Psicologia: Teoria e Pesquisa
2024, v.40, e40509

DOI: https://doi.org/10.1590/0102.3772e40509.en

Social, Work and Organizations Psychology

Psychometric Analysis and Validation of the Job Insecurity Scale in Universities

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ABSTRACT – There are some instruments in the literature to measure job insecurity, including the Job Insecurity Scale (JIS). The article's objective is to present the JIS psychometric properties and the validation of the scale for the Brazilian and Portuguese populations in higher education. 335 workers from public universities participated, 171 of which were technicians and 164 were professors. Confirmatory analysis, group comparisons, and reliability estimates were used. The results indicate an acceptable fit for the JIS and prove that Portuguese and Brazilian workers have statistically significant differences in the quantitative dimension of the JIS. The instrument is a valid measure for assessing the perception of insecurity among workers at public universities but requires care when using it in comparative studies between countries.

KEYWORDS: higher education, insecurity, psychometry, universities, workers

Análise Psicométrica e Validação da *Job Insecurity Scale* em Universidades

RESUMO – Há na literatura alguns instrumentos para medir a insegurança no trabalho, dentre eles a *Job Insecurity Scale* (JIS). O objetivo do artigo foi apresentar as propriedades psicométricas da JIS e a validação da escala para a população brasileira e portuguesa no ensino superior. Participaram 335 trabalhadores de universidades públicas, sendo 171 técnicos e 164 docentes. Análise confirmatória, comparações de grupos e estimativas de confiabilidade foram usadas. Os resultados indicam ajuste aceitável para a JIS e revelam que trabalhadores portugueses e brasileiros apresentam diferenças estatisticamente significativas na dimensão quantitativa da JIS. O instrumento é uma medida válida para avaliação da percepção de insegurança em trabalhadores de universidades públicas, mas exige cuidados na utilização em estudos comparativos entre os países.

PALAVRAS-CHAVE: ensino superior, insegurança, psicometria, trabalhadores, universidades

Job insecurity is a construct that has different concepts in the literature (Portovedo et al., 2023). For example, it can be seen as a feeling of helplessness in maintaining the desired continuity of work (Greenhalgh & Rosenblatt, 1984) and as a concern about the possibility of assured employment (Roskies & Louis-Guerin, 1990). Klandermans and van Vuuren (1999), making the concept more complex, add uncertainty about the future, the uncertainty of maintaining the content of the position, and reinforce the subjective nature of the perception or experience of insecurity. De Witte (1999) defined job insecurity as a worker's general concern about the existence of work in the future.

According to existing concepts, it is observed that this construct is subjective and perceptive (Brockner et al., 1992), being linked to personal interpretation, which implies that the same situation can result in different feelings of uncertainty in each individual (Vander Elst et al., 2014). Job insecurity is differentiated by the authors as quantitative job insecurity, which concerns the continuity of employment, and qualitative job insecurity, which is linked to the continuity of various aspects of work (Hellgren et al., 1999). Recent

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studies indicate that qualitative job insecurity is associated with an increase in quantitative job insecurity over time (Nawrocka et al., 2021).

Job insecurity is an important variable in the workers' behavior and can be analyzed within the scope of the workers' employment relationship the organization in which they work, and organizational support. Improving the quality of this relationship becomes a central factor in attempts to gain competitive advantage (Herriot, 2001). Understanding this construct is relevant for the organizational area, as the perception of insecurity can generate unwanted results for employees (Kerse et al., 2018) and be negatively related to job performance (Bohle et al., 2018), while the job security arising from human resource management practices may also be related to superior performance in organizations (Gould-Williams, 2003).

Job insecurity in public higher education

Higher education, in the public sector, the field investigated in this study, has peculiarities in employment contracts, as it provides different types of work relationships between the organization and its workers. In the study presented, contractual stability was considered as evidence of (in) security at work, being translated by the type of employment relationship between the worker and the organization.

