



Generic Job Satisfaction Scale: Psychometric Qualities of the Version Adapted to Portuguese

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ABSTRACT

The aim of this study was to adapt Macdonald & MacIntyre's Generic Job Satisfaction Scale for use with Brazilian workers. The study used a sample of 681 workers ($M_{age}=34.20$ years; $SD=8.5$) from the Brazilian Southeast, of whom 63% were male. The exploratory factor analysis indicated a one-dimensional structure and confirmatory analyses showed that a re-specified model was the one that presented the most satisfactory fit. The scale presented evidence of adequate convergent validity ($AVE=0.72$) and discriminant validity ($\sqrt{AVE}=0.85$). Positive correlations with organizational commitment and civility, as well as negative correlations with intentions to quit, corroborated the criterion validity. The reliability indices obtained (composite reliability= 0.75 , and $\omega=0.77$) demonstrate the adequate internal consistency and composite reliability of the instrument. The adapted scale presents evidence of reliability and validity, which makes it suitable for use with Brazilian populations.

Keywords: job satisfaction; organizational psychology; psychological evaluation.

RESUMO – Escala de Satisfação Laboral Geral: Qualidades Psicométricas da Versão Adaptada ao Português

O objetivo deste estudo foi adaptar a Escala de Satisfação Genérica de Mac Donald & Mac Intyre para uso com trabalhadores brasileiros. A pesquisa contou com 681 trabalhadores ($M=34,20$ anos; $DP=8,5$) do sudeste brasileiro, dos quais 63% eram do sexo masculino. Resultados a partir da análise fatorial exploratória indicaram uma estrutura unidimensional e análises confirmatórias demonstraram que o modelo reespecificado foi o mais adequado. As evidências adicionais de validade apontam adequada validade convergente ($AVE=0,72$) e validade discriminante ($\sqrt{VEA}=0,85$). Correlações positivas com compromisso organizacional e civilidade, além de negativas com intenção de deixar a organização, corroboraram a validade de critério. Por fim, os índices de precisão (confiabilidade composta= $0,75$ e $\omega=0,77$) demonstraram que o instrumento possui consistência interna e adequada confiabilidade composta. A escala final possui evidências de validade e confiabilidade que tornam adequado o uso do instrumento.

Palavras-chave: satisfação no trabalho; psicologia organizacional; avaliação psicológica.

RESUMEN – Escala de Satisfacción Laboral Genérica: Cualidades Psicométricas de la Versión Portuguesa Adaptada

El objetivo de este estudio fue adaptar la Escala de Satisfacción Laboral Genérica de Mac Donald y Mac Intyre para su empleo con trabajadores brasileños. Participaron de la investigación 681 trabajadores ($M_{edad}=34,20$; $DS=8,5$) del sudeste de Brasil, de los cuales el 63 % eran varones. Los resultados del análisis factorial exploratorio indicaron una estructura unidimensional y los análisis confirmatorios mostraron que el modelo redefinido era el más apropiado. La escala presentó evidencias de validez convergente ($AVE=0,72$) y validez discriminante ($\sqrt{AVE}=0,85$). Las correlaciones positivas con el compromiso organizacional y el civismo, además de correlaciones negativas con la intención de renunciar al trabajo, corroboraron la validez de criterio de la escala. Finalmente, los índices de confiabilidad obtenidos (confiabilidad compuesta= $0,75$ y $\omega=0,77$) demostraron que el instrumento posee de consistencia interna y confiabilidad compuesta adecuada. Las evidencias de validez y confiabilidad hacen adecuado el uso del instrumento.

Palabras clave: satisfacción laboral; psicología organizacional; evaluación psicológica.

In the last ten years the study of job satisfaction has moved from a peripheral position to the central place it occupies today (Schlett & Ziegler, 2014; Salessi & Omar, 2016). Place that has been gained from numerous investigations that have shown that organizational and individual productivity are closely related to employee

satisfaction (Carlson, et al., 2014; Kovacs, et al., 2018; Alkhateri, et al., 2018).

