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A measure of leadership's spiritual intelligence from the perspectives of Brazilian and Portuguese workers

Una medida de la inteligencia espiritual del liderazgo desde la perspectiva de los trabajadores brasileños y portugueses

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Abstract
This paper aims to assess the psychometric quality of the Spiritual Intelligence Self-Report Inventory (SISRI), a scale adapted to measure leaders' spiritual intelligence (SI) from the perspective of Brazilian and Portuguese workers**.** This scale initially measures an individual's spiritual intelligence, and its adaptation opens up the opportunity to perceive the leader's SI from the point of view of his work team. In order to compare possible cultural differences, the research was carried out in hospital organizations in two countries: Brazil and Portugal. The Total sample is 434 workers. The statistical results indicate that the adapted SISRI is a reliable instrument that can measure the leader's spiritual intelligence. The four-factor structure is supported, as well as the construct´s invariance and convergence are maintained. As for cultural differences, it was observed that Brazilian workers have higher scores in the leader's total spiritual intelligence score, specifically in the Existential Critical Thinking (CET) and Awareness Expansion (CSE) dimensions.

Keywords: spiritual intelligence; leadership; spirituality; workplace spirituality; scale.

Resumen
Este trabajo tiene como objetivo evaluar la calidad psicométrica del Inventario de autoinforme de inteligencia espiritual - SISRI (Spiritual Intelligence Self-Report Inventory), escala adaptada para medir la inteligencia espiritual (IE) de líderes desde la perspectiva de los empleados. Esta escala mide originalmente la inteligencia espiritual de un individuo. Su adaptación abre la oportunidad de percibir la IE del líder desde el punto de vista de su equipo de trabajo. Con el fin de comparar posibles diferencias culturales, la investigación se llevó a cabo en organizaciones hospitalarias de dos países: Brasil y Portugal. La muestra total es de 434 trabajadores. Los resultados estadísticos indican que el SISRI adaptado es un instrumento confiable que puede usarse para medir la inteligencia espiritual del líder. Se apoya la estructura de cuatro factores, y se mantiene la invariancia y la convergencia del constructo. En cuanto a las diferencias culturales, se observó que los trabajadores brasileños tienen puntajes más altos en el puntaje total de inteligencia espiritual del líder, específicamente, en las dimensiones de Pensamiento Crítico Existencial (CET) y Expansión de la Conciencia (CSE).

Palabras clave: inteligencia espiritual; liderazgo; espiritualidad; espiritualidad en el lugar de trabajo; escala.

Introduction

The works on leadership tend to assess the leader's behavior, covering topics such as the development of managerial skills, operational techniques, and management styles. The focus of the studies is to achieve better

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work performance through leadership (Hamzah et al., 2019; Luckcock, 2008; Mussig, 2003). However, few works seek to understand how employees perceive the leader's behaviors and attitudes. Questions such as ¿what the principles and values apprehended by the team members are? and ¿what influence this perception has on the behavior of the teams? are a research gap (Pinna & Chiappa, 2018).

With this in mind, a scale was sought to measure the workers' perception of their leader's behavior and values. As no instrument was found in the academic literature that contemplated the previously mentioned requirements, it was decided to adapt the original Spiritual Intelligence Self-Report Inventory (SISRI) (King & Decicco, 2009), which measures the spiritual intelligence of individuals to measure a leadership spiritual intelligence. The SISRI was adapted to the perspective of the workers. The name of the new scale is the SISRI leader's scale.

Spiritual Intelligence (SI) initially emerged in the field of psychology. Its studies aim to combine two distinct themes: spirituality and intelligence (Skrzypińska, 2020). Like intelligence, it adds the perspective of the cognitive abilities of human beings to think and reflect on reality and solve problems (Emmons, 2000). As spirituality, it includes the prism of the search for purpose and meaning in life, grounded in the deep reflection of existential themes such as life and death, for example (Zohar & Marshall, 2000).

The "spiritual" perspective on the leaders´ behavior indicates that they use their cognitive skills (intelligence) to overcome challenging obstacles and make decisions at work. This perspective includes not only economic gains but is in line with their personal beliefs about what is right or wrong. This attitude encourages their teams to more ethical and positive behavior (Kauanui et al., 2008; Zohar & Marshall, 2000).