Job insecurity can reflect on the dissatisfaction of workers, whether temporary or permanent, since the economic context cannot be controlled by organizations and both contextual factors and individual factors influence the perceived precariousness of employment (De Cuyper et al., 2018). In Portugal, according to information taken from the newspaper Público.pt (https://www.publico.pt/2022/05/28/sociedade/noticia/quase-metade-professores-ensino-superior-50-anos-2008052), data from the National Union of Higher Education (SNESup) indicate that, in 2022, the precariousness rate is around 42% in the teaching career and between 70 and 75% among researchers. Some studies indicate the tendency of people with temporary contracts to have higher levels of job insecurity (Näswall & De Witte, 2003). Others, such as the study by Lozza et al. (2012) found no effect between the type of contract and the perception of insecurity, while Vander Elst et al. (2014), suggested that temporary and permanent employees are affected in the same way by perceived insecurity. Thus, given the high rates of precariousness that exist, it is important to analyze the perception of insecurity in the public context, because depending on the type of bond between the worker and the organization, insecurity can increase or decrease, and influence in terms of performance, innovation, *engagement,* and lower organizational *commitment* (Buitendach & De Witte, 2005).

The Job Insecurity Scale

The *Job Insecurity Scale (JIS)*, by De Witte (1999), is a global measure of insecurity, which in its original version consists of 4 items, on a 5-point Likert scale, ranging from 1 ("disagree totally") to 5 ("I totally agree"). The scale features items such as "I feel insecure about the future of my job" and "I think I may lose my job in the near future". The 8-item scale used by Marques (2013) was used in this study, with α for the total scale of 0.88, based on the original scale by De Witte (1999). The scale is divided into 2 dimensions of Job Insecurity, one quantitative and one qualitative, as shown in Table 1. The quantitative dimension relates to concerns about losing one's function/job, while the qualitative dimension is related to concerns about the negative changes in function.

Some studies used the scale of insecurity at work by De Witte (1999), such as the one carried out by Marques (2013) and more recently by Vieira dos Santos et al. (2021), who used the 8-item scale with active professionals from several Portuguese organizations. The QUAL-JIS scale was developed by De Cuyper and De Witte (2011) as a counterpart to the 4-item JIS quantitative scale, developed by De Witte (2000) and validated by Vander Elst et al. (2014) in five European countries. The most recent study was carried out

Table 1
Dimensions of Job Insecurity and Corresponding Items

JOB INSECURITY	ITEMS
Quantitative	1. I feel insecure about the future of my job. 2. Most likely I will lose my job soon. 3. I'm sure I'll keep my job. 4. I think I may lose my job in the near future.
Qualitative	5. My work is likely to change negatively. 6. I feel insecure about the characteristics and conditions of my job in the future. 7. I think my work will change for the worse. 8. I am concerned about the characteristics of my job in the future

by Fischmann et al. (2021), which tested the psychometric properties of the qualitative scale. We did not find validation studies for Portugal and Brazil in our research.

Proposed Objectives

This study aims to find evidence of validity related to the internal structure of the 8-item version of the *Job Insecurity Scale (JIS),* from DeWitte (1999). The JIS dimensionality, evidence of validity, reliability of scores, and the measure invariance according to best practice guidelines and reporting recommendations for test adaptation were evaluated (Swami & Barron, 2019). We compared the adjustment of the original two-factor structure of the JIS between Brazil and Portugal, considering cultural similarities between samples of Brazilian and Portuguese workers.

METHOD

Ethical Procedures

This research received a favorable opinion from the Ethics Committee of the University of Minho (CECSH 001/2021). The Free and Informed Consent Form (TCLE) was provided to the participants along with the form, which contained information about the objectives of the study, the confidential and voluntary nature of participation, the guarantee of anonymity and confidentiality of the information provided, as well as the researchers' contacts for further information.

Participants

This study with a quantitative approach was carried out with a total sample of 335 participants from public sector universities, 164 (49%) from universities in Portugal, and 171 (51%) from Brazil. Participation was anonymous and voluntary, based on a non-probabilistic convenience sampling method (Marôco, 2010), with the following inclusion criteria: being a teacher, technician, or researcher at public sector universities. 18 forms were eliminated in Portugal and 3 in Brazil, among which some were from students or other people who did not accept informed consent.

The socio-demographic data indicate that in the two universities, Brazilian and Portuguese, respectively, the majority of the participants are female (63%), have a postgraduate degree, among specialization, master's and doctorate (90.4%), have more than 40 years old (61.2%) and lives with another person, including children, parents, grandparents and others (85.7%).