Job satisfaction is one of the most heuristic but controversial concepts of organizational psychology. The conceptual definitions of the construct has enrolled both in a cognitive and affective perspective. From the

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affective point of view, job satisfaction refers to a feeling, a state or an emotional response in relation to the various aspects of work (Yukl, 2008). From the cognitive perspective, it has considered as an evaluative judgment of one's work which includes aspects such as salary, promotion, and supervision (Morris & Venkatesh, 2010). In an attempt to reconcile both positions, Judge and Kammeyer-Mueller (2012) have proposed an integrating definition, which considers job satisfaction as an attitude towards work experiences. This new approach has achieved great consensus and, at present, is adopted by most researchers (Schlett & Ziegler, 2014).

Regarding the nomological network of the construct, job satisfaction recognizes between its antecedents both dispositional and contextual variables. At the dispositional level, there is evidence that links job satisfaction with personality traits and emotional regulation strategies (Pandey & Singh, 2016). More recently, Salessi and Omar (2017) proposed an explanatory model where psychological capital, emotional intelligence, extraversion, emotional control, and organizational cynicism explain significant portions of the construct. From the analysis of the specialized bibliography, there are also links between job satisfaction and some sociodemographic variables, such as age, gender, marital status and seniority (Kifle, et al., 2014; Omar, 2010; Yeşilyaprak & Boysan, 2014). Among the contextual variables, in addition to the traditional variables (justice perception, supervisor support, organizational climate, and the like), the most current studies are analyzing as potential work satisfaction antecedents, the organizational commitment, the behaviors of organizational civility, and turnover intentions (Allisey, et al., 2014; Han, et al., 2015; Vaamonde, Omar, & Salessi, 2018).

With regard to its consequences, the importance of job satisfaction lies in its beneficial effects for both employees and the organization. It has been pointed out that just as the organization can influence employee satisfaction through fair wage policies, rewards for outstanding executions, and the like, employees satisfied can contribute to reliable, responsible and quality work, which reduces the internal costs of any production process (Carlson, et al., 2014). In fact, people satisfied with their work are more sensitive than those who are dissatisfied, and that job satisfaction increases self-esteem, happiness, well-being, and reduces psychosomatic illnesses, stress, and anxiety. Chaudhuri and Naskar (2014) indicate that satisfied employees want to remain part of the organization and show very low intentions to change jobs; while a dissatisfied worker complains permanently of working conditions, of material and emotional rewards, of social prestige, and, therefore, wants to resign or change jobs. Chaudhuri and Naskar (2014) indicate that satisfied employees want to remain part of the organization and show very low intentions to change jobs, while a dissatisfied worker is constantly complaining about the conditions

of work, material and emotional rewards, and, therefore, wants to quit or change jobs.

All these evidences demonstrate that satisfaction is a complex construct, which varies according to motivation and personal needs. From an individual perspective, job satisfaction can be one of the reasons for a worker's personal and work happiness (Vaamonde, et al., 2018; Kovacs, et al., 2018). From an organizational perspective, it can be a reason for workers to be efficient and do quality work (Chaudhuri & Naskar, 2014; Alkhatari, et al., 2018).

The Measurement of the Work Satisfaction (WS)

Instruments for measuring satisfaction, generally scales, have been developed in the framework of two measurement models: the one-dimensional and the multidimensional approach. Multidimensional scales define satisfaction as the average of the scores obtained in the different dimensions evaluated (Tatsuse & Sekine, 2011). Instruments with this approach have as their characteristics a higher number of items that direct specific indicators of job satisfaction dimensions (e.g., satisfaction with boss, satisfaction with salary, satisfaction with the nature of work) (Coelho Junior & Faiad, 2012; Rueda, 2015). The main criticism of this methodology is that it presupposes that the facets of satisfaction combine in a linear and additive way (Dalal & Credé, 2013; Salessi, 2014). One-dimensional scales explore the attitude toward work global, either through a single item (usually variations of the question how satisfied are you with your work?), or through a variable number of items (Judge and Kammeyer-Mueller, 2012) that evaluated different aspects of job satisfaction from individual item perspective (e.g., job security, coworkers, salary). Single dimension measurements are brief and can be included along with other variables at work evaluation.

