Introducing the shortened Post-Critical Belief Scale

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Abstract

Recently, Fontaine et al. (2003) have shown that the Post-Critical Belief Scale (PCBS) captures the two orthogonal dimensions of the religiosity domain, namely Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic. The major drawback of the PCBS, however, is that it is a fairly lengthy questionnaire (33 items) with some rather lengthy and complex questions. In this article, a shortened version with 18 short items is presented. In three different samples (adolescents, students and adults) (Total $N = 1003$), the dimensions that can be distilled from this version are shown to be equivalent to the dimensions that can be distilled from the original version (r's > .90). In addition, it is shown that the components of the shortened and the original PCBS yield highly similar relations with external variables.
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1. Introduction

Recently, Wulff (1991, 1997) provided a new and interesting perspective on religiosity. According to Wulff, all possible attitudes to religion can be summarized in a two-dimensional space. The vertical axis in this space, the Exclusion vs. Inclusion of Transcendence dimension, specifies to what extent people accept the existence of God or some other transcendent reality, and hence

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refers to the distinctions between being religious or not and being spiritual or not. The horizontal axis, the Literal vs. Symbolic dimension, indicates whether religious expressions and symbols are interpreted literally or symbolically. Hence, this dimension is situated at the level of social cognitions and explicitly refers to the way religious contents are processed, namely either in a literal or symbolic way. In this way, four quadrants are defined, each covering a specific attitude towards religion: Literal Affirmation, Literal Disaffirmation, Symbolic Affirmation and Symbolic Disaffirmation. Literal Affirmation represents a position in which the literal existence of religious objects is affirmed. Literal Disaffirmation represents a position in which one neither believes in the literal meaning of religious words nor in the possibility that these can have a symbolic meaning. Symbolic Disaffirmation represents a position in which the existence of the religious realm is rejected, but in which the possibility is taken into account that religious contents might have a symbolic meaning. Symbolic Affirmation represents a position in which the existence of the religious realm is affirmed, and in which one tries to encompass and overcome the criticism on religion that has been formulated by people like Freud and Marx in order to find a symbolic meaning in the religious language which has personal relevance. In the sense that it tries to go beyond the criticism on religion, the position that is captured here can be described as post-critical belief.

Building further on this theoretical framework, Hutsebaut (1996) constructed the Post-Critical Belief Scale (PCBS), which was designed to capture four approaches to Christian religion. These four approaches were considered to be equivalents of, respectively, Literal Affirmation, Literal Disaffirmation, Symbolic Affirmation and Symbolic Disaffirmation. Only recently, however, thorough assessments of the construct validity of the PCBS were made. In this respect, Duriez, Fontaine, and Hutsebaut (2000) have shown that its subscales do provide accurate measures of Wulff's four approaches to religion, and Fontaine, Duriez, Luyten, and Hutsebaut (2003) have shown that, when individual differences in acquiescence are corrected for, two components that can be interpreted in terms of Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic are sufficient to explain the relations between the PCBS items. An individual's position in Wulff's scheme can thus be identified on the basis of the scores obtained on these two components. In this way, the effects of being religious or not (Exclusion vs. Inclusion of Transcendence) can be separated from the way religious contents are processed (either literally or symbolically), allowing the PCBS to contribute to important debates in the psychology of religion (see Duriez & Hutsebaut, in press). An example of such a debate is whether there is a relation between being religious and being (racially) prejudiced. In this respect, Duriez (Duriez, 2004; Duriez, Appel, & Hutsebaut, 2003) has shown that, whereas racism is strongly positively related to processing religious contents in a literal way, it is unrelated to being religious or not.

The major drawback of the PCBS, however, is that it is a fairly lengthy questionnaire (33 items) with some rather lengthy and complex questions. In this article, a version with 18 short items is presented. In order to assess the validity of this version, three different samples (adolescents, students and adults) (Total $N = 1003$) were gathered. As far as the internal validity is concerned, whether two components are sufficient to explain the relations between the 18 items will be assessed, and, if this is the case, whether these can be interpreted in terms of Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic. For this purpose, the components from the shortened version of the PCBS will be correlated with the components from the original version of the PCBS. The criterion that will be used to determine whether these components are equivalent is straightforward. They will be considered equivalent if the magnitude of their intercorrelation is

at least .90. As far as the external validity is concerned, the relations between racism and the components from the shortened PCBS will be compared with the relations between racism and the components from the original PCBS. Racism was selected as an external variable, because previous research relating this variable to the dimensions of Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic has yielded consistent results (see above).