In the study presented, contractual stability was considered as evidence of (in)security at work, being translated by the type of employment relationship between the worker and the organization. The participants were divided into two groups, the group of "Stable" workers (72.8%), those who had a "stable" type of employment at the Brazilian university, and "an open-ended contract" at the Portuguese university, while those in the "Unstable" group (27.2%), workers with a "probationary internship" and "substitute professor" link on the Brazilian university, and "fixed term contract", "uncertain term contract" and " Research Scholarship", at the Portuguese university.

The main difference in the professional situation of the participants between the two universities appears in the professional category, being, in Brazil, the majority composed of administrative technicians/non-teaching workers (73.1%) and, in Portugal, professors (72%). The majority, in Brazil, have between 3 and 9 years (38%) of seniority, while in Portugal, between 10 and 19 years (28%). In both universities, the participants had full dedication (72.2%) and did not hold a leadership position (76.4%). The employment relationship of the participants, mostly at the Portuguese university, is a permanent contract type (56.7%) and a significant minority of the temporary contract type of limited duration (37.8%) or research grant (5.5%), while in Brazil, the significant majority had a stable employment contract (88.3%) in contrast to a temporary contract (1.2%) or that had not yet reached stability (10.5%).

Instruments

Sociodemographic Questionnaire

A sociodemographic questionnaire was used that identified individual variables, specifically gender, age, housing situation, level of education, and variables of the professional context, which were professional category, type of employment relationship, type of sector (public or private), form of dedication (exclusive or not) and length of service/seniority at the university and in the university career of the study participants.

Job Insecurity

This scale was used by Marques (2013) in his study of different organizations and presented an alpha of Cronbach (α) for the total scale of 0.88, being 0.86 for the quantitative dimension and 0.78 for the qualitative dimension, and a model with good adjustment indices, except for $\chi 2/gl$, which presented a value of 6.70, being 1, 7 above the recommended values (χ 2/gl < 5, CFI= 0.95, GFI = 0.95 and RMSEA = 0.10.

Data Collection Procedures

Data were collected in a single stage, from July to December 2021, individually, through normalized and standardized questionnaires, via an *online form* in the *Qualtrics Survey Software,* with an informed consent model, and aimed at the population of teaching and non-teaching workers at Brazilian and Portuguese universities, in the public sector.

The workers' participation in the study was voluntary and the privacy and confidentiality of the participants were maintained. The forms were not identified and will be discarded after use in the research.

According to official university documents for the year 2020, the total number of workers at the Brazilian university is 2279 teachers and 3358 administrative technicians, while at the smaller Portuguese university, it is 1292 teachers, 704 administrative technicians, and 371 researchers. The response rate obtained was 3% of the Brazilian university workers and 6.9% of the Portuguese university workers.

Data analysis

Initially, the normality of the distribution of responses to the items was confirmed by calculating kurtosis and asymmetry, considering as reference values |ku| < 7 and |sk| < 3 (Finney & DiStefano, 2006).

Subsequently, a Confirmatory Factor Analysis (CFA) was performed to confirm the original structure of the instrument and to verify whether the proposed 2-factor structure presented an adequate adjustment to the study sample. The $\chi 2/gl$ (chi-square ratio and degrees of freedom), TLI (*Tucker Lewis Index*), NFI (*Normed Fit Index*), CFI (*Comparative Fit Index*), and RMSEA (*Root Mean Square Error Of Approximation*) were used as adjustment indices, following the parameters discussed in the literature. The model fit was considered good for $\chi 2/gl < 5$ (Bentler, 1990), a great fit for CFI, NFI, and TLI values greater than 0.95 (Bentler, 1990; Tucker & Lewis, 1973), and an adequate fit with values of RMSEA below 0.10 (Browne & Cudeck, 1992; Hu & Bentler, 1999; Hair et al., 2010).

To analyze the evidence of convergent validity, the Extracted Mean-Variance (AVE) was estimated as described in Fornell and Larcker (1981). AVE values ≥ 0.50 were considered indicative of the convergent validity of the JIS factor evidence constructs (Hair et al., 2010).

To check whether the items representing one dimension were not strongly correlated with other dimensions, evidence of discriminant validity was verified (Fornell & Larcker, 1981) for two factors Quantity and Which: if AVE quant and AVE *which* $\geq r\,2^{\text{quant/qual}}$ (square correlation between the Quant and Qual factors), there is evidence of discriminant validity.