The Generic Work Satisfaction Scale (MacDonald & MacIntyre, 1997) is one of the few instruments developed to measure satisfaction within the one-dimensional approach. Compared with other general scales that range between 50 and 100 items, this scale provides valid and reliable scores with only 10 items. The initial validation of the scale (MacDonald & MacIntyre, 1997) has been carried out on a sample of 885 Canadian workers, representing numerous occupations and organizations in the city of Ontario. The exploratory factor analysis led to retain 10 of the 44 items elaborated, which showed acceptable internal consistency ($\alpha=0.77$). Correlational analyzes, meanwhile, demonstrated favorable external evidence of the construct based on the significant associations found with variables such as work stress (negative) and life satisfaction (positive). So far, the instrument has been adapted for use in some European, Asian, and Latin American countries (Bai, et al., 2013; Salessi & Omar, 2016; van Saane, et al., 2003).

The review of the literature shows that in Brazil prevail multidimensional instruments for the evaluation

of job satisfaction (Carlotto & Câmara, 2008; Coelho Junior & Faiad, 2012; Oliveira, Cavazotte, & Paciello, 2013; Rueda, 2015). For example, the Work Satisfaction Scale developed by Siqueira (2008) measures satisfaction through dimensions relating to salary, nature of work, promotion opportunities, and relationships with bosses and colleagues. Meanwhile, the Work Satisfaction Questionnaire S20/23, developed by Carlotto and Câmara (2008), measures satisfaction through three components (hierarchical relations, physical work environment, and intrinsic satisfaction).

At the time of the present investigation, the only one-dimensional measure of job satisfaction available in Brazil is the English translated version of the Job Satisfaction Survey (Souza, Milani & Alexandre, 2015), and no validation of this measure is still available for use with the Brazilian population. Nor is there a translated and adapted version of the Generic Work Satisfaction Scale (MacDonald & MacIntyre, 1997) for use with the population of Brazilian workers. Therefore, with the purpose of filling this empirical-instrumental gap, the present study was designed to explore the functional equivalence of this scale in the Brazilian context, from the analysis of its cultural, conceptual and metric aspects.

Method

To determine the functional equivalence between the original instrument and its adapted version, four successive stages were carried out (Muñiz, Elosua, & Hambleton, 2013). First, the conceptual equivalence of the construct between both cultures (Canadian and Brazilian) and the analysis of the relevance of the items for the target population was determined. Second, the items from the original language (English) were translated into Portuguese (Brazilian), adapting them, in turn, to the cultural and linguistic characteristics of the target population (semantic equivalence). Next, the prototypical version of the instrument was administered to a non-probabilistic sample in order to determine the operational equivalence of the instrument. This pilot study allowed us to make some syntactical adjustments to the wording of the items. Finally, based on the information provided by a new sample, we proceeded to explore the metric equivalence of the scale through a set of statistical analyzes (exploratory factor analysis, confirmatory factor analysis and correlational analysis). Each of these stages is described below.

Conceptual equivalence

To determine the conceptual equivalence between the English construct "job satisfaction" and the Brazilian construct "work satisfaction", an exhaustive bibliographic review on the subject was carried out. Particularly useful at this stage was the international review conducted by Bentley, Coates, Dobson, Goedegebuure, and Meek

(2012), who explored job satisfaction in various countries (Argentina, Australia, Brazil, Canada, Finland, Germany, Japan, Malaysia, Portugal, South Africa, among others), concluding that the nature of the concept was similar in different cultures. As part of this process, in turn, all the items of the original scale were subjected to an intense critical review by three specialized professionals, doctors in Psychology, with more than twenty years of professional experience in their respective areas (Organizational Psychology, Health Psychology, and Psychological Evaluation). The specialists received a booklet containing conceptual and operational definitions of the construct, as well as all the items that integrated the scale. The guiding instruction was that considering their expert judgement, they indicated the level of agreement between each item and the construct on a 5-point scale (1 = poor agreement; 5 = high agreement). The evaluation of the experts showed a high level of concordance (4.3 on average), confirming that the spectrum explored by the instrument adequately covered the construct.

