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Research Articles

Spirituality or Socio-Ecology? – Study of the Psychometric Properties of Spiritual Well-Being Questionnaire in an Eclectic Sample of Believers

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Abstract

The Spiritual Well-being Questionnaire (SWBQ) was widely studied as a psychological instrument; yet, there is a lack of its use in non-religious research. This study aimed to investigate the psychometric properties of the SWBQ in a sample of practising believers, non-practising believers, sceptics and atheists. A total number of 279 participants aged between 17 and 69 (*M*=24.42, *SD*=9.463) completed the SWBQ and socio-demographic measurements. The SWBQ's factorial structure proved to be different from the original version, suggesting inconsistencies between content validity and factorial validity. Environmental Domain was the factor with the greatest statistical weight in the scale's total variance. SWBQ's metrical properties are contrary to a synergic spirituality.

Keywords: Spiritual Well-being; Questionnaire; Scale; Religiousness; Psychology

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Theoretical part

In psychology, it has been assumed that spirituality is a difficult construct to be operationalised (Hill, 2015; Skrzypinska, 2014). The solution found to make its measurement possible involved associating it with other variables in ways that are not immediately consensual (Gorsuch, 1990; Hill, 2005; Van Wicklin, 1990). One proposal for dealing with this problem was given by Fisher (1998, 2010, 2011) who advocated a four-tier multidimensionality of spirituality, which included the Personal, Community, Environmental and Transcendental dimensions. In this original model, spirituality is synergic, which implies interdependence among the four dimensions. This model of spirituality is measured on a scale – the *Spiritual Well-being Questionnaire* (SWBQ).

The SWBQ is a questionnaire that has good psychometric indexes and its factorial structure is widely known (Fisher, 2010; Fisher, 2011; Gomez & Fisher, 2003; Gomez & Fisher, 2005). According to Fisher (2016), different studies have shown that the SWBQ has a robust factorial structure and that its Transcendental Domain has the greatest relevance in explaining the variation in spirituality scores. The existence of an original theoretical proposal put forward by Fisher (1998, 2011) and its psychometric adequacy seems to reinforce the idea of a synergic spirituality, yet, some serious inconsistencies were found in two Portuguese studies. In the first one, it was found that, although the scale had high internal consistency, the factorial structure was not correspondingly adequate (Gouveia et al., 2009; Gouveia et al., 2012). The other one, conducted in a sample of 101 elders, presented more problematic results, and the inadequacy of the Personal Domain in the scale's factorial structure was shown (Neves et al., 2018). Fisher (2010, 2016) also noted that some international studies presented unequal score values that he dismissed as derived from the participants' spiritual dissonance. This dissonance seemed to be responsible for slight fluctuations in the SWBQ scores, but it would not be enough to explain why the analysis of the four factors' model failed in the Neves et al. (2018) study. Though the psychometric properties of the SWBQ questionnaire are widely known and its adequacy well founded, it seems relevant to study the metric capabilities of this questionnaire under different contexts.

A common parameter neglected when studying spiritual behaviours is the spirituality of atheists and sceptics (Streib & Klein, 2013). The existence of spiritual but non-religious subjects can be decisive in the analysis of spirituality and their neglect can result in a bias on the understanding of spirituality as a dispositional characteristic (Saucier & Skrzypinska,

2006). The studies on the psychometric analysis of the SWBQ are not clear about the composition of the sample with regard to the inclusion of believers and non-believers such as atheists or sceptics (Gomez & Fisher, 2003; Gouveia et al., 2009; Gouveia et al., 2012; Neves et al., 2018). However, one SWBQ study discriminates between believers and non-believers but the number of non-religious subjects is very small or insignificant compared to the number of believers in the sample (Riklikiene et al., 2018).