The internal consistency of the measure was evaluated using the α coefficients (*Cronbach's alpha*), ω (*McDonald's Omega),* and CR (*Composite Reliability*) establishing a value of 0.70 as a minimum adequacy parameter (Trizano-Hermosilla & Alvarado, 2016; Elosua & Zumbo, 2008).

The measure invariance for the first-order two-factor model was evaluated using the structural equation modeling technique, Multigroup Confirmatory Factor Analysis (CFAMG) which, according to Sass (2011), evaluates to what extent the configuration and the parameters of a given psychometric instrument are invariant (equivalent) for different groups. Four models were tested: configurational invariance, which assesses the extent to which the factorial structure of the instrument is equivalent for different groups (evaluates whether the number of factors and the item-by-factor distribution remain adequate for different samples) (Borsa & DeSousa, 2018); metric invariance, which assesses the extent to which the factor loading of the items is equivalent for the different groups (evaluates the extent to which the items have the same importance for assessing the construct in the different samples) (Borsa & DeSousa, 2018); scalar invariance, which is used when stipulating that the intercepts of the items are equivalent for the different groups and verifies that the scores obtained are fully related to the latent trait level of the subjects, regardless of their group (Milfont & Fischer, 2010); and strict invariance, which tests the equality of item residuals across groups. To assess the invariance of the instrument, the Comparative Fit Index (ΔCFI) difference test was applied. The criterion used for evaluating invariance was Δ CFI < 0.01 (Cheung & Rensvold, 2002), and for strict invariance and partial scalar invariance by criterion Δx^2 (Satorra & Bentler, 2001). If the $\chi^{2\ \text{values}}$ in the comparison between models are not statistically significant ($p > 0.05$), the hypothesis of invariance should be considered, however, the authors refer that the chi-square test is influenced by the sample size, and the analysis should proceed by Δ CFI. In the absence of scalar invariance, the means of latent factors will not be compared, according to Chen (2008). In the analysis of the item's differential functioning (DIF), p values < 0.05 were considered significant.

Comparisons of raw levels of JIS factor groups across countries were approached using the *Student's t-test* for independent groups and effect sizes (*Cohen's d*) were calculated.

All statistical analyses were performed using the JASP *software* (version 0.16.3) and Confirmatory Factor Analysis (CFA) was performed using the *Maximum Likelihood estimation method*.

RESULTS

Evidence of Validity Based on Internal Structure

Dimensionality

Item distribution property

Summary measures, asymmetry (|sk|), kurtosis (|ku|), and a histogram for each of the items on the scales used in the study are presented (Table 2) and were used to judge distributive properties and psychometric sensitivity. Absolute values of |ku| < 7 and |sk| < 3 (Finney & DiStefano, 2006).

Evidence of factor-related validity

The fit of the 2-factor model was assessed as good (Figure 1), with the chi-square ratio and degrees of freedom between 1 and 3 and CFI, NFI, and TLI values above 0.95, and acceptable with RMSEA value less than 0.10, while the factorial weight of all items was above 0.75. These values were obtained after making the correlations of the items shown in the figure. Previously, the original model showed values of $\chi 2$ (19) = 110, $p < 0.001$, N = 335, CFI = 0.995, NFI = 0.994, TLI = 0.992, RMSEA = 0.120, RMSEA 90% CI (0.099; 0.142).

Evidence of convergent validity

AVE was good for JISQuant (0.71) and JISQual (0.72), with values ≥ 0.5. These results suggest good evidence of convergent validity for the JIS scale and demonstrate that the items contained in each factor are related to each other.

Evidence of discriminant validity

The evidence of discriminant validity, $AVE_{Quan} = 0.71$ and $AVE_{JQual} = 0.72$ were greater than $r^2_{QuantQual} = 0.336$. Evidence of discriminant validity was good between JISQuant and JISQual. These findings showed that some factors are strongly related to each other.

Reliability of Scores: Evidence of Internal Consistency

The α for the sample was 0.89 for the quantitative dimension and 0.90 for the qualitative dimension, suggesting good evidence of internal consistency. Other ordinal reliability estimates were verified to allow future comparisons with other studies, in the quantitative dimension (ω = 0.89 and CR = 0.91) and in the qualitative dimension (ω = 0.90 and CR = 0.91), which also showed good evidence of internal consistency.