From the point of view of those led, they seek to follow those who demonstrate a more significant ability to establish positive interpersonal relationships (Hacker & Washington, 2017), can face stressful situations (Formiga et al., 2019), and who have a sense of mission in performance of their work functions (Pruzan, 2013).

This study aims to verify the psychometric quality of the SISRI leader's scale. This study it is the first one to present this adapted scale and statistical validation. The sample is composed of hospital workers from two Portuguese-speaking countries: Brazil and Portugal. The election for hospital employees was due to the work in a naturally stressful environment. Every day, they face the pain and suffering of patients, confronting existential issues such as illness and death (Pinna & Chiappa, 2018; Vinagre & Neves, 2008).

The leader's spiritual intelligence scale (SISRI leader's scale) was evaluated for the quality of its structure, invariance, and factor convergence. The results indicate that this instrument is statically valid to measure the leaders' spiritual intelligence from the worker's perspective.

Spiritual intelligence and leadership

The leadership studied through the lens of spirituality has pointed to the importance of finding a sense of mission, meaning, and positive values in work activities (Fry, 2003; Naseer et al., 2020; Rego et al., 2008; Sandra & Nandram, 2019). Workers no longer want to feel alienated from their daily activities, meaningless and purposeless (Ryan & Deci, 2020). For this reason, they want to find a motivation connected with their inner most values, awakening their potential to accomplish something that gives direction and reason at work (Yang & Fry, 2018).

It is precisely in this perspective that the studies of spiritual leaders have been focused on. Spiritual leadership is related to the leader's ability to awaken the intrinsic motivations of each follower, helping them to perceive the connective and relational sense of their work activities for the community (Sandra & Nandram, 2019).

According to Fry (2003, 2008), leaders with the presence of spirituality positively influence organizations. Their

actions are related to finding and carrying out the company's mission and purpose. Their vision of work also inspires their teams to find a positive meaning for their daily work activities.

In companies with a spiritual perspective, workers´ behaviors transcend technical knowledge (Hacker & Washington, 2017). Work orientation focuses on meeting customer needs generating attitudes of empathy, engagement, and creativity in the relationship between the company, work tasks, and the community (Bayighomog & Araslı, 2019). Some research has shown a significant and positive statistical relationship between quality of life and worker health in companies with leaders who have spiritual values (Fry & Cohen, 2009; Rego et al., 2008; Sarawati, 2019; Yang & Fry, 2018).

However, it is essential to emphasize that, in this study, spirituality is analyzed from an existentialist perspective (Houghton et al., 2016). This conception extends to studies on spiritual leadership. That is, spiritual leadership is not related to the leader's religious option but transcends your confessional choices.

Authors such as Pruzan (2013) and Burton et al. (2018) reinforce that leaders need to know how to differentiate religion and spirituality. Religions are formal and institutionalized expressions of the divine. Spirituality is an expression of an individual's values and beliefs about life, and it results from deep reflections on human existence (King & Decicco, 2009, Zohar & Marshall, 2000). This reflection is associated with respect for different worldviews and religious expressions (Kwon, 2008). When the leader is confessed religious he may be at the service of exclusion and prejudice in the workplace; it may encourage deviant and negative behaviors that go against what is proposed by the study of leadership with spirituality (Burton et al., 2018) and research on spiritual intelligence.

Method

The present study assumed a descriptive, exploratory, and correlational methodological characteristic with a quantitative approach.

Sample

The total sample consists of 434 hospital health workers, 222 respondents being from Portugal, and 212 Brazilians. Data collection was intentional through the snowball method. The sample was evaluated using the GPower 3.1 statistical package and considered a probability of 95% ($p < 0.05$), the magnitude of the sample effect ($r \geq 0.50$)**,** and a hypothetical power pattern ($\pi \geq 0.80$), as established by Faul, Erdfelder, Lang and Buchner (2007).