Thus, the present research aims to investigate the psychometric properties of the SWBQ in an eclectic sample of practising believers, non-practising believers, sceptics and atheists in order to assess the resiliency of SWBQ's metrical properties beyond the religious context. As specific objectives, it was sought:

a) To verify the psychometric properties of the SWBQ in an eclectic sample of believers;
b) To determine whether the SWBQ's scores vary depending on being a practicing believer, a non-practising believer, an atheist or a sceptic;
c) To ascertain whether the SWBQ's scores vary depending on socio-demographic variables (e.g. gender, education and ethnicity).

Methodology

Procedure and participants

A snowball sampling provided 279 participants, 86 males (30.8%) and 193 females (69.2%) aged between 17 and 69 (M = 24.42, SD = 9.463), who were collected with the help of teachers in the field of humanities and a civic movement without institutional links, who disclosed the study protocol to potential candidates. The snowball method was used to access specific populations such as atheists and sceptics (Faugier & Sargeant, 1997). In compliance with the ethical standards of the Portuguese Association of Psychologists, the objectives of the study were explained to participants, as were the procedures safeguarding their right to non-participation, confidentiality and anonymity. After the participants' informed consent had been obtained, they completed a questionnaire that included sociodemographic data and the SWBQ measure. As some criteria for inclusion, subjects aged 17 or older with knowledge of the Portuguese language were eligible for participation.

The descriptive analysis of the participants revealed the presence of 20.1% practicing believers, 27.6% non-practicing believers, 22.2 % of Atheists, and 30.1% of Sceptics. Nearly all participants were European Caucasians (92.1%) followed by Mestizos (5.4%), Middle-Eastern (1.1%), Asians (.7%) and Indians (.4%). Most of the sample was composed by unmarried participants (85.3%) and by holders of secondary education (52.3%), followed by undergraduate degree (30.8%), master degree (10.8%), doctoral degree (3.2%), basic school (2.2%) and primary school (.4%).

Instruments

Sociodemographic Data Questionnaire was composed of multiple choice and open questions that inquired about gender, age, marital status, education, ethnicity and theistic attitudes (i.e. practising believer, non-practising believer, sceptic and atheist).

Spiritual Well-being Questionnaire presented a Likert-type rating scale with 20 items, developed by Gomez and Fisher (2003). The scale has excellent internal consistency (α=.92) and appropriate factors: personal consisted of 5 items (α=.89), community consisted of 5 items (α=.79), environmental consisted of 5 items (α=.76) and transcendental consisted of 5 items (α=.86) (Gomez & Fisher, 2003, p.1982). The Portuguese version of the SWBQ was used, which showed good metrical indicators, though not at all corresponding with the original version (Gouveia et al., 2009; Gouveia et al., 2012). The reliability of the scale was slightly lower (α=.89) and the factors showed reasonable metric indices: personal consisted of 5 items (α=.75), community consisted of 5 items (α=.74), environmental consisted of 5 items (α=.84) and transcendental consisted of 5 items (α=.89) (Gouveia et al., 2009, p.289). The Neves et al. (2018, p.38) study is an exception, revealing that the consistency of the scale is reasonable (α=.79) and the subscales present different reliability values: humanitarian consisted of 6 items (α=.68); environmental consisted of 5 items (α=.95); and transcendental consisted of 5 items (α=.87). One item from the community domain and three from the personal domain – used in the original version – were excluded because they had low factorial loads. The remaining items of these two domains that presented adequate factorial loads were aggregated into a factor called humanitarian domain (Neves et al., 2018).

Data analysis

The data was processed using the SPSS 25. Descriptive statistics, factor analysis, internal consistency, Pearson correlation analysis, multiple linear regression, a One-way ANOVA with post hoc analysis using Bonferroni procedures, and an independent-samples t test were applied.

Results

An exploratory factor analysis was carried out, which indicated sample suitability through the Kaiser-Meyer-Olkin (KMO) criterion, with a value of .879, and through the Bartlett's sphericity test $X^2 = 3606.981;\ gl = 190;\ p < .001.$ The internal consistency of the scale's global index was verified by calculating Cronbach's alpha, which showed reliability of the metrical tool consisted of 20 items (α = .89). Four factors were extracted which explained 67.385% of the scale's score variability: factor 1 consisted of 5 items (α = .902) explained 36.213% of the variance; factor 2 consisted of 5 items (α = .932) explained 13.789%; factor 3 consisted of 6 items (α = .525) explained 9.911%; and factor 4 consisted of 4 items (α = .790) explained 7.472% (see Table 1).