Semantic equivalence

To adapt the instrument to the language of the target population, we implemented an iterative process of purification with four stages. First, professional translators translated the instrument from English (Canadian) to Portuguese (Brazilian). Then, experts in English re-translated into English the Brazilian version. Subsequently, three English translators "blindly" compared the two forms of the instrument, in order to identify the agreement between the original item and the translated item. These experts determined the degree of semantic equivalence according to two categories of analysis. On the one hand, they examined the concordance in terms of the literal translation between the original item and the translated item (the referential meaning). On the other hand, they assessed the articulation of ideas between the original item and its re-translation (the general meaning). The referential meaning was evaluated on a visual analogical scale in which the equivalence between pairs was judged from 0 to 100%. The professionals coincided that the semantic adaptation of the scale showed adequate levels of agreement between translation and re-translation (Kappa index values between .82 and .90).

Operational equivalence

After defining the prototypical version of the scale, a pilot study was carried out with two basic purposes: (a) to explore the operational equivalence, basically in terms of time to complete the scale, clarity of instructions to perform the task, and semantic and syntactic appropriateness of the items, and (b) to obtain data that would allow carrying out a preliminary item analysis. On that occasion, we worked with a non-probabilistic sample composed of 62 graduate students (54% women) who

worked in different organizations based in the city of Vitoria (Espirito Santo). The mean age of the participants was 33.81 years ($SD=3.54$), while the mean tenure was 4.74 years ($SD=2.60$).

Regarding the first purpose, once the subjects responded to the prototypical version of the instrument, an exchange space was opened where the participants had the opportunity to evaluate the experience, point out the difficulties encountered and, above all, indicate if they had any problem understanding the wording of each item. In general terms, the participants pointed out that the instructions were clear, that the writing of the items was very understandable, and that the Likert scale of 5 points did not generate difficulties. Regarding the second purpose, the sample was divided into two extreme groups: one that concentrated 33% of the highest scores on the scale, and another with 33% of the lowest scores. Against the violation of the assumption of normality, the Mann-Whitney U coefficient was used to estimate the ability to discriminate the items, which proved to be adequate for the 10 items according to the values of this statistic (Mann-Whitney U test, $p<0.05$). The homogeneity coefficient was estimated from the computation of the item-total correlations; which reached values for all items equal to or greater than .30 (Lloret, et al. 2017).

Measurement equivalence

To determine the psychometric properties of the adapted instrument, the corresponding reliability and validity analyzes were carried out. In this case, the structural validity was analyzed through an exploratory factorial analysis (EFA), followed by a confirmatory factorial analysis (CFA). The construct validity was determined through the correlation with other constructs (turnover intentions, organizational commitment, and civility) that, from the review of the literature, emerged as relevant with respect to job satisfaction (Allisey, et al., 2014; Han, et al., 2015; Vaamonde et al., 2018). To estimate the resulting reliability index, the omega coefficient (Dunn, Baguley, & Brunnsden, 2014) was calculated. For the study of the equivalence of measurement, the sample and the instruments described below were used.

Participants

The sample comprised 681 workers, of whom 63.30% were male. The mean age was 34.20 years ($SD=8.50$), and the mean tenure was 9.02 years ($SD=9.30$). Fifty-eight percent of the subjects were married or lived as a couple; 42% had higher education (tertiary and/or university level), while the remaining 58% had primary/secondary education. Since the items were written in plain language, they did not present comprehension problems among the participants, even among those who had only reached a primary school level. Regarding the organizational sector, 43% worked in public organizations and 57% in private companies,

and regarding the distribution of the sample by organizational activity, 39% worked in trade and services, 27% in industry, 24% in health, and 10% in education. On average, employees worked 43 hours per week ($SD=6.50$).

Ethical Considerations

This research was conducted in accordance of the Brazilian legislation based on National Health Council Resolution 196/96 and before the data collection the present study was submitted to a Research Ethics Committee and receiving approval under the CAAE n. 15422119.2.0000.5542.

Procedure

In regard to the procedure implemented for the selection of the sample, in the first instance, contact was made with various public and private organizations located in the cities of Vitoria and Rio de Janeiro, inviting them to collaborate with the research. Data collection was carried out on specific dates arranged with the authorities, and at the physical places provided for that purpose. The whole process was conducted by specially trained personnel. Participation was voluntary, anonymous, and confidential, without incentives of any kind. In all cases, participants individually completed a booklet containing a first sheet with the purpose of the study and the instructions to respond the survey, a second sheet with the informed consent form, a third sheet designed to gather information about socio-demographic information.