SISRI leader’s scale

The SISRI scale (Spiritual Intelligence Self-Report Inventory) developed by King and Decicco (2009) was adopted by us to measure the leader’s SI from the perspective of their subordinate. Its original version is organized in four dimensions: CET- Critical existential thinking; PMP- Personal meaning production; TA- Transcendental awareness; CSE- Conscious state expansion.

Critical existential thinking is the ability to critically think about issues of deep existential meaning and the meaning and purpose of being alive. Personal meaning production is the ability to perceive a purpose in lived experiences, even if these experiences are painful or difficult. Transcendental awareness seeks to perceive non-material dimensions of itself and others through the Transcendent Self. Conscious state expansion is manifested by the ability to enter meditative states, contemplate life, or achieve altered states of consciousness (King et al., 2012; Antunes et al., 2017).

Some steps were necessary to carry out this adaptation. The first action was translating the original SIRSI scale from English into Brazilian Portuguese and European Portuguese using the reverse translation technique. Different specialists reviewed this translation in English and Portuguese in order to detect possible misinterpretations that could arise when translating from one language to another.

The second action was maintaining the instrument's statements in their essence, making only a few semantic adaptations so that the respondent (worker) could assess the spiritual intelligence of their leader. At the beginning of each sentence, the expressions 'in my perception' or 'my leader appears' were added. This addition intends to reinforce to the respondent that s/he is thinking about her/his impressions of her/his leader.

Concerning Portugal, Portuguese specialists suggested that whenever the word 'leader' appeared in the survey, it should be accompanied by the word “boss”. According to translators, the word 'leader' raises doubts about who the respondent should be considering for their answers on the SI scales. On the other hand, the “boss” is immediately identified as the person in charge of the hierarchical superiority of the Portuguese workers. This measure was adopted in both scales (Brazil and Portugal) using the spelling Leader/Boss.

It is important to note that the original distribution of the four scale factors and the number of questions were maintained.

Instrument procedures and administration

Participants responded to the survey voluntarily and anonymously. All were invited to read and sign a “Free and Informed Consent” that establishes the respondents’ authorization to participate in this research. They were told that there was no right or wrong answer.

The questionnaire was answered in both countries (Brazil and Portugal) in two ways: *in loco* or electronically, through electronic sharing (on social and messaging networks, i.e., Facebook, Instagram, and WhatsApp), and by e-mails. Through this electronic way, the instrument was hosted and made available via doc.google.com./forms. Although the instrument is self-administered, the researchers were available (in person or by email) for any questions or clarifications that might be necessary. An average time of 15 minutes was enough to complete this activity.

The guidelines provided in Resolution 466/2012 of the CNS and Resolution 016/2000 of the Federal Council of Psychology were respected for research with human beings (National Health Council [CNS], 2016; National Association for Research and Graduate Studies in Psychology [ANPEPP], 2000). The project was evaluated by the Ethics Committee of the Hospital Mãe de Deus/Associação Educacional São Carlos, with the registration number CAEE 05104818.9.0000.5328 – being approved, with registration identified by the opinion number 3.135.413.

Data analysis

Descriptive analysis, Pearson correlations, Student *t*-test, ANOVA, and others, were performed; a confirmatory factor analysis was also carried out to assess the factor structure of the intention-to-turnover scale. The ML estimator (Maximum Likelihood) was considered as input. As a more careful and rigorous type of statistical analysis, we sought to evaluate the theoretical structure of SISRI with its four factors. These indicators will be presented below:

The χ^2 (chi-square) tests the probability of the theoretical model fitting the data: the higher the value of χ^2, the worse the fit. However, it has been little used in the literature, being more common to consider its reason concerning the degrees of freedom (χ^2/g.l.). In this case, values up to three indicate an adequate adjustment; the Residual Mean Square Root (RMR) indicates the adjustment of the theoretical model to data, as the difference between two approaching zero; The Goodness-of-Fit Index (GFI) and the Adjusted Goodness-of-Fit Index (AGFI) are analogous to the R^2 in multiple regression and, therefore, indicate the proportion of variance-covariance in the data explained by the model. The values of these indicators range from 0 to 1, with values in the range of 0.80 and 0.90, or higher, indicating a satisfactory adjustment; The Root-Mean-Square Error of Approximation (RMSEA), with its 90% confidence interval (90%), is considered an indicator of “bad” fit, that is, high values indicate an unadjusted model. It is assumed as the ideal that the RMSEA is between 0.05 and 0.08, accepting values up to 0.10; The Comparative Fit Index (CFI) - generally compares the estimated model to the null model,