It was also found that removing certain items would increase the reliability of the factors to which they corresponded. Thus, removing item 7 increased the Cronbach's Alpha of factor 1 to .909; removing item 15 increased factor 2's reliability index to .937; and removing item 16 gave factor 3 a reliability index of .773.

Table 1

Extraction of Components

Items	1	2	3	4
10	.885			
20	.860			
4	.830			
12	.823			
7	.710			
13		-.945		
2		-.945		
11		-.942		
6		-.829		
15		-.744		
9			.844	
5			.726	
14			.662	
16			.649	
18			.598	
8			.494	
19				.809
17				.773
3				.702
1				.665

Note: Exploratory factor analysis using principal component analysis, Oblimin Rotation with Kaiser Normalisation. The numeration of the items corresponds to the numbering of the original version.

The convergence between domains of the SWBQ was explored here by associating each factor through Pearson correlation analysis. The correlative values between domains as they were presented in both original and the Portuguese versions were low to moderate (see Table 2).

Table 2

Correlation between SWBQ's Domains

		Personal	Community	Environmental	Transcen-dental
Personal	Pearson's *r*	1			
Community	Pearson's *r*	.500*	1		
Environmental	Pearson's *r*	.373*	.447*	1	
Transcendental	Pearson's *r*	.386*	.332*	.318*	1

*Note: $p < .001$; $N = 279$

A multiple linear regression was performed to determine if the domains as designed by Fisher (2011) predicted spirituality as it was given by its general index. A significant regression equation was found $F(4, 274) = 5044.651$, $p < .001$, with an R^2 of .987.

Participants's predicted spirituality was equal to .030 + .252 (Transcendental) + .256 (Environmental) + .232 (Community) + .252 (Personal) (see Table 3).

Table 3

Linear Regression Model

	B	Error	Standardized Beta	*t*	*P*
(Constant)	0.030	0.031		.967	.334
Personal	0.252	0.007	.297	35.020	< .001
Community	0.232	0.009	.213	24.765	< .001
Environmental	0.256	0.006	.364	45.134	< .001
Transcendental	0.252	0.004	.473	60.613	< .001

Note: Dependent Variable – SWBQ's General Index

A One-way ANOVA was conducted to compare the effect of theistic attitudes as a practising believer, non-practising believer, sceptic and atheist, on SWBQ's general scores. An analysis of variance showed that the effect of theistic attitudes on SWBQ's general scores was significant $F(3, 275)=24.662$, $p < .001$ (see table 4). Post hoc tests using Bonferroni procedures revealed that there are significant differences in the SWBQ's general scores between different theistic attitudes. SWBQ's scores were significantly higher in practicing believers than with non-practicing believers by an average of 0.41 points ($p < .001$). Practicing believers also scored more 0.57 points than sceptics ($p < .001$) and more 0.87 points than atheists ($p < .001$). By their turn, non-practicing believers scored more 0.45 points than atheists ($p < .001$), yet there were no significant differences in SWBQ's scores between non-practicing believers and sceptics ($M = 0.15725$, $p = .462$). The sceptics scored more 0.29 points than atheists ($p < .001$) (see table 5).

Table 4

SWBQ's General Scores, According to Theistic Attitudes

	n	Mean	*SD*	*F*	*df*	*p*	Min.	Max.
Practising Believer	56	3.88	0.59	24.662	3	*p* <.001	2.20	4.90
Non-Practising Believers	77	3.46	0.54				2.25	5.00
Atheist	62	3.01	0.52				1.90	4.10
Sceptical	84	3.31	0.58				2.05	5.00
Total	279	3.40	0.63				1.90	5.00

Note: SWBQ's scores vary from 1 (very low) to 5 (very high).

