

**A FURTHER ELABORATION OF THE POST-CRITICAL BELIEF SCALE:
EVIDENCE FOR THE EXISTENCE OF FOUR DIFFERENT APPROACHES TO RELIGION
IN FLANDERS-BELGIUM**

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To measure religious attitudes in a secularized context, Hutsbaut (1996; 1997) constructed the Post-Critical Belief scale, which was considered to contain three subscales (Orthodoxy, External Critique and Historical Relativism). In a first study it is demonstrated that the two bipolar dimensions of the model of Wulff (1991; 1997) (Inclusion vs. Exclusion of Transcendence and Literal vs. Symbolic) characterized the internal structure of the Post-Critical Belief scale. In a two-dimensional representation of the Post-Critical Belief scale, four instead of three subscales emerged (Orthodoxy, External Critique, Relativism and Second Naïveté). Each of these subscales relates to one of the four quadrants in Wulff's model. Based on these findings a revised Post-Critical Belief scale was constructed, in order to elaborate each of the four subscales. This revised version was put to the test in a second and third study. The internal structure was demonstrated to be stable and replicable. The consequences of the revision are illustrated via the relationships between the subscales and racism.

In the past, many researchers attempted to measure religious attitudes. Each of the measures was, almost by definition, colored by the prevailing conceptions of religion, and by the normative views of these researchers on what was to be regarded as a mature form of religion (e.g., the “quest is best” debate between Batson and the proponents of Allport's scale (Batson, 1976)). However, cultural contexts differ, time passes and conceptions of religion keep changing. Therefore, there is a constant need to adjust existing instruments or, if necessary, replace them by new ones. Measures that were produced in an American setting and that once proved fruitful in a Flemish-Belgian cultural setting as well, like the instrument of Allport and Ross (1967) measuring intrinsic-extrinsic dimensions of religiosity and Batson's (1976) instrument measuring the quest dimension, currently seem outdated. In Flanders, the different dimensions that used to appear (e.g., extrinsic, intrinsic and quest) are nowadays highly positively related to one another, and are no longer differentially related to external variables (Heps & Wellemans, 1994; Hutsebaut, 1996). Flemish participants these days seem to simply agree or disagree to *all* religiously colored state-

ments, regardless of their specific content, thus presenting themselves as either indiscriminately pro- or anti-religious. An explanation for this might be that, in highly secularized countries – like Belgium and most other European countries – religion no longer holds an important social function. In contrast to the USA, it is seen as a private matter (Dobbelaere, 1996). When there is no reason to be extrinsically religious, a strong relationship is to be expected between the intrinsic value of one's belief and subscribing to items expressing the social benefits of church attendance or the instrumentality of prayer. Furthermore, since it is no longer obvious to be religious in a secularized context, it is likely that people who intrinsically value their belief will also question it.

Recently, Hutsebaut (1996; 1997) constructed the Post-Critical Belief scale, a new multidimensional instrument for measuring religious attitudes in a secularized context. In the present article, we present three subsequent studies that shed a new light on the validity and the interpretation of the subscales of the Post-Critical Belief scale. Before introducing these three studies, the Post-Critical Belief scale and its theoretical framework will be presented.

The Post-Critical Belief scale

Theoretical model. Hutsebaut (1996; 1997) based the construction of the Post-Critical Belief scale on Wulff's (1991; 1997) model - one of the dominant models in the psychology of religion nowadays - which integrates various approaches to religion into one comprehensive framework. In the epilogue of his book, Wulff (1991; 1997) argued that the various approaches to religion can be located in a two-dimensional space (see Figure 1). The vertical axis specifies the degree to which the objects of religious interest are granted participation in a transcendent reality (inclusion vs. exclusion of transcendence). The horizontal axis indicates whether religion is interpreted literally or symbolically (literal vs. symbolic). These two dimensions define four basic attitudes toward religion: Literal Affirmation, Literal Disaffirmation, Reductive Interpretation and Restorative Interpretation (see Figure 1).

Insert Figure 1 about here

The upper left quadrant, Literal Affirmation, represents a position in which the literal existence of the religious realm is affirmed. This position is most clearly embodied by religious fundamentalism. Elements of this posture, however, also appear among those who are not particularly conservative but nevertheless do not want to hear that all Bible stories are legends. According to Wulff (1991; 1997), this position, which is partly reflected in scales like Barron's (1963) Fundamentalist Belief scale, can only be sustained by rejecting those who doubt the validity of the conservative view. Therefore, it should not be surprising that, according to Wulff (1991; 1997), literal believers tend to score higher on measures of prejudice and lower on cognitive development, and can be characterized as rigid and low in ability to adapt.

The lower left quadrant, Literal Disaffirmation, represents a position in which the existence of the religious realm is rejected, but in which the possibility that religious language has a symbolic meaning is lost out of sight. So, like in the first quadrant, religious language is understood in a literal way. The difference, however, lies in the rejection of what is written or said. If anything is made absolute, it is rational, formal principles of knowledge, or scientific method. According to Wulff, this position is partly reflected in what is identified in the literature as the indiscriminately anti-religious orientation (Allport & Ross, 1967), and in Barron's (1963) Fundamentalist Disbelief scale. People occupying this quadrant tend to be less dogmatic and more intellectual than many of the religious subjects, but also less fair-minded, less capable to evaluate ideas, rather rigid and low in ability to adapt.