Table 2
Descriptive Statistics of Items on the Job Insecurity Scale

JIS ITEMS	M	DP	Minimum	Maximum	Asymmetry	kurtosis	histogram
JIS1 AMOUNT	2.7	1.4	1	5	0.3	-1.2	
JIS2 QUANT	1.9	1.1	1	5	1.2	0.7	
JIS3 QUANT	2.4	1.2	1	5	0.7	-0.5	
JIS4 QUANT	2.2	1.2	1	5	0.9	-0.2	
JIS5 QUAL	2.7	1.1	1	5	0.1	-0.9	
JIS6 QUAL	3.1	1.3	1	5	-0.2	-1.2	
JIS7 WHICH	2.7	1.1	1	5	0.2	-0.8	
JIS8 WHICH	3.2	1.2	1	5	-0.4	-0.9	

Measure Invariance

To test whether the original two-factor model of the scale is valid in each country (Table 3), the invariance of measures for the items was tested. Configural and metric invariance was verified between Portugal and Brazil and invariance was not supported in the scalar and strict models.

Country invariance

Despite the adequate fit of the model for the full sample, when exploring the invariance of the country measure, the configural model did not show a satisfactory fit, $\chi2$ (16) = 60.96, $p < 0.001$, $\chi2/df = 3.81$, CFI = 0.976, NFI = 0.967, TLI = 0.957, RMSEA = 0.092 with 90% CI (0.068; 0.117). This result indicates that the pattern of item loadings in the latent factors differs for the two countries. We investigated the extent of the impact of anomalous items on the lack of measurement invariance (Swami & Barron, 2019) from the differential item functioning (DIF), using the independent t-test *procedure* (Table 4). A significant effect for country and a significant interaction between country and JIS score level points to item bias. Items 1, 2, 3, and 4 revealed statistically significant DIF.

Dimension Comparisons

A comparative analysis of the dimensions of the JIS between the two countries was performed (Table 5), as we had a variance in measurements between the samples. There were statistically significant differences only in the quantitative dimension of the JIS between Portuguese and Brazilian workers.

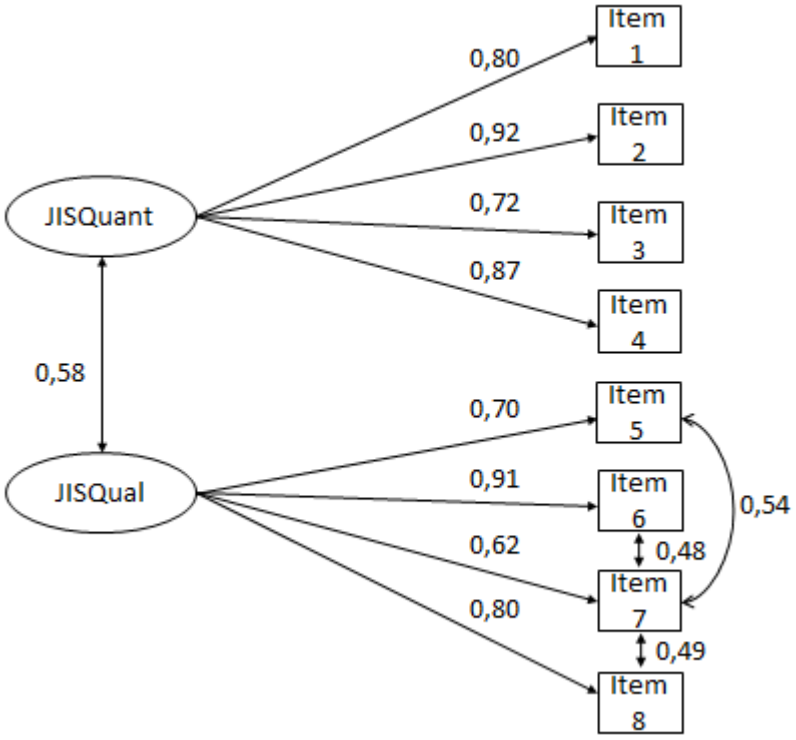

Figure 1. Two-Factor Structure of the Job Insecurity Scale Adjusted for a Sample of Brazilian (n=171) and Portuguese (n=164) Workers. Correlations Between Latent Variables and Factor Loadings for Each Item Are Shown $\chi2$ (16) = 60.96, $p < 0.001$, N = 335, CFI = 0.976, NFI = 0.967, TLI = 0.957, RMSEA = 0.092, RMSEA 90% CI (0.068; 0.117).