2. Method

2.1. Samples

Three samples were gathered in Belgium. All participants had Belgian nationality and belonged to the Flemish-speaking part of the country. In Belgium, Roman Catholicism is the dominant religion, and although only about 10% of the Belgians attend church services regularly, about 90% are baptized as Roman Catholics. So all of the participants were either Roman Catholics or had a fair knowledge of Roman Catholic doctrines and customs. Sample 1 ($N = 338$) consisted of pupils from a secondary school who were contacted by undergraduate students. The mean age was 16 years (SD = 0.92) and 50% of the participants were male. Sample 2 ($N = 336$) consisted of university students following an introductory course in psychology. The mean age was 20 years (SD = 1.43) and 50% of the participants were male. Sample 3 ($N = 336$) consisted of adults. Questionnaires were distributed by undergraduate students (171 in total) who were instructed to contact one male and one female adult acquaintance in order to obtain a heterogeneous sample. The mean age was 48 (SD = 5.00). Participants having over four missing values on the PCBS were excluded from the analyses. In total, five participants needed to be removed from sample 1, one participant needed to be removed from sample 2, and one participant needed to be removed from sample 3. For subjects which were not removed, missing values were replaced by the sample-specific mean of the item.

2.2. Measures

Participants completed the 33-item PCBS (Fontaine et al., 2003). All items were scored on a 7-point Likert scale. From this 33-item version, 18 items were selected in order to create a shortened PCBS. These items were selected on the basis of two criteria. First, they should have relatively high positive or negative component loadings in the average structure of PCBS items (see Fontaine et al., 2003) on both the Exclusion vs. Inclusion of Transcendence and the Literal vs. Symbolic dimension. This criterion was selected because it augments the chance that these items will discriminate optimally between Exclusion of Transcendence and Inclusion of Transcendence and between a Literal and a Symbolic interpretation of religious contents. Second, we figured that these items should best be as short and as simple as possible in order to obtain a truly user friendly version of the PCBS. Therefore, whenever we felt it was possible to shorten these items without making any changes to their meaning, we decided to tighten up these items. The 18 resulting items are listed in Table 1.

In addition, participants completed a 9-item racism scale (Billiet & De Witte, 1991). The items were scored on a 5-point Likert scale. According to Billiet and De Witte, this scale consists of a

Table 1
Items of the shortened PCBS and their average loading on the two components

#	Item	C1	C2
01	The Bible holds a deeper truth which can only be revealed by personal reflection	.374	.391
02	God has been defined for once and for all and therefore is immutable	.483	−.294
03	Faith turns out to be an illusion when one is confronted with the harshness of life	−.438	−.420
04	The Bible is a rough guide in the search for God, and not a historical account	.301	.359
05	Even though this goes against modern rationality, Mary truly remained a virgin	.472	−.291
06	Each statement about God is a result of the time in which it was made	−.257	.355
07	Even though the Bible was written a long time ago, it retains a basic message	.481	.497
08	Only the major religious traditions guarantee admittance to God	.318	−.381
09	The manner in which humans experience God will always be colored by society	−.286	.365
10	Ultimately, there is only one correct answer to each religious question	.308	−.487
11	The world of Bible stories is so far removed from us, that it has little relevance	−.331	−.435
12	Science has made a religious understanding of life superfluous	−.393	−.510
13	God grows together with the history of humanity and therefore is changeable	−.351	.313
14	My ideology is only one possibility among so many others	−.412	.414
15	I think that Bible stories should be taken literally, as they are written	.199	−.561
16	Despite the injustices caused by Christianity, Christ's message remains valuable	.407	.522
17	In the end, faith is nothing more than a safety net for human fears	−.527	−.362
18	Faith is an expression of a weak personality	−.318	−.459

Note. Although the items were administered in Dutch, they are presented in English. The translation was done according to the guidelines of the International Test Commission (Hambleton, 1994), using the translation back-translation procedure (Brislin, 1980). Differences between the back-translated and the original version were minimal. A committee of bilingual research assistants decided on the final English version (Van de Vijver and Leung, 1997).

racism component and a xenophobia component. An example of a racism item is "We have to keep our race pure and fight mixture with other races". An example of a xenophobia item is "In general, immigrants are not to be trusted". However, a screen test pointed to one component only in all samples (cf. Duriez, 2004; Duriez et al., 2003). Estimates of internal consistency (Cronbach Alpha's) were .87, .88 and .88 in samples 1, 2 and 3 respectively.