Instruments

Generic Work Satisfaction Scale. The translated Portuguese (Brazil) version of the scale developed by Mac Donald and Mac Intyre (1997) was used. The measure is composed of ten items (e.g., "In my work I can apply all my talents and skills"; $\alpha=0.87$) with a 5-point Likert scale (1 = *Totally disagree* to 5 = *Totally agree*).

Turnover Intention Scale. The scale developed by Siqueira, Júnior, Oliveira, and Filho (2014) was used. This scale is composed of three items (e.g., "thought to leave the company where I work", $\alpha=0.95$), with Likert format of 5 points (1 = *Never* to 5 = *Always*).

Civility Organizational Scale. The Brazilian adaptation of Nietzsche' Civility Organizational Scale (Nitzsche, 2015) was used. This scale is composed of eight items (e.g., "in my work group we treat each other with respect", $\alpha=0.87$), with a 5-point Likert scale (1 = *Totally disagree* to 5 = *Totally agree*).

Affective Organizational Commitment. The homonymous scale developed by Bastos, Siqueira, Medeiros, and Menezes (2008) was applied. The scale is composed of five items ($\alpha=0.81$), preceded by the question "how often do you experience the following feelings?" The answers are given in a 5-point Likert format (1 = *Never* to 5 = *Always*).

Data Analysis

The processing and analysis of data was done with Factor (Lorenzo-Seva & Ferrando, 2006); EQS version 6.3 (Bentler, 2006), and Jasp (Version 0.8.6; JASP Team, 2018) programs. Initially, lost values and atypical cases were identified; the latter, by calculating Z scores and Mahalanobis squared distances (D2) for each variable. Those observations that were more than 3.50 deviations from the mean and that presented D2 with a probability equal to or lower than .001 were considered atypical. The mean, standard deviation, asymmetry, kurtosis and indices of discrimination of the items were calculated (from the computation of corrected item-total correlations). Values of kurtosis and asymmetry less than 1.60, and correlations greater than 0.30, were considered adequate. The normalized multivariate normality coefficient of Mardia was calculated, considering adequate values comprised between ± 3 . The Kaiser-Meyer-Olkin sample adequacy indices and the Bartlett sphericity test were obtained (Hair, Black, Babin, Anderson, & Tatham, 2010; Tabachnick & Fidell, 2013).

The internal structure of the scale was determined based on the information provided by EFA and CFA analyzes; those that were executed on the halves of the sample, respectively. In this regard, the strategy that recommends sequential use of both types of analysis (Lloret, Ferreres, Hernández, & Tomás, 2014) was adopted, since the sample size allowed. The objective is to divide the sample randomly into two subsamples and explore the underlying factor structure of the items in the first sample (with an EFA). Then, try to confirm that structure in the other half of the sample (this time with a CFA). For the EFA, the polychoric correlation matrix and the unweighted least squares method were used, given the ordinal nature of the data. To determine the number of factors, an optimized parallel analysis was executed, randomly extracting 500 sub-matrices and implementing the minimum range analysis. Then, the extraction of the suggested factors was carried out, opting for the oblique rotation Promin (Baglin, 2014). In addition, the scree test was evaluated taking into account the components located above the curve of the sedimentation graph. The criterion for the selection of the items was that they weigh .40 or more on the factor, and that they will not saturate on more than one factor at the same time (Lloret, et al., 2017).

To estimate the fit of the model suggested by the EFA, an CFA was executed, using the maximum likelihood method with the robust correction of Satorra-Bentler (SB), given the absence of multi-normality. To evaluate the model, it was analyzed that: (a) the $SB\chi^2$ index on the degrees of freedom ($SB\chi^2/gf$) was less than 3; (b) that the Goodness of Fit Index (GFI) and the Comparative Fit Index (CFI) were equal to or greater than .90; and (c) that the mean square error of approximation (RMSEA) was less than .05 (Hair et al., 2010).