Table 3
Comparison of Models between Portugal and Brazil

Model invariance	$\chi2$	Df	$\chi2$ /df	CFI	$\Delta\chi2$	ΔCFI	RMSEA
Configuring	92,211	30	3.074	0.966	--	--	0.111
Metric	103,666	36	2,880	0.963	11.455 knots	-0.003	0.106
Climb	130,353	44	2,963	0.953	26,687***	-0.010	0.108
strict	169,911	55	3,089	0.937	39,558***	-0.016	0.112

Note. ns, if $p > 0.05$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 4
JIS Differential Functioning of Items (DIF)

ITEM	Brazil (n=171)		Portugal (n = 164)		t -(333)	P
	M	*DP*	*M*	*DP*		
1	2,053	1,243	2,970	1,438	-3,181	0,002
2	1,655	0,890	2,238	1,243	-4,951	< 0,001
3	2,029	0,991	2,835	1,312	-6,363	< 0,001
4	2,000	1,111	2,463	1,317	-3,485	< 0,001
5	2,795	1,198	2,683	1.078	0.901	0.368
6	3,000	1,333	3,146	1,298	-1.018	0.310
7	2,760	1.211	2,695	1.059	0.523	0.601
8	3.129	1.235	3,287	1,181	-1,195	0.233

Note. The test is significant for $p < 0.05$.

Table 5
Comparative Analysis between Countries (Averages and SD)

JIS Dimensions	Brazil (n=171)		Portugal (n = 164)		t -(333)	P	Cohen´s d
	M	*DP*	*M*	*DP*			
JISQuant	2,047	0.863	2,627	1,189	-5.122	< 0.001	-0.560
JISQual	2,921	1.117	2,953	0.982	-0.275	0.783	-0.030

Note. The test is significant for $p < 0.05$.

DISCUSSION

Job insecurity is an important construct to understand organizations, particularly in public administration. It can have an impact on performance at work and in organizations (Bohle et al., 2018; Gould-Williams, 2003). Having access to instruments that allow us to assess job insecurity is extremely important given the scarcity of available instruments. The present study analyzed the psychometric properties of the 8-item *Job Insecurity* Scale (JIS), by De Witte (2000), in workers from public universities in two countries and aimed to contribute to the validation of a measure in Portuguese for assessing job insecurity focusing on factor structure, scale validity and reliability, as well as group invariance by country.

Our results demonstrated that the JIS first-order two-factor model presented a good fit, which allows its use among workers in Brazil and Portugal. This result is in line with some studies that show that the JIS scale has acceptable psychometric properties (Marques, 2013; Silla et al., 2009; Vander Eslt et al., 2014).

Validity evidence related to the dimensionality of the job insecurity scale was also investigated, namely, dimensionality, invariance of measures between Brazil and Portugal, and reliability of the scores. Our version showed good evidence of convergent and discriminant validity. The results also revealed that this version of the JIS did not present invariance of the measure between Portugal and Brazil in its entirety, starting to present variance in the scalar and strict models, and configurational and metric invariance, which even so, with due caution, allows its use in comparative studies between these countries. These results can be caused by sample differences between countries, since although the sample in both countries is of workers from public universities, there is a significant difference in the category, professors, and non-teachers, and in the employment relationship, stable and not stable, in both countries. The fit indices were good/acceptable for the 8-item version of the JIS, which is corroborated by a previous study (Marques, 2013).

To make the model more adjusted, correlations were made between 3 errors in the items of the qualitative scale (items 5 and 7 / item 6 and 7 / items 7 and 8), however, even so, the RMSEA was low about the values recommended in the literature that is presented as RMSEA < 0.08 (Bentler, 1990). Faced with this problem, we chose not to correlate more errors in the model and to remain with the values found. We verified that items 1, 2, 3, and 4 revealed DIF with statistically significant values, which points to the bias of the items. The results corresponding to the RMSEA values corroborate the study by Marques (2013). Thus, considering the limitations imposed on the adjustment of the model, we believe that further studies are needed to analyze the JIS scale for future comparison with the results found here.

