gain cycles and spirals of efficacy beliefs, affect, and engagement. *Applied Psychology*, 60(2), 255-285. doi:10.1111/j.1464-0597.2010.00435.x
- Salanova, M., Peiró, J. M., & Schaufeli, W. B. (2002). Self-efficacy specificity and burnout among information technology workers: An extension of the job demand-control model. *European Journal of Work and Organizational Psychology*, 11(1), 1-25. doi:10.1080/13594320143000735
- Satorra, A., & Bentler, P. M. (2001). A scaled difference chi-square test statistic for moment structure analysis. *Psychometrika*, 66(4), 507-514. doi:10.1007/BF02296192
- Schaufeli, W. B., & van Rhenen, W. (2006). Over de rol van positieve en negatieve emoties bij het welbevinden van managers: Een studie met de Job-related Affective Well-being Scale (JAWS). *Gedrag en Organisatie*, 19(4), 323-344.
- Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*, 30(7), 893-917. doi:10.1002/job.595
- Scholz, U., Gutiérrez-Doña, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment*, 18(3), 242-251. doi:10.1027//1015-5759.18.3.242
- Schreiber, J. B., Nora, A., Stage, F. K., Barlow, E. A., & King, J. (2006). Reporting structural equation modeling and confirmatory factor analysis results: A review. *Journal of Educational Research*, 99(6), 323-338. doi:10.3200/JOER.99.6.323-338

- Schwarzer, R., & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Mediation analyses. *Applied Psychology, 57*(s1), 152-171. doi:10.1111/j.1464-0597.2008.00359.x
- Schyns, B., & von Collani, G. (2002). A new occupational self-efficacy scale and its relation to personality constructs and organizational variables. *European Journal of Work and Organizational Psychology, 11*(2), 219-241. doi:10.1080/13594320244000148
- Shapiro, A., & ten Berge, J. M. F. (2002). Statistical inference of Minimum Rank Factor Analysis. *Psychometrika, 67*(1), 79-94. doi:10.1007/BF02294710
- Tsai, W. C., Chen, C. C., & Liu, H. L. (2007). Test of a model linking employee positive moods and task performance. *Journal of Applied Psychology, 92*(6), 1570-1583. doi:10.1037/0021-9010.92.6.1570
- Van Katwyk, P. T., Fox, S., Spector, P. E., & Kelloway, E. K. (2000). Using the job-related affective well-being scale (JAWS) to investigate affective responses to work stressors. *Journal of Occupational Health Psychology, 5*(2), 219-230. doi:10.1037//1076-8998.5.2.219
- Vieira, D., Soares, A. M., & Polydoro, S. A. J. (2006). Escala de auto-eficácia na transição para o mundo do trabalho (AETT): Um estudo de validação para a realidade brasileira. In C. Machado, L. Almeida, M. A. Guisande, M. Gonçalves, & V. Ramalho (Eds.), *Conferência Internacional de Avaliação Psicológica: Formas e contexto* (pp. 293-299). Braga, Portugal: Psiquilíbrios.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology, 82*(1), 183-200. doi:10.1348/096317908X285633

Recebido 09/09/2013
1ª Revisão 02/11/2013
Aceite Final 26/02/2014

Sobre os autores

Bruno Figueiredo Damásio é psicólogo (UEPB), Mestre e Doutor em Psicologia (UFRGS). Professor do Instituto de Psicologia (Departamento de Psicometria) da Universidade Federal do Rio de Janeiro (UFRJ).

Clarissa Pinto Pizarro de Freitas é psicóloga, Especialista em Terapia Cognitivo Comportamental, Mestra e Doutoranda em Psicologia na Universidade Federal do Rio Grande do Sul (UFRGS).

Sílvia Helena Koller é professora da Universidade Federal do Rio Grande do Sul e Pesquisadora 1A do CNPQ. Orientadora de doutorado e mestrado, e coordenadora do Centro de Estudos Psicológicos (CEP-Rua).