Table 5

Bonferroni Correction for Multiple Comparisons of Means

Group (I)	Group (J)	Mean Difference (I-J)	Standard Error	*p*
Practising Belivers	Non-Practising Belivers	0.41	0.09	*p* <.001
	Atheist	0.87	0.10	*p* <.001
	Sceptic	0.57	0.09	*p* <.001
Non-Practising Belivers	Practising Belivers	-0.41	0.09	*p* <.001
	Atheist	0.45	0.095	*p* <.001
	Sceptic	0.16	0.08	.462
Atheist	Practising Belivers	-0.87	0.10	*p* <.001
	Non-Practising Belivers	-0.45	0.09	*p* <.001
	Sceptic	0.29	0.09	*p* <.001
Sceptic	Practising Belivers	-0.57	0.09	*p* <.001
	Non-Practising Belivers	-0.15	0.08	.462
	Atheist	0.29	0.09	*p* <.001

Another One-Way ANOVA was conducted to find out if the SWBQ's scores differ among participants with different levels of education, namely, secondary school, undergraduate and master's degrees. No significant differences were found between education levels with regard to SWBQ's scores $F(2, 259) = .940$, $p = .392$.

An independent-samples t test was also conducted to compare the SWBQ's scores in male and female participants. There was not a significant difference in the scores for males (M = 3.36, SD = 0.64) and females (M = 3.41; SD = 0.62); $t(277) = -.549$, $p = .584$.

By its turn, it was not possible to verify the impact of ethnicity in these scores since the sample was composed by a majority of European-Caucasians (92.1%).

We also sought to verify whether the average scores of the sub-scales differ according to theistic postures. One-Way Anova's testing reveals that there are differences between groups with different theistic postures in the Personal $F(3, 275) = 5.584$, $p < .001$, Community $F(3, 275) = 4.144$, $p < .05$ and Transcendental $F(3, 275) = 99.469$, $p < .001$

domains. There was not a significant difference in the Environmental Domain's scores for the different theistic attitudes $F(3, 275) = 1.572$, $p = .196$.

Discussion and Conclusions

The resilience of the psychometric data obtained in this study is, as we will see in this discussion, discrepant from the results obtained in other studies (Fisher, 2010; Fisher, 2011; Gomez & Fisher, 2003); suggesting that a multidimensional structure is not reliable for understanding or evaluating spirituality in a heterogeneous sample of believers.

It occurred that the items of each factor corresponded to the arrangement present in both the original and the Portuguese versions, with the exception of the Personal Domain, which took over item 8 that would belong to the Community Domain (Gomez & Fisher, 2003; Gouveia et al., 2009; Gouveia, Pais-Ribeiro et al., 2012). In this study, factor 1 corresponded to the Environmental Domain; factor 2 to the Transcendental Domain; factor 3 to the Personal Domain; and factor 4 to the Community Domain. Of these four domains, the study shows that the Personal one was not adequate to the SWBQ's factorial structure, which corroborates the findings of Neves et al., (2018). With regard to this particular domain, it can be seen that item 16 *inner peace* was not adequate – its removal increases the internal consistency of this factor to .773. The study also shows that this domain did little to contribute to the scale's variability (9.911%) and to the predictive action of its general index (see table 3). From these data, one may conclude that the Personal Domain – which best reflects spirituality, since it seems consensual that spirituality is a personal construct (Assagioli, 1981; Bucke, 1991; Helminiak, 1998; Stifoss-Hanssen, 1999) – is not in accord with what is measured in the scale. The factor with the greatest weighting in the scale's score variance was the Environmental Domain, which contradicts the previous findings that indicate the Transcendental Domain as the most relevant one with regard to the general score (Fisher, 2016; Gomez & Fisher, 2003). Other factors, by comparison, had a considerably reduced contribution. It is factor 2 (Transcendental Domain) that seems to have a more robust internal consistency even though the difference compared to factor 1 is small. In turn, factor 4 (Community Domain) had a merely satisfactory internal consistency, not reaching the high values of either factor 1 or factor 2. Therefore, the Personal and Community domains are considered the least appropriate in the scale's factorial structure. That each domain contributed so little to the predictive action of the SWBQ's general index also attests to the

inadequacy of the four factors, and it was possible to notice that a considerable part of the scale's variance was not given by the domains that constituted it – nearly one third of the scale's variance (32.615%) related to some extra-factorial variable.