3. Results

3.1. Internal validity

The 33-item version. As in Fontaine et al. (2003), a level of acquiescence estimation was subtracted from the raw scores. For each sample, a Principal Component Analysis was then performed on these corrected scores. A screen test pointed to a two component solution for all three samples (see Table 2). A two component solution accounted for 29%, 35% and 37% of the variance in samples 1, 2 and 3 respectively. In all samples, after orthogonal Procrustes rotation (McCrae, Zonderman, Costa, Bond, & Paunonen, 1996) towards the average structure reported by Fontaine et al. (2003), the components could be interpreted in terms of Exclusion vs. Inclusion

Table 2
Eigenvalues for the first six components (E1–E6)

Sample	E1	E2	E3	E4	E5	E6
33-item version						
1	5.46	4.14	1.65	1.45	1.29	1.19
2	6.47	5.05	1.48	1.29	1.28	1.16
3	6.91	5.25	1.48	1.19	1.16	1.13
18-item version						
1	4.17	2.36	1.18	1.10	1.04	0.97
2	4.38	3.09	1.19	1.00	0.99	0.82
3	4.01	3.41	1.08	1.01	0.92	0.83

of Transcendence and Literal vs. Symbolic. [1] Tucker's Phi indices were above. 90 for both components, suggesting good congruence (Bentler & Bonett, 1980; Van de Vijver & Leung, 1997). This is all the more impressive because, as was already noted, 18 out of the 33 PCBS items that were used in the current study were reworded, making it less likely to observe a good congruence with an average structure that is based on items that are worded in slightly different ways. A high score on Exclusion vs. Inclusion of Transcendence indicates a tendency to include transcendence. A high score on Literal vs. Symbolic indicates a tendency to deal with religion in a symbolic way.

The 18-item version. In all samples, a screen test pointed to a two component solution that accounted for 36%, 42% and 42% of the variance in samples 1, 2 and 3 respectively (see Table 2). In all samples, an orthogonal Procrustes rotation towards the average structure of these 18 items (see Table 1), resulted in Tucker's Phi indices well above .90 for both components, suggesting that these could be interpreted in terms of Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic. [2] To assess the equivalence between the components of the 18- and 33-item version, their intercorrelation was computed. Results show that the components resulting from the 18- and 33-item version are sufficiently equivalent. The correlation between the Exclusion vs. Inclusion of Transcendence dimensions as derived from the 18-item version and from the 33-item version was .90, .94 and .94 in samples 1, 2 and 3 respectively. The correlation between the Literal vs. Symbolic dimensions as derived from the 18-item version and the 33-item version was .97, .98 and .96 in samples 1, 2 and 3 respectively.

3.2. External validity

As an additional test of the equivalence between the components of the 18-item and the 33-item version, the correlations with racism were compared. The Exclusion vs. Inclusion of

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[1] In order to check whether the two components are truly orthogonal, the correlation between both components was assessed. For this purpose, in all three samples, we extracted two components using Promax rotation. In none of the samples were the correlations substantial, indicating that both components are virtually orthogonal (r's = .10, −.05 and −.11 respectively).

[2] In order to check whether the two components are truly orthogonal, the correlation between both components was assessed. For this purpose, in all three samples, we extracted two components using Promax rotation. In none of the samples were the correlations substantial, indicating that both components are virtually orthogonal (r's = .23, .07 and −.00 respectively).

Transcendence dimension that was derived from the 33-item version correlated .09 (n.s.), .19 ($p < .01$) and .05 (n.s.) with racism in samples 1, 2 and 3 respectively, whereas the component that was derived from the 18-item version correlated .05 (n.s.), .13 (n.s.) and .01 (n.s.) with racism. In none of the samples were the differences between these correlations significant at the .01 level. The Literal vs. Symbolic dimension that was derived from the 33-item version correlated −.39 ($p < .0001$), −.37 ($p < .0001$) and −.45 ($p < .0001$) with racism in samples 1, 2 and 3 respectively, whereas the component that was derived from the 18-item version correlated −.39 ($p < .0001$), −.38 ($p < .0001$) and −.45 ($p < .0001$) with racism. In none of the samples were the differences between these correlations significant at the .01 level.

4. Conclusion

The analyses reported in the present paper support the validity of the shortened PCBS. As far as the internal validity is concerned, in three different samples, after an orthogonal Procrustes rotation, a high congruence was observed between the two component structure that was obtained and the average two component structure of the original scale as reported by Fontaine et al. (2003). In addition, it was shown that the two components that can be derived from the shortened PCBS correlate extremely highly (r's > .90) with the components that can be derived from the original PCBS. Hence, the two component structure of the shortened PCBS can be interpreted in terms of Wulff's (1991, 1997) dimensions of Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic. As far as the external validity is concerned, it was shown that the correlations between the two components that can be derived from the shortened PCBS yield correlations with external variables that are comparable with the two components that can be derived from the original PCBS. This further substantiates the validity of the shortened PCBS. In sum, there seems to be no need to administer the lengthy version of this scale. The user friendly shortened version, consisting of 18 short items, performs equally well.

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