considering values closer to one as indicators of satisfactory fit. The Expected Cross-Validation Index (ECVI) and the Consistent Akaike Information Criterion (CAIC) are indicators generally used to assess the adequacy of a given model concerning another. Low ECVI and CAIC values express the model with the best fit (Byrne, 2001; Hair et al., 2009; Sass, 2011).

Both the calculation of composite reliability (CC) and the average variance extracted (VME) were performed; the first indicator requires the score level to be above 0.70, while the second indicator requires a level above 0.50 (Hair et al., 2009).

Results

After data collection, both in the evaluation of the multicollinearity between the variables (revealing correlations that ranged from 0.05 to 0.86) and the multivariate outliers, evaluated with the Kolmogorov-Smirnov (KS) normality test ($KS = 0.24$, $p < 0.16$) revealed that the sample is normal.

Regarding the sociodemographic characteristics of the sample, it was observed that both countries show similarities in gender distribution, educational level, function, and age. The age range of the participants comprises between 19 years old and above 55 years old. Most respondents are women (83.4%) who work as a nurse (56%), with an undergraduate education level (64%), belonging to the age group between 36-45 years old (41%).

Regarding the Portuguese sample (n=222), it was observed that 84.2% are female. The age group of professionals is more concentrated between 36–45 years old (27.9%). As for educational qualifications, 58.2% have a degree; 26.6% have completed secondary education; 10% have a Master´s degree; 4.6% are trained in the 3rd cycle of Basic Education, and 0.6% have a Ph.D. degree. Regarding the function performed in the surveyed hospitals, there was greater affluence in the following positions: Nurses (45.4%); Administrative/Financial (20.2) %; and assistants (17.1%).

Concerning the sociodemographic data for the Brazilian sample (n=212), it was observed that 83.4% are female. The age group of professionals has the highest concentration between 36–45 years old (41%). As for educational qualifications, 64.2% have the title of Graduation; 26.5% have graduated from High School. 7% have a Master´s degree; 2.3% have a Ph.D. degree and no respondent is professional with a degree in Elementary School. Regarding the function performed in the Brazilian hospitals surveyed, there was greater affluence in the following positions: Nurses (26.5%); Coordination/Direction/Management (25.5%) and Assistants/Technicians (17.4%).

Whereas the original SISRI scale has been developed and validated for different contexts such as Iran (Raghib et al., 2010), Greece (Polemikou et al., 2019), and Portugal (Antunes et al., 2018), from these psychometric indications, it was intended to verify the quality of the statistical indicators of this measure in the Brazilian and Portuguese context, considering adaptation for workers to estimate the leader' intelligence. This condition was unprecedented until the publication of this article.

The interest in verifying this stage in the research is due to the following directions: 1 – this is pioneering research, both in terms of its measure and the intended objective in Brazilians and Portuguese; 2 – in recent searches on websites (i.e., scielo.br, newpsi.bvs-psi.org.br, pepsic.bvsalud.org, www.periodicos.capes.gov.br) of Brazilian scientific production in the area of social psychology, psychology development, family psychology, and others, no studies were found on the proposed theme and its sample specificity related to psychological assessment.

Accepting the theoretical-methodological condition proposed by the authors who developed the SISRI and based on an axiomatic proposal of the factorial structure with four dimensions, the authors (King & Decicco, 2009) previously pointed out the factorial structure's consistency. For this, an equation analysis and structural

modeling of the construct were performed, for which the model was compared as follows: the oblique model is considered with the four related factors; the one-factor model, which is a model with the total score, in which all items are organized in a single dimension; and, finally, the orthogonal model, with independent dimensions, that is, unrelated.