The adjustment of the items, according to their factorial load, increased the reliability of the sub-scales, however, it slightly changed the structure of the scale compared to the original version.

Fisher (2011) argues that spirituality is dynamic insofar as it derives from a progressive synergism between personal, community, environmental, and transcendental (religious) aspects; and the absence of synergic relationships between domains results in an absence of spiritual health. So, there are two assumptions here:

a) Spirituality is strictly multidimensional;
b) The absence of strong relationships between domains ascribes a lack of spiritual health.

Regarding these points, either this eclectic sample is recognised as suffering from a "spiritual pathology" or is considered as a normative one and consequently, spirituality is not multidimensional – it should be recalled that this study's sample was balanced as regards the different religious and moral positions that a person may hold, according to their religious beliefs; i.e. practising believer, non-practising believer, sceptic and atheist. Each group scored moderately in relation to spirituality, with significant oscillations between the minimum and maximum values. In this research, the preponderance of low correlations between the four factors or domains suggested some relationships that do not imply an immediate conceptual convergence but a thin association between variables – we adopted the rule of thumb that all correlations below .50 are low (Moore et al., 2013; Mukaka, 2012). This combined with an unbalanced factorial adequacy suggests that spirituality is not multidimensional. When rejecting the premise, the conclusion that the absence of a synergy is synonymous with spiritual pathology is also rejected – as it can be seen by the mean scores of spirituality that are in accordance with international findings and therefore normative (Fisher, 2010). If it is assumed that spirituality is strictly personal, as some authors do (Assagioli, 1981; Bucke, 1991, Helminiak, 1996), one may assume that it is not the synergy between personal and extra-personal domains that sustains spirituality, but rather that it is the immanent nature of the individual conscience which is spiritual in itself. In this sense, factors extrinsic to the subject will only be spiritual to the extent that they are

contingent with the level of self-awareness. This allows to consider that there are some people who may be quite religious, or even in great harmony with nature and animals, and who are not spiritual at all – Palmisano (2010) indeed noticed that not all religious individuals were spiritual. Thus, it should be concluded that the SWBQ's scores relevance is based on a homogeneous sample of individuals that share the same moral and religious postures.

This study also comes to the conclusion that the linguistic formulation in some of the items tend to be based on abstract concepts that do not allow an adequate operationalization of spirituality; a warning already stated by Gorsuch (1990) and Van Wicklin (1990). Terms in the items such as *astonishment and admiration before a stunning landscape* (item 7), *life of meditation/prayer* (item 17), and *inner peace* (item 16) (Gomez & Fisher, 2003; Gouveia et al., 2009), may have been the most confusing to the participants in this study, as may be seen by their lack of statistical reliability at the results section – their elimination increases the reliability of the factors to which they correspond. How many times a day, in fact, should one meditate or pray in order to lead *a life of meditation/prayer*? Does the feeling of *inner peace* admit levels of everyday stress? If we understand these questions as difficult to answer, or of labile response due to the multiple conflicting available answers, then we assume that part of the variability in the SWBQ's global score is based on subjective metrical characteristics, rather than on objective ones. That is to say, part of the variation in the SWBQ can be explained by the ambiguity in the semantic formulation of its items.