Then, evidence of convergent, discriminant and relational validity was obtained. The convergent and discriminant validity were determined by calculating the average variance extracted (AVE, Average Variance Extracted) and its square root, respectively (Bagozzi & Yi, 2012). The AVE allows estimating the common variance between the indicators and their latent factor, considering that values higher than 0.50 indicate that more than 50% of the variance of the construct is due to its indicators. In turn, values of the square root of the AVE higher than the correlation between the latent factors shows that each construct shares more variance with its indicators than with the others. Relational evidence was obtained from the calculation of the correlations between the studied constructs, by means of the rho Spearman coefficient (r_s). The reliability of the instrument was established based on the calculation of the omega coefficient (ω) and the composite reliability coefficient (CR, Composite Reliability). In both cases, values above 0,70 are considered evidence of adequate reliability (Hair et al., 2010; Peters, 2014).

Results

Preparation of the data

The percentage of data lost in each item did not exceed 5%. The missing values were replaced by the Estimation-Maximization method (Tabachnick & Fidell, 2013). We detected 8 atypical cases, which were excluded from the matrix, leaving the final sample consisting of 673 participants. No problems of asymmetry and kurtosis were observed. However, the normalized multivariate normality coefficient was outside the expected range ($KM=7.89$), justifying the use of robust estimators. The item-total correlations were all positive.

Evidence of internal structure

To execute the EFA, 336 cases were randomly selected (Lloret et al., 2014; 2017). The data matrix was factorable (Bartlett's sphericity test: $\chi^2_{(21; 336)}=558.16, p=.000$; Sample adequacy index of Kaiser-Meyer-Olkin=0.77). The optimized parallel analysis indicated a unifactorial solution. The overall percentage of common variance explained by the extracted factor was 42%. Table 1 reports the factor saturations of each item, the descriptive statistics, asymmetry coefficients and kurtosis and discrimination indexes corresponding to the items.

On the other half of the sample ($n=337$) a confirmatory factor analysis was carried out, following the confirmatory modeling strategy. The results obtained for a one-factorial model with 10 items as observable variables and their respective measurement errors indicated an acceptable but not optimum degree of adjustment ($SB\chi^2=5,11$; $GFI=0,84$; $CFI=0,85$; $RMSEA=0,08$; 95% CI [0,07; 0,09]). Therefore, we examined the significance of the factorial loads (to check if there were

items that had a factorial weight less than .30), and the modification indexes (to verify if the correlation between residues would improve the model). The analysis of this information indicated the elimination of item 8 ("I believe that work is good for my health"), as well as the correlation between the residuals of the pairs conformed by item 4 ("I feel comfortable with my co-workers") and for item 9 ("I get along well with my bosses and supervisors") and; in turn, for item 3 ("I feel good working for this company") and item 10 ("the company cares about

me"). Although both pairs of items share similar contents (satisfaction with social support, in the first case, and satisfaction with the company, in the second case) by the size of the correlated residues, the elimination of the item that presented lower factorial load in each pair, was decided (item 9 and item 10, respectively). The re-specified model presented a satisfactory adjustment ($SB\chi^2=2.14$; $GFI=.99$; $CFI=.98$; $RMSEA=.04$; 95% CI [.03; .05]). The final composition of the scale is shown in Figure 1.

Table 1
Factorial matrix (EFA), descriptive statistics, coefficients of asymmetry, kurtosis, and discrimination indexes corresponding to the items of the Generic Work Satisfaction Scale (Brazilian version in parentheses)

Item Content	Factorial Matrix	Mean	SD	As	Cs	r _i -total
1. In my work I can apply my abilities (Em meu trabalho, posso aplicar minhas capacidades e habilidades)	.51	3.96	.95	-1.34	1.16	.55
2. I receive recognition for my good performance (Em meu trabalho, recebo reconhecimento pelo meu desempenho)	.57	3.35	1.22	-.36	1.24	.39
3. I feel good working for this company (Me sinto bem trabalhando para essa empresa)	.79	3.73	.90	-1,17	-.97	.41
4. I feel comfortable with my coworkers (Me sinto confortável com meus companheiros de trabalho)	.47	3.55	.95	-.91	-.89	.67
5. My job gives me job security (Tenho segurança laboral em meu trabalho)	.52	3.41	1.03	.92	-1.18	.65
6. My salary is adequate (Meu salário é apropriado)	.42	2.80	1.28	.13	-1.37	.53
7. In general terms I have a good job (Considerando em termos gerais, tenho um bom trabalho)	.76	3.89	.91	-1.13	.34	.72
8. I think working is good for my health (Eu acho que trabalhar é bom para minha saúde)	.40	3.27	.73	-1.35	-1.25	.35
9. I get along well with my bosses and supervisors (Relaciono-me bem com meus chefes e supervisores)	.43	3.13	.68	1.43	-1.49	.48
10. The company cares about me (A empresa que trabalho se preocupa comigo)	.49	3.10	.81	1.28	1.21	.46