Thus, the covariances (phi, ϕ) between the factors were left free, noting that the excellent fit indicators of the intended model were close to the recommendations presented in the literature on this type of statistical analysis (Perez-Gil et al., 2000; Hair et al., 2009; Sass, 2011). The results obtained in these analyses, shown in Table 1, revealed statistical indicators that justify the quality and consistency of the intended factor structure. Therefore, the four-factor (that is, four-factor) adjusted model of SISRI is the most suitable for your assessment of the spiritual intelligence of leaders from the perspective of workers.

Table 1. Psychometric indicators of the SISRI factor structure.

Models factorials	χ^2/gl	RMR	GFI	AGFI	CFI	TLI	RMSEA (gap)	CAIC	ECVI (gap)
One-factor	4,47	0,09	0,82	0,78	0,88	0,86	0,09 (0,08-0,10)	1465,22	2,82 (2,59-3,07)
Four-factor Orthogonal	12,33	0,78	0,64	0,57	0,59	0,56	0,16 (0,16-0,17)	3448,53	7,40 (6,99-7,82)
Four-factor Oblique	1,86	0,05	0,93	0,90	0,97	0,97	0,04 (0,04-0,05)	996,68	1,32 (1,20-1,46)

Associated with the psychometric indicators highlighted in the table above, the AIC (Akaike's Information Criterion), BIC (Bayes Information Criterion), and BCC (Browne-Cudeck Criterion) were also considered. These indicators complement the CAIC (Consistent Akaike Information Criterion) and the ECVI (Expected Cross-Validation Index), which are intended to assess the adequacy of the theoretically established model and compared to one or other factorial models (Marôco et al., 2008). In this study, the oblique model was compared to the unifactorial and orthogonal model, observing that in the model adjusted with four factors, the result was AIC = 570.54, BIC = 912.68, and BCC = 580.84. The one-factor model presented an AIC = 1221.71, BIC = 1417.21 and BCC = 1227.59. Finally, the orthogonal model presented an AIC = 3205.02, BIC = 3400.53 and BCC = 3210.90. Thus, it is noteworthy that the best indicators were for the four-factor model in the psychometric literature. Regarding these indicators, the lower the score, the better the factorial model's safety, a condition that confirms the proposal of the original structure highlighted by King and Decicco (2009).

From the indicators presented in Table 2, it is noted that all saturations (Lambdas, λ) were in the range between 0 and 1 and significantly different from zero ($t > 1.96$, $p < 0.05$), revealing the lack of existence of problems in the estimation proposed in the measure in question, which is greater than zero and not exceeding the maximum limit of one (1) (according to Table 2). These results corroborate the existence of the hypothesized four-factor model to measure spiritual intelligence, organized in a factorial manner in the following dimensions: CET- Critical existential thinking; PMP – Personal meaning production; TA – Transcendental awareness; CSE – Conscious state expansion.

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Table 2. Factorial Structure of SISRI in workers.

ξ (Construct)	χ (Variables) [items]	λ (Associative Scores)	E (errors)
CET	SISRI 1	0,64	0,29
	SISRI 3	0,74	0,30
	SISRI 5	0,60	0,36
	SISRI 9	0,66	0,44
	SISRI 13	0,78	0,60
	SISRI 17	0,77	0,60
	SISRI 21	0,68	0,47
PMP	SISRI 7	0,74	0,55
	SISRI 11	0,72	0,52
	SISRI 15	0,76	0,58
	SISRI 19	0,71	0,51
	SISRI 23	0,82	0,66
TA	SISRI 2	0,63	0,40
	SISRI 6	0,54	0,35
	SISRI 10	0,77	0,59
	SISRI 16	0,79	0,62
	SISRI 18	0,69	0,48
	SISRI 20	0,74	0,54
	SISRI 22	0,76	0,57
CSE	SISRI 4	0,72	0,52
	SISRI 8	0,80	0,64
	SISRI 12	0,81	0,66
	SISRI 14	0,74	0,42
	SISRI 24	0,76	0,66

Notes: λ = Factorial scores of the structure; **ε (errors) =** Structure measurement errors; **X =** variables (items); **ξ =** Psychological construct. Critical existential thinking (CET); Personal meaning production (PMP); Transcendental awareness (TA); Conscious state expansion (CSE).