There are, however, merits in Fisher's proposal (2010, 2011, 2016), so the SWBQ is not rejected from the outset. The SWBQ questionnaire has robust metric values across different studies and seems to be able to assess spirituality (Fisher, 2016). However, this study suggests that the resilience of the scale's scores seems to be more appropriate in samples where religious attitudes are more homogeneous. Fisher (2011) admitted that the conception of this theoretical model of a quadripartite spirituality had a theistic basis and was inspired by the USA's National Interfaith Coalition on Aging. Thus, the SWBQ is an interesting questionnaire for believers' samples because it allows the evaluation of an extended notion of 'spirituality' into other domains of life including religion. The Transcendental Domain is quite robust and seems to measure a feeling of personal theism. Personal theism appears to have a certain degree of synonymy with a religious feeling and, therefore, the Transcendental Domain may be a good measurement for evaluating religiosity (Da Silva et al., 2019). However, it is an exaggeration to suppose that religiosity can be the same thing as spirituality (Helminiak, 1996; Saucier & Skrzypinska, 2006; Stifoss-Hanssen, 1999) as it was

verified in this study by the low correlation values between Transcendental Domain and the others factors (see table 2), as also by Transcendental Domains' low contribution to the scale's variance (13.789%). The Environmental Domain is the most relevant domain of the SWBQ's variance (36.213%) and it may measure a certain tendency to aestheticize reality in an ecological perspective. According with the percentage of explained variance, the remaining domains are relatively negligible – the Personal Domain contributes 9.911% to the total variance of the scale and the Community Domain with 7.472%. It is also interesting to note that the Environmental Domains' scores are the only ones that do not vary across the participants' different theistic postures, suggesting that this sub-scale gives a fixed value of 'environmental sentiment' that is transversal to believers and non-believers. The Personal Domain is, in turn, the frailest factor from a psychometric point of view with an unacceptable reliability (α = .525) and a low variance (9.911%) – which corroborates Neves et al. (2018) findings. Excluding a domain consensually regarded as being in greater harmony with spirituality leads to the conclusion that the SWBQ seems to evaluate, in general, a socio-ecological feeling. However, is spirituality synonymous with ecology? We may conceptually spiritualise the socio-ecological construct, but this will only be spiritual insofar as it is contingent with each individual's level of (spiritual) consciousness – i.e. having socio-ecological feelings does not necessarily depend on spirituality (level of individual consciousness), being permissible for non spiritual individuals to have ecological values. In this regard, we understand spirituality as advocated by some authors (e.g. Assagioli, 1981; Bucke, 1991; Helminiak, 1998) as being a property of human consciousness, with the human character taking on a particularly distinctive tone through empathy, emotional sublimation, judgmental clarity, impulse control, among others. The defence of ecological values does not seem, in turn, to be a prerogative of spiritual subjects, recognising the predilection for aesthetic and ecological matters among historical figures renowned for their lack of humanity or lack of humanistic attitudes (Graham-Dixon, 2011; Zalampas, 1990).

In general, this research validates the inconsistencies found in Neves et al., (2018) study, verifying that these irregularities extend beyond the elderly population. The problems raised in this research are better explained by the sample's composition and ambiguity in interpreting the scale items. It is also important that more of these investigations be carried out, above all, in relation to atheists and sceptics.

This study, however, has some limitations. The sample is mostly composed of young adults, so it was not possible to discriminate the results according to age group. The sample also lacked ethnic variability being the results limited to European Caucasians. With regard to the

interpretation of correlations between SWBQ's domains, it was recognised that some accept correlations above .40 as moderate (Schober et al., 2018). Still, it was assumed that correlations under .50 are low (Moore et al., 2013; Mukaka, 2012). This is a debate that is not consensual and therefore may limit the considerations that have been put forward in the discussion of the results. Finally, the data only refer to metric properties, thus a confirmatory factor analysis could better clarify the suitability of the multidimensional model of spirituality in eclectic believers.

As the main conclusions of this study:

a) One third of the variance in the SWBQ's results was explained by extra-factorial variables, such as sample quality and issues regarding the semantic expression of the items comprising it;

b) In eclectic believers, ecological aesthetic aspects are more relevant for understanding the SWBQ's results than a sense of spirituality;

c) It seems relevant to review the structure and language of this scale so that it can adequately evaluate a spirituality that is transversal to all postures towards theistic beliefs.

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