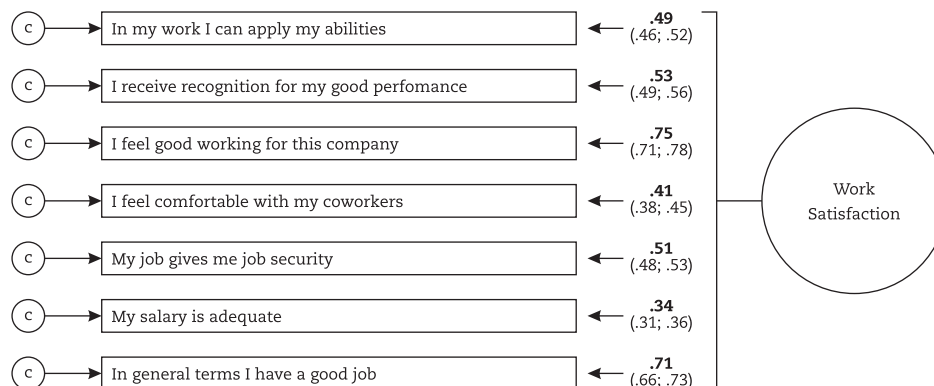


Figura 1. Measurement model corresponding to the Brazilian adaptation of the Generic Work Satisfaction Scale

Note. Bold values correspond to standardized factorial loads ($p<.05$). The values in parentheses show the confidence interval of corrected bias at 95% obtained by the bootstrapping technique

Evidence of reliability and convergent, discriminant and criterion validity

On the structure suggested by the AFC as the most suitable measurement model (a general WS factor composed of 7 items as observable

indicators), its reliability and validity were analysed. Table 2 shows the correlation coefficients, the values corresponding to the AVE index and its square root, and the values corresponding to the omega and CR indexes.

Table 2

Descriptive statistics, correlation indexes, Average Variance Extracted (AVE), square root of AVE, and reliability corresponding to the variables under study (n=337)

Variable	M	SD	1	2	3	4	AVE	$\sqrt{\text{AVE}}$	$\hat{\phi}$	CR
1. Work Satisfaction	3.90	0.69	-	-0.41	0.55	0.56	0.72	0.85	0.77	0.75
2. Turnover Intentions	1.84	1.21		-	-0.37	-0.21	0.70	0.83	0.70	0.72
3. Organizational commitment	3.86	0.90			-	0.42	0.74	0.86	0.82	0.80
4. Organizational civility	3.72	0.80				-	0.71	0.84	0.81	0.79

Note. **Bold**= $p < .01$

As noted, work satisfaction is positively associated with civility and organizational commitment, and negatively with intentions to quit. Likewise, Table 2 shows that job satisfaction presents adequate convergent-discriminant validity, since the variance of the factor is greater than that due to measurement errors, and the square root of the AVE exceeds the squared correlation between said factor and the rest (Bagozzi & Yi, 2012). Finally, reliability indices show that the instrument has high consistency and composite reliability (Hair et al., 2010; Peters, 2014).

Discussion

The objective of this study was to adapt and provide evidence of validity of the Generic Work Satisfaction Scale developed by Mac Donald and Mac Intyre (1997) for use with Brazilian workers. The analysis shows that the adapted scale has adequate psychometric properties to measure work satisfaction, without discriminating by the type of activity of the workers.

With respect to the factorial validity of the instrument, the EFA allowed the identification of a one-dimensional structure, which with small adjustments was confirmed by the CFA performed. The structure obtained reproduces the one-factorial solution found both by the authors of the instrument (Mac Donald & Mac Intyre, 1997), and by previous validation studies (Bai et al., 2013; Salessi & Omar, 2016; van Saane, et al., 2003).