Through regression analysis, it is observed that they are aligned with the model proposed as a prediction mark. These reveal that the variables are important, and the ratio is within the statistically required range (see Table 3). These results confirm what is described in Table 2.

Table 3. Indicators of predictive estimates of the EI items-factor association.

Variables	Relation	Dimensions	Estimate	d.p.	Reason Criterion	p-value
SISRI21	<---	CET	1,000	---	---	0,001
SISRI17	<---	CET	1,065	,072	14,700	0,001
SISRI13	<---	CET	1,137	,077	14,743	0,001

SISRI9	<---	CET	,927	,073	12,776	0,001
SISRI5	<---	CET	,868	,075	11,538	0,001
SISRI3	<---	CET	1,039	,076	13,604	0,001
SISRI1	<---	CET	,764	,073	10,434	0,001
SISRI23	<---	PMP	1,027	,059	17,545	0,001
SISRI19	<---	PMP	,907	,060	15,083	0,001
SISRI15	<---	PMP	1,062	,065	16,243	0,001
SISRI11	<---	PMP	,912	,060	15,322	---
SISRI7	<---	PMP	1,000	---	---	0,001
SISRI18	<---	TA	1,011	,080	12,566	0,001
SISRI16	<---	TA	1,134	,082	13,901	0,001
SISRI10	<---	TA	1,139	,083	13,636	0,001
SISRI6	<---	TA	,843	,099	-8,483	---
SISRI2	<---	TA	1,000	---	---	0,001
SISRI20	<---	TA	1,151	,087	13,228	0,001
SISRI22	<---	TA	1,116	,083	13,512	0,001
SISRI14	<---	CSE	,925	,069	13,349	0,001
SISRI12	<---	CSE	1,076	,063	16,987	0,001
SISRI8	<---	CSE	1,017	,056	18,068	---
SISRI4	<---	CSE	1,000	---	---	0,001
SISRI24	<---	CSE	1,054	,062	17,085	0,001

It was observed that the Phi (Φ) association between the factors revealed good associative strength between them. This is evidenced by the item-factor relationship that ranged from 0.90 to 0.84 (see Table 4). Thus, it is highlighted that, probably, the respondent who presents higher scores in one of the dimensions also presents high scores.

As for the validity of this construct for structural analysis, both the composite reliability (CC) and the average variance extracted (VME) were calculated. It was observed that these indicators were above the minimum required in the statistical literature (Hair et. al., 2009; Marôco, 2010), namely: CC was equal to 0.62 and VME = 0.95. These indicators show, respectively, the reliability and convergent validity in both constructs evaluated.

It was also intended to verify the invariance between the parameters of the items as a function of the structure of the proposed model in the total sample and its sampling specificity. For this, the TLI and CFI indicators of the proven model were compared, mirroring two sample sets (Brazilian and Portuguese samples) (Damasio, 2013: Hair et al., 2010). Thus, the following reductions in CFI and TLI values were observed for these samples, for which the difference was expected to be $\Delta < 0{,}01$: $CFI_{Brail} = 0{,}9z8$, $CFI_{Portugal} = 0{,}97$, $CFI_{total\ sample} = 0{,}97$, e $TLI_{Brazil} = 0{,}96$, $TLI_{Portugal} = 0{,}96$, $TLI_{total\ sample} = 0{,}97$. It can be highlighted that such indicators revealed that the theoretical model in question and its corresponding scores are invariant based on sample specificities when comparing with the CFI and TLI of the model generated in all samples.

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Table 4. Lambda associations (λ) between EAEP dimensions.

Variables/Factors	CET	PMP	TA	CSE
CET	---			
PMP	0,92*	---		
TA	0,93*	0,90*	---	
CSE	0,95*	0,91*	0,98*	---

Notes: λ = Factorial scores of the structure. ***** p < 0.001. Critical existential thinking (CET); Personal meaning production (PMP); Transcendental awareness (TA); Conscious state expansion (CSE).

From these results, it can be highlighted that the SISRI is not only structured in an oblique factoriality adjusted under four factors but also that its factors are significantly associated with each other. Considering that the construct, in this study, is reliable both in its factor structure and in terms of its definition and its factors.

