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TRANSLATION AND VALIDATION OF THE WORK-RELATED QUALITY OF LIFE SCALE FOR THE PORTUGUESE POPULATION

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The main challenge in developing an instrument for cross-cultural comparison lies in the ability to achieve equivalence between the source language and the target language. The big problem in translating data collection instruments lies in the fact that the translator not only needs to translate into a language, but also into a culture.

The translation and cultural adaptation of the data collection instrument was carried out based on the norms of the "Task Force for Translation and Cultural Adaptation" (Guillemin F. *2005;*Beaton D. et al 2000): authorization from the authors of the scale,translationthe original scale by three experts in the area, each of these translations being back-translated by three other experts with knowledge of the English language (back-transllation), a committee of judges and a pre-test of the version. The final version of the scale with the 24 items selected maintained the 5 response options (just like the original).

In order to assess the psychometric qualities of any measurement instrument, we need to carry out reliability and validity studies which, as a whole, indicate the degree of generalization that the results may reach.

Fidelity studies say something about the degree of confidence or accuracy that we can have in the information obtained. They assess the temporal stability and internal consistency or homogeneity of the items.

Internal consistency refers to the degree of uniformity and coherence between the respondents' answers to each of the items that make up the test, that is, it evaluates the degree to which the general variance of the results is associated with the sum of the variance item by item. Thus, the study of the homogeneity of the items (internal consistency) was conducted by performing the following steps:

- Determination of the Pearson correlation coefficient of the different questions with the overall grade. It tells us "whether each part is subordinated or the whole", that is, whether each item is defined as an "operating" whole of the "general construct" that it intends to measure.
- Determination of Cronbach's alpha coefficient both for the factors and for the scale total. This indicator allows measuring the variance due to the heterogeneity of the items.
- Determination of the split-half correlation. It constitutes a way of checking whether one half of the scale items is as consistent in measuring the construct as the other half.

Validity studies emphasize three fundamental aspects: content validity, criterion validity, and construct validity. Within these aspects, construct validity subordinates all others and seeks to find an answer to the following question: to what extent does this instrument really measure the construct it seeks to measure?

To determine validity studies, we used factor analysis of items and results, which is the method that has shown greater use and recognition among different authors. Factor analysis is, according to Pestana and Gageiro (2008), "a set of techniques whose objective is to reduce a high number of variables to a smaller set of factors that seek as much as possible to retain the nature of the initial variables". Factor analysis generates equations that are linear combinations of variables. It develops complex interrelationships with the referred variables and will identify those with which it is interrelated. This way, a structure called factors is obtained.

There are several methods for this purpose, but the most used is the so-called "principal components method" (Pestana and Gageiro, 2008). This method consists of analyzing the entire variance of a value or variable including the single variance, which is preferred in

exploratory studies.

Still in relation to the factorial analysis, some authors are of the opinion that, in order to have accuracy of the resulting factors, the size of the sample must be taken into consideration. Although there is no consensus on the ideal dimension, Bryman and Cramer (1992) refer that the "n" of the sample must be at least equal to five times the number of items in the scale and never less than 100 individuals per analysis.

Given the size of the sample (183 individuals) used to carry out the factor analysis and, taking into consideration, the number of items that make up the scale under study (23 items), we believe that there are no validation problems.

In view of the above, we will present the results obtained in the different stages, following the order in which they were stated, starting with the study of the homogeneity of the items (internal consistency).

With the objective of verifying the fidelity of the Work-Related Quality of Life Scale (WRQoL), an analysis of the internal consistency was carried out by calculating Cronbach's Alpha and the values of the correlations of the items with the total scale (corrected). The Cronbach's alpha obtained for the current sample was 0.920, which is indicative of an excellent internal consistency (greater than 0.90) (Pestana and Gageiro, 2008). Still with regard to Cronbach's alpha values (when the item is excluded) we note that they vary within the ranges considered normal, since they are situated for the alpha without item between 0.913 and 0.924. The average values and respective standard deviations of the various items allow us to say that they are well centered.

Relativelyand the item-total correlations, these oscillated between a minimum of 0.333 (item 23) and a maximum of 0.999 (item 12); these values respect the criteria defended by

some authors, concerning the minimum and maximum values of the correlations (Silva and Campos, 1998).VWe also verified that the removal of any item will not increase the Cronbach's alpha value of the scale,wherebywe kept all 24 items proposed by the authors of the scale (Chart 1).