It should be noted that, in this study, the second-order latent factor was not tested, since the scores of the correlations between the two scale factors were below 0.80, following the literature that points out that second-order models are potentially applicable when the first-order factors are highly correlated with each other, and when there is a higher-order factor that is possibly responsible for the relationships between the first-order factors (Chen et al., 2005).

The comparative analysis of the JIS dimensions revealed that there were statistically significant differences between Brazil and Portugal only in the quantitative dimension, while the qualitative dimension did not reveal significant differences between Portuguese and Brazilian workers. This was not expected, because despite being in different geographic contexts and presenting cultural and social differences, both are part of public higher education and cover populations with very similar characteristics, which we suggest is caused by differences in category and employment relationship in the sample of workers from both countries. No other study comparing Portugal and Brazil in terms of job insecurity with this instrument was found since other studies measured the two dimensions of the JIS in Portugal and Brazil individually in other professions (Bohle et al., 2018; De Cuyper et al., 2019; Van den Broeck et al., 2014). Thus, their findings could not be directly compared with those of this study. This finding demonstrates the need to use the version of the JIS used in this study to establish other larger comparisons with rigor between sister countries.

The psychometric characteristics of the studied scale proved to be adequate and represent an important result for the research scenario, as it makes it possible, with due caution, to use a measurement instrument valid in two countries, which may encourage the development of new studies, since cross-cultural studies between Portugal and Brazil are not so frequent.

FINAL CONSIDERATIONS

The used version of the JIS presents good evidence of construct validity, with satisfactory results regarding reliability, and its use may be recommended with caution in future investigations to carry out studies with Portuguese-speaking countries or groups to analyze the association with job insecurity with several other constructs, such as the relationship between the perception of insecurity and *work engagement* and job satisfaction (Hsieh & Kao, 2022), with innovation and leadership (Sun et al., 2021), with Human Resource Management (Iqbal et al., 2022), and in periods of crisis such as the Covid-19 pandemic (Nemteanu et al., 2021). A cross-culturally valid JIS scale can aid research efforts to study the well-being and performance of workers between Portugal and Brazil.

This study has some limitations, one of which is the use of a relatively small sample. The low response rate achieved, in the opinion of the authors, is because participation is voluntary, which may point to an inconvenience in workers' participation for fear of reprisals, despite the anonymous nature of the survey. The use of a non-probabilistic sampling for convenience was also considered a limitation, since it can lead to bias in the results and makes it impossible to generalize them, limiting them to only a specific group of workers. In the future, longitudinal studies may be carried out, which will allow studying the JIS invariance over time and retesting the reliability of the scale, as well as expanding the research beyond the public context, seeking to evaluate the properties of the JIS in samples of workers in private teaching contexts and other professions.

Regarding the theoretical implications, considering the low correlations between the JIS factors, we propose using it only as a first-order factor, suggesting that there is no specific insecurity factor in a more general domain.

As practical implications, the cross-cultural version of the JIS showed acceptable psychometric properties and partial invariance between Portugal and Brazil, allowing cross-cultural studies between these countries. Job insecurity has been the subject of several studies over the years in organizations (Chirumbolo et al., 2020; Jiang et al., 2022; Shoss et al., 2022; Urbanaviciute et al., 2018) and JIS seems to be an important measure to understand workers' perception of insecurity in organizations, allowing human resource management to develop and adapt its practices to the workforce. The analysis of the perception of insecurity at work represents a challenge for the Human Resources Management of organizations, as it can collaborate to increase or decrease the feeling of insecurity among workers through their practices and explicit communication in the work environment. (Gould-Williams, 2003; Parker et al., 1997). In addition, the study of job insecurity can be expanded from the individual level to the collective level, since insecurity is related to several economic and sociocultural indicators, which may help organizations gain competitive advantage through increased performance, productivity, and satisfaction of its workers, due to low levels of perceived job insecurity (Bohle et al., 2018; Gould-Williams, 2003; Herriot, 2001; Kerse et al., 2018).

It is hoped that this study will help in the development of research that addresses job insecurity in higher education educational contexts, contributing to the well-being and performance of workers and to the development of internal people management practices, which consequently may generate the improvement and success of organizations.

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Data availability statement
Research data is available on request from the corresponding author.

Responsible editor
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Submitted on
27/02/2023

Accepted on
21/05/2023

Article taken from the first author's doctoral thesis.