Based on these variables, the Student's *t*-test was calculated to assess the influence of the SISRI dimensions on the sample of workers in Brazil and Portugal. In Table 5, it is highlighted that only the $SISRI_{total\ score,}$ the CET, and CSE dimensions were significant and that, for all of them, Brazilian workers had higher scores.

Table 5. Average scores of the SISRI dimensions according to Brazilian and Portuguese workers.

Dimensions SISRI	Country	Mean	d.p.	Statistic	
				t	p-value
$SISRI_{total}$ score	PT	4,84	0,86	-2,13	0,05
	BR	**5,04**	1,07		
SISRI_CET	PT	4,64	0,87	-3,34	0,01
	BR	**4,95**	1,07		
SISRI_PMP	PT	3,63	0,66	-1,82	0,07
	BR	3,76	0,83		
SISRI_TA	PT	4,90	0,93	-0,54	0,59
	BR	4,95	1,12		
SISRI_CSE	PT	4,90	1,01	-1,99	0,05
	BR	5,11	1,20		

Notes: BR – Brazil; PT – Portugal.

Discussion

Based on the results highlighted above, the SISRI scale adapted to measure the leaders' spiritual intelligence from the workers´ perspectives (SISRI leader's scale) presented reliable psychometric indicators, especially concerning the factorial organization previously established by King and Decicco (2009). This condition allows us to affirm that such measures are valid to measure the leaders' SI in the work organization context.

In this way, the SISRI instrument adapted to measure the SI of leaders revealed theoretical-conceptual and empirical consistency, which were based on the conditions elaborated on the concept of what spiritual intelligence is, namely: it is a cognitive ability to reflect deeply about the meaning and purpose of life and solving

daily problems with intense respect for people, society, and the environment (King et al., 2012; Zohar & Marshall, 2000).

In this sense, the model with four interrelated factors showed the best results compared to the other models (expressed in Table 1). The corroborated model, which is close to the original proposal by King and Decicco (2009), allows us to understand that the person who presents higher scores in one of the factors of spiritual intelligence will probably score higher in the others.

As for the population surveyed, namely Brazilian and Portuguese hospital workers, something that deserves attention is the invariance of this measure. The statistical indicators of the CFI and TLI revealed that the construct addressed here is understood, recognized, and evaluated in the same direction as it is conceptually proposed. Thus, regardless of the sample type (whether Brazilian or Portuguese), participants were able to identify and assess the leader's spiritual intelligence in the workplace similarly.

This condition allows us to infer that leaders transmit their values and beliefs to their work team, even unintentionally (Hacker & Washington, 2017). That is, workers perceive and evaluate their leader's behavior regarding issues of meaning and existential purpose; they can detect the leader's intrinsic values of what s/he considers to be correct and wrong. They can also assess what the leader thinks about the facts of life and death, as well as the importance of these issues concerning people and work (Ashmos & Duchon, 2000; Naseer et al., 2020; Sultoni et al., 2017).

Therefore, this work fulfills its objective, which is to present a statistically valid tool for the worker to assess the spiritual intelligence of their leader. This question suggests a change of angle of analysis, placing the employee's perception at the center of the discussion about what s/he considers to be a behavior with spiritual intelligence. The impact of this change in the angle of analysis corroborates the works that have discussed that the positive behaviors of leaders are essential factors for the results of organizations (Ferreira, 2010; Formiga et al., 2020; Fry, 2003; Yang & Fry, 2018). This indicates that workers are aware of the actions of their leaders, evaluating and interpreting decision-making and their daily interactions in the work environment. Statements 14 (She/*his "Inner Self" defines my leader/boss and not by She/his "Physical Self;")* and 6 *(It is difficult for my leader/boss to attach value to other things that are not physical or material)* exemplify this issue. The answers indicate that the team member perceives whether his/her leader sees himself for his/her internal values or his/her physical attributes, or even how attached he/she is to the external appearances reflected in material goods.