And also within the scope of the study of the internal consistency of the scale, we determined the split-half correlation. The split alf reliability index is calculated by dividing the scale into two halves and relating them to each other. It tends to produce lower reliability values since it takes into consideration, a smaller number of items.

In Table 2, we present a summary of the values obtained in each of the halves and, as we observed, the mean values are higher in the first than in the second half, while Cronbach's alpha is higher in the second (0.861 and 0.865 respectively), which is indicative of good internal consistency.

Next, the factorial validity of the Work-Related Quality of Life Scale (WRQoL) was assessed.

In order to apply the factorial model, there must be a correlation between the variables, since if these correlations are small, it is unlikely that they share common factors. So, we apply the Kaiser-Meyer-Olkin (KMO) since it is a statistical procedure that allows assessing the quality of correlations between variables in order to proceed with the factorial analysis. We obtained a value of 0.901 in the KMO, which is indicative of a very good factorial analysis (Pestana and Gageiro, 2008).

In the original study by Edwards, Van Laar, Easton & Kinman, (2009) six main factors were found, which the authors designated as: general well-being; home/work relationship; job satisfaction; control at work; working conditions and stress at work. In the present study, we performed an exploratory factor analysis, with Varimax orthogonal rotation

Items	Description	$\overline{x}$	DP	Corrected item-total correlation	*Cronbach's* αwhen the item is deleted
1	I have a clear set of objectives and goals that allow me to carry out my work	4.04	0.636	0.608	0.917
2	I feel capable of expressing opinions and influencing changes in my area of activity.	3.86	0.824	0.605	0.916
3	I have the opportunity to use my skills in my workplace	4.05	0.775	0.605	0.916
4	I feel good right now. 99	3.82	0.868	0.793	0.913
5	The employer offers suitable conditions and flexibility to combine work with family life. 100	3.79	0.928	0.696	0.914
6	My current work schedule/patterns suit my personal circumstances. 101	3.63	1,029	0.652	0.915
7	I often feel under pressure in the workplace. 102	2.93	1,087	0.419	0.920
8	When I do a good job, my superior recognizes it. 103	3.34	1,036	0.504	0.918
9	Lately, I have been feeling sad and depressed. 104	3.64	1,143	0.573	0.917
10	I am satisfied with my life. 105	3.89	0.845	0.606	0.916
11	I feel motivated to develop new skills. 106	3.89	0.821	0.629	0.916
12	I am involved in decisions that affect me in my own area of work. 107	3.39	0.999	0.216	0.924
13	My employer provides me with everything I need to do my job effectively. 108	3.50	0.977	0.626	0.916
14	My supervisor actively promotes flexible working hours/ patterns. 109	3.61	0.895	0.494	0.918

#	Item	$\bar{x}$	Dp		
15	In many ways, my life is close to ideal.	3.39	0.876	0.668	0.915
16	I work in a safe environment.	3.80	0.835	0.655	0.915
17	In general, things have been going well for me.	3.91	0.724	0.595	0.917
18	I am satisfied with my career opportunities available in my organization.	3.25	1,060	0.500	0.918
19	I often experience excessive levels of stress in the workplace.	2.74	1,151	0.449	0.920
20	I am satisfied with the training I receive to carry out my current job.	3.42	0.897	0.518	0.918
21	Overall, I've been feeling happy lately.	3.65	0.907	0.658	0.915
22	Working conditions are satisfactory.	3.85	0.824	0.644	0.916
23	I am involved in decisions that affect target audience members (students) in my own field of work.	3.77	0.636	0.333	0.921
24	Overall, I am satisfied with the quality of my professional life.	3.81	0.818	0.765	0.920
Full Scale		**3,625**	**0.703**		**0.920**

Chart 1 - Item homogeneity statistics and internal consistency coefficients (Cronbach's Alpha) of the Work-Related Quality of Life (WRQoL) scale

VALUES	Number of items	$\bar{x}$	Dp	a
first half	12	3,691	0.582	0.861
second half	12	3,559	0.578	0.865