The results also indicated that the scale has acceptable convergent-discriminant validity, meaning that the variance of job satisfaction construct can be adequately explained through indicators that comprise it. In this case, after the corresponding analyzes, a parsimonious scale has been achieved, which through only seven items allows to quickly and effectively measure the level of employee satisfaction with their work.

Likewise, the scale presents a good concurrent validity corroborated by the strength and direction of the

correlations between the satisfaction construct and the other selected variables. In this sense, for example, the positive correlations between satisfaction and organizational civility coincide with those reported by Milam, Spitzmueller, and Penney (2009), who showed that civility in the workplace reduces psychological distress and increases job satisfaction, and with the observation most recently observed by Nitzsche (2015), who demonstrated that cordiality and respect contribute to the development of positive attitudes (such as job satisfaction). Meanwhile, the positive correlations between job satisfaction and affective commitment confirm the link between the feeling of belonging and loyalty towards the organization, and the increase in satisfaction; observed both in oriental (Froese & Xiao, 2012), and western cultures (Srivastava, 2013). In turn, the negative relationships with the intentions to quit, coincide with previous findings (Allisey et al., 2014; Kim & Kao, 2014; Vaamonde et al., in press) that indicate that when job satisfaction decreases, intentions to quit and leave the company increase, generating an upward spiral of tension and discomfort.

Finally, both the values achieved by the omega coefficient ($\hat{\phi}$) and the composite reliability coefficient (CR), provide evidence that the scale has adequate reliability. These results indicate that the scale has a good internal consistency, comparable to that of the original version and is within the range reported in other studies in which this instrument has been used (Bai et al., 2013; van Saane et al., 2003).

Strengths, limitations and practical implications

Despite the auspicious results obtained, it is necessary to make some considerations in terms of the external validity of the study. In the first place, the stability of the dimensions over time has not been proven, so in future studies it would be advisable to investigate their test-retest reliability. Secondly, the cross-sectional nature of the study prevents establishing causal relationships, so

it would be pertinent to carry out longitudinal studies, as well as complement the self-descriptive measures used with other evaluation methods, such as observations or interviews (both with the worker and with other members of the family). Thirdly, it should be noted that because it is a self-describing measure, the scale evaluates the perceived job satisfaction, so that the responses could be contaminated by the social disability component, limiting the generalization of the results. Fourth, as the operational equivalence was performed with a sample of graduates, in future studies of adaptation and standardization, subjects with different educational levels should be included to ensure the absence of problems understanding the items. Finally, the results cannot be generalized to the entire Brazilian territory since they have been obtained in samples of employees residing only in Rio de Janeiro and Espírito Santo.

However, despite such limitations, it should be noted that the validated version of the Generic Work Satisfaction scale, being a measure composed of a few items, is very parsimonious and practical to administer, since it is known that long instruments require more time to be completed, have higher percentages of missing data and tend to generate higher rejection rates (Russell et al., 2004). From a practical point of view, it is important to have these brief scales in the language of the respondent, to quickly know to what extent the workers feel satisfied with their work. This measure increases the battery of instruments available to assess job satisfaction. A multi-dimensional measure available in Portuguese (Carlotto & Câmara, 2008; Coelho Junior & Faiad, 2012; Oliveira, Cavazotte, & Paciello, 2013, Rueda, 2015), today this unidimensional scale is added. Because of its parsimony, it offers both managers and academics the possibility of knowing quickly and economically the level of job satisfaction of a complete plant. It is an instrument that complements the existing ones, which can be useful to draw a baseline and make a preliminary detection of satisfaction / dissatisfaction nuclei within an organization.

In summary, the validated version of the scale can be useful for researchers, specialists and, above all, for those who are looking for a simple, valid and reliable

instrument to diagnose satisfaction. Likewise, the scale will allow designing strategies and implementing actions that favor the development of employee satisfaction with their work, which will positively impact both the welfare of the worker, and the more harmonious functioning of the organization as a whole.

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Disponibilidade dos dados e materiais

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Conflito de interesses

Os autores declaram que não há conflitos de interesses.

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