Especially in the hospital organization, where workers are daily exposed to pain, fear, impotence in the face of disease and the death of patients (Domingues, 2009; Vinagre & Neves, 2008; Vogus & McClelland, 2016), the leadership takes decisions in stressful situations that their employees perceive as adequate or inadequate. This situation exposes the leader's priorities in dealing with people and with life. Statement 9 (*My Leader/boss appears to have their own views about life, death, reality, and existence*) addresses this issue. In it, the employee reflects on how much his/her leader values human life and from what perspective s/he perceives and reacts to death and human suffering.

When leaders interact with sick patients and their families, they can act with indifference to the suffering of others, not listening to the complaints of individuals or ignoring the personal needs of the subjects (Pinna & Chiappa, 2018; Yakob & Ncama, 2016). This conveys information on how much the leader is capable of (de)valuing the non-material aspects of life and the personal motivations that lead him/her to perform his/her work. Their teams perceive their attitudes, which form an image of how their manager thinks and acts about life and work. Moreover, these are precisely the perspectives that are measured by the SISRI scale adapted for leadership.

The theme of spiritual intelligence was chosen to discuss the individuals' values and principles about the issues that involve the purpose and meaning of life. These questions arise from the ability to think critically about human existence (CET), give positive meaning to the harrowing experiences experienced in everyday life (PMP), seek to understand reality beyond external appearances (AT) and use means such as deep reflection, meditation, and contemplation to expand awareness (CSE) (King et al., 2012). These values and principles are issues that transcend technical and managerial knowledge, and they are part of what human beings really are, regardless of their function and hierarchical position.

Leadership that can reflect deeply on the facts of life, going beyond appearances, has the capabilities identified as belonging to spiritual intelligence (Zohar & Marshall, 2000). Fry's (2003) theory on leadership with spirituality draws attention to these aspects. As the author mentioned above, the leader makes decisions based on their personal values, associated with the meaning found for labor action. Leaders with a sense of mission and purpose at work believe that their actions contribute to personal and social well-being, giving meaning to their lives (Mitroff & Denton, 1999).

This leader's perspective with meaning and purpose at work can inspire their teams to find altruistic motivation in their daily tasks (Wrzesniewski & Dutton, 2001). Workers who believe that they positively impact people's lives through their work activities find greater job satisfaction and higher quality of life (Bakker, 2017; Fuller & Unwin, 2017).

Turning to the populations surveyed, it is observed that Brazilian and Portuguese respondents are able to gauge the spiritual intelligence of their leaders in a very similar way. However, when compared to Portuguese, Brazilians were revealed to have higher scores in the total score of all factors.

Analyzing specifically the scale factors, these two populations did not show differences in responses in the themes referring to PMP and AT. This may indicate that workers in Brazil and Portugal act similarly when they reflect on the complex and stressful situations of life, giving them a positive existential meaning (PMP), using a transcendental view of reality that is not limited to common sense (TA).

However, there are significant differences in the responses of participants in the CET and CSE dimensions. This allows us to infer that Brazilian workers tend to be more concerned with existential issues than Portuguese workers. This study points out that issues such as, for example, the relevance of life, the meaning of death, and the importance of finding meaning in what you do and for what you do, arouse more interest among Brazilian workers. This issue may be associated with this culture's greater tendency towards contemplation, meditation practices, and consciousness-expanding activities, issues that are measured by the CSE factor.

Conclusions

The present study intends to evaluate the psychometric indicators in the SISRI scale adapted to measure the leader's spiritual intelligence from the perspective of her/his workers. Based on the results, the adapted SISRI measure is a statistically viable model to verify the presence of spiritual intelligence of the leader in the Brazilian and Portuguese contexts. The instrument is reliable. Its structure remains in the four factors, as recommended by the authors of the original scale, King and Decicco (2009), showing values that confirm the invariance and convergence of the measures.

For future research, it is recommended to compare the results of the leader's self-assessment on his/her spiritual intelligence and the assessment of his/her work team. It is also relevant to see if these results are confirmed in other cultures and work contexts, expanding the possibility of using this tool for different publics and organizations.

The adaptation of the scale provides opportunities for future studies to understand how employees' appreciation of their leader's values and principles influences the work environment. It is also possible to investigate whether the leader's SI influences the worker's health, relationships between colleagues and clients, motivation for work, and other parameters of the worker's life.

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