Table 2 - Split alf Reliability Test Values

item	Description	F1	F2	F3	F4
21	Overall, I've been feeling happy lately. 116	0.858			
10	I am satisfied with my life	0.841			
4	I feel good right now	0773			
15	In many ways, my life is close to ideal.	0.750			
9	Lately, I've been feeling sad and depressed.	0.723			
11	I feel motivated to develop new skills	0.716			
17	Overall, things have been going well for me.	0.707			
1	I have a clear set of objectives and goals that allow me to carry out my work	0.561			
13	My employer provides me with everything I need to do my job effectively		0.776		
5	The employer offers adequate conditions and flexibility to combine work with family life 100		0.759		
20	I am satisfied with the training I receive to carry out my current job.		0.755		
6	My current work schedule/patterns suit my personal circumstances 101		0.680		
16	Work in a safe environment		0.634		
22	Working conditions are satisfactory		0.617		
18	I am satisfied with my career opportunities available in my organization		0.600		
8	When I do a good job, my hierarchical superior recognizes it		0.553		
14	My line manager actively promotes flexible working hours/patterns		0.544		
12	I am involved in decisions that affect me in my own area of work			0.750	
23	I am involved in decisions that affect target audience members (students) in my own work area			0.747	
3	I have the opportunity to use my skills in my workplace			0.616	
2	I feel capable of expressing opinions and influencing changes in my area of activity			0.482	
19	I often experience excessive levels of stress in the workplace				0.835
7	I often feel under pressure in the workplace				0.819
eigenvalues		9.043	2,289	1.735	1,218
Explained Variance ($\sum$= 62.11%)		39.317	9,954	7,542	5,296

Chart 3 - Analysis of the Work-Related Quality of Life (WRQoL) scale items and factor weights

Dimension	Number of items	α
Well-being/Job Satisfaction	8	0.914
Home-work relationship	9	0.880
Control at Work	4	0.699
Stress at Work	2	0.767
WRQoL (Global)	23	0.920

Table 4 – Internal consistency by dimension and overall of the Work-Related Quality of Life (WRQoL) scale

FACTORS	F1	F2	F3	F4
F1		0.565**	0.447**	0.416**
F2	0.565**		0.513**	0.407*
F3	0.447**	0.513**		0.157*
F4	0.416**	0.407**	0.157*	
Global	0.849**	0.882**	0.657**	0.559**

*Correlation is significant at the 0.05 level (2-tailed).

**Correlation is significant at the 0.01 level (2-tailed).

Table 4 - Pearson's correlation matrix between the factors and the overall value of the Work-Related Quality of Life (WRQoL) scale

(Chart 3), obtaining a distribution of items by four factors that explained 62.11% of the total variance. Factor 1 explains 39.32% of the total variance, factor 2 (9.95%), factor 3 (7.54%) and factor 4 explains 5.30%. The 4 factors were identified as thematic dimensions that assumed the following nomenclatures:

1. - Well-being/job satisfaction
2. - Home-work relationship
3. - Control at Work
4. - Stress at work

The internal consistency of the dimensions ranged between 0.699 (Control at work) and 0.914 (Well-being/satisfaction at work), with the overall value verified (0.92) being slightly lower than that verified by the authors of the scale (0.94) which was higher. The Cronbach's Alpha values verified in the present study lead us to conclude that the scale Work-Related Quality of Life (WRQoL) has good psychometric characteristics.

A contribution to the study of the validity of the scale is the determination of the correlation matrix between the different factors and the global value of the scale, as previously mentioned.

According to the results obtained, which we present in Table 4, we verified that the correlations between the four factors and the global value of the scale, oscillate between 0.559 (F4) and 0.882 (F2), thus revealing themselves to be highly significant. As for the existing correlations between the four factors, we verified that they oscillated between 0.157 (F3/F4) and 0.565 (F1/F2), being very significant.

There is a positive correlation between the factors in question, as well as with the overall value of the scale, which means that an increase in one of the dimensions of the scale is associated with increases in the remaining dimensions.

In short, the Work-Related Quality of Life (WRQoL) scale,it presents excellent internal consistency (α=0.920), item-total correlations between 0.333 and 0.999, suggesting the exploratory factor analysis a 4-factor structure (different from the structure found by the original authors of the scale) that explains 62.11% of the total variance.

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