The lower right quadrant, Reductive Interpretation, represents a position in which the existence of the religious realm is rejected, and in which a privileged perspective of the true but hidden meaning of religion's myths and rituals is claimed. This quadrant is derived from the work of Ricoeur (1970), who proposed that in modern hermeneutics, in order to clear away from religious symbols the excrescence of idolatry and illusion, a Reductive Interpretation would be necessary. In this respect, Ricoeur refers to the so-called Masters of Suspicion (Marx, Freud, & Nietzsche). Wulff (1991; 1997) draws on findings obtained with closely related scales, such as Batson's (1976) Quest scale and Barron's (1963) Enlightenment Disbelief scale, to fill out a portrait of persons in this quadrant, and concludes that these persons are complex, socially sensitive and insightful, relatively unprejudiced and original.

The upper right quadrant, Restorative Interpretation, represents a position in which the existence of the religious realm is affirmed, but in which one tries to encompass and go beyond all possible reductive interpretations in order to find the symbolic meaning of the religious language. Again, this quadrant is derived from the work of Ricoeur (1970), who proposed that in modern hermeneutics, in order to make it possible for the object of suspicion to be restored to an object of understanding and faith, a Restorative Interpretation would be necessary. In this respect, Ricoeur introduced the concept of Second Naïveté. According to Wulff (1991; 1997), characterizing persons who occupy this position is somewhat more difficult, for until recently, they have been largely neglected in empirical research. Moreover, given its profoundly individual character, this quadrant is probably also the most difficult to operationalize with standardized questionnaires. Nevertheless, this posture might be represented by Fowler's (1981) fifth stage (conjunctive faith). Research with scales designed to operationalize this stage might therefore cast light on this position.

Construction of the Post-Critical Belief scale. Inspired by the ideas of Ricoeur (1970) and Wulff's integrative framework on the various approaches to religion (Wulff, 1991), Hutsebaut (1996) formulated 24 statements which were assumed to capture the various approaches to religion within a Roman Catholic (but secularized) context. Especially the concept of Second Naïveté was focused on, since it plays a central role in Wulff's model, but had been barely empirically investigated. When these statements were presented to a sample of adult subjects, three predominantly unipolar factors emerged after

applying factor analysis followed by a VARIMAX rotation. The three rotated factors were called Orthodoxy, External Critique and Historical Relativism. Based on the item content and the external relationships of the factors, Orthodoxy was interpreted as a measure of Literal Affirmation, External Critique as a measure of Reductive Interpretation and Historical Relativism as a measure of Restorative Interpretation. For instance, Orthodoxy correlated positively with literal thinking and religious certainty, Historical Relativism correlated positively with quest belief and openness for complex questions, and External Critique correlated positively with autonomy and negatively with religious certainty. In subsequent studies, factor analysis confirmed the existence of these three factors (Hutsebaut, 1997; Desimpelaere et al., 1999) and supported the interpretation of Orthodoxy and Historical Relativism. The findings of Desimpelaere et al. (1999), however, raised doubt about the interpretation of External Critique. Both Orthodoxy and External Critique were found to be positively related to Perry's (1970) psycho-epistemological style of Dualism. This style is characterized by a preference for unambiguity: There is only one right answer for each problem. These findings suggested that both Orthodoxy and External Critique are rooted in a literal mode of thinking and that the External Critique items, in terms of Wullf's model, were measuring Literal Disaffirmation instead of Reductive Interpretation.

Perspectives and problems of the Post-Critical Belief scale. Based on the empirical research, we can conclude that the Post-Critical Belief scale is a promising scale for the measurement of religious attitudes in a secularized context. The three dimensions of this scale are empirically distinguished and are differentially related to external variables. The empirical research, however, also indicated two problems that form the focus of the present research. First, the internal structure of the Post-Critical Belief scale does not fit Wullf's model very well. According to Wullf (1991; 1997), the domain of religion is characterized by two bipolar dimensions (Inclusion vs. Exclusion of Transcendence and Literal vs. Symbolic) that give rise to four approaches to religion. Instead of two bipolar dimensions, three unipolar factors are identified in the Post-Critical Belief scale. This raises doubts about the use of Wullf's model for the interpretation of the three dimensions of the Post-Critical Belief scale. Second, although the items of the External Critique dimension were constructed to measure Reductive Interpretation, external correlations suggest that this dimension actually measures Literal Disaffirmation.

The internal structure of the Post-Critical Belief scale. In the present investigation, we dealt with the first problem by extensively investigating the internal structure of the Post-Critical Belief scale. This was the focus of the first study. In this study, we applied various methods of analysis in order to get a better view on the internal structure of this scale and its possible relation to Wullf's model. These led to a revision of the Post-Critical Belief scale. In order to represent more fully the religious attitude domain, several new items were constructed. The validity of the revised version of the Post-Critical Belief scale is investigated in the second and the third study.

Racism and the Post-Critical Belief scale. The problem of the interpretation of External Critique is being investigated by focusing on the relationships between religious attitudes and racism. This concept was chosen as a marker for the discriminant validity of the subscales of the Post-Critical Belief scale, because the relationship between religiosity and racism is probably the most important paradox within the psychology of religion. Whereas all world religions proclaim brotherly love, history is littered with moments in which religion has provided a justification for, or has given cause to, all kinds of atrocities directed towards people from a different race or culture. A number of historians and theologians concluded from this that religion should contrarily be considered as a catalyst for prejudice, racism, etc., and a lot of psychological and sociological research has been carried out to investigate whether this is true (for a recent overview: see Duriez & Hutsebaut, 2000). If the Post-Critical Belief scale can be interpreted in terms of Wulff's model (1991; 1997), straightforward predictions can be made with regard to the relationship with racism. Orthodoxy, characterized by a rather fundamentalist closed-mindedness, should correlate positively with racism. Historical Relativism, characterized by both an open and symbolic approach and an adherence to the core value of universal brotherly love that is been proclaimed by Christianity, should correlate negatively with racism. The correlations with External Critique, though, depend on its position in Wulff's framework. If External Critique measures Reductive Interpretation, which is related to social sensitiveness and insightfulness (Wulff, 1991; 1997), then a negative correlation with racism is to be expected. However, if External Critique measures Literal Disaffirmation, a positive correlation with racism is to be expected. Intolerance for ambiguity, which is characteristic of literal thinking, is related to a higher susceptibility to racism (Sidanius, 1985). Thus, a negative correlation between External Critique and racism would support Hutsebaut's original interpretation (Hutsebaut, 1996; 1997) while a positive correlation would support the interpretation of Desimpelaere et al. (1999). Whether and to which extent the correlations with the dimensions of the Post-Critical Belief scale and racism support the interpretation of the internal structure of the Post-Critical Belief scale is being investigated in all three studies.

Study 1

Introduction

In a first study, we probed the internal structure of the original 24-item version of the Post-Critical Belief scale. Furthermore, we focused on the relationships between the different subscales of the Post-Critical Belief scale and racism.

Method

Sample. The questionnaire was distributed by undergraduate students of the Faculty of Psychology of the Katholieke Universiteit Leuven (Belgium) in (Roman Catholic) schools and via organizations, relatives and friends. In total, they distributed 1500 questionnaires, of which 77% were returned. Some of them, however, were only partially filled out. All respondents were Flemish speaking Belgians; 56.5% were female. The age groups were as follows: 16-18 (21.9%), 19-25 (23.4%), 26-35 (7.8%), 36-45 (10.4%), 46-65 (26.7%) and 65+ (9.8%). The highest educated group of people (18.6%) consisted of people who had obtained a university degree or were university students, the second group of people (31.1%) had obtained a higher non-university degree or were attending higher non-university studies, the third group of people (29.9%) quit studying after completing secondary school or were currently last-year secondary school students, the fourth group of people (7.7%) quit studying after having completed a technical education (TSO), the fifth group of people (4.2%) quit studying after having completed a vocational education (BSO), and the lowest educated group of people (5.8%) consisted of people whose highest diploma was a primary school diploma. The educational level was high compared to that of the Flemish population. The level of Sunday mass attendance was also high: whereas in the general population only about 10% regularly attends (Office of Church Statistics, Brussels, personal communication, September, 2000), 44.2% persons indicated to attend weekly or at least often, 29.3% indicated to attend on special occasions only, and 24.9% indicated to never attend.

Procedure. Participants filled out the original Post-Critical Belief scale (Hutsebaut, 1996), consisting of 24 items which are to be rated on a 7-point Likert scale (1=completely opposed, 4= neutral, 7= completely in agreement). Of the 24 items, 8 items try to capture Orthodoxy (O1-, O2-O8), 8 items try to capture External Critique (E1-E4, E5-, E6-E8), and 8 items try to capture Historical Relativism (H1-H8) (see Appendix). Participants also filled out a racism scale (Billiet & De Witte, 1991) which consisted of 9 items. The items are to be rated on a 5-point Likert scale (1=completely opposed, 3=neutral, 5=completely in agreement). For practical reasons, we presented this scale only to a sub-

sample of the total sample (n=518). The internal consistency (Cronbach alpha) was .88 (*Mean*=2.51, *SD*=1.37).¹

Results

Multidimensional Scaling on the Post-Critical Belief scale. We analyzed the internal structure of the Post-Critical Belief scale via multidimensional scaling. Multidimensional scaling unveils the “hidden structure” of items (or stimuli in general) by representing them as points in a geometrical space in such a way that the geometrical distances between the points reflect the psychological dissimilarities between the items as well as possible (Borg & Groenen, 1997; Davison, 1983; Kruskal & Wish, 1978).

We carried out a non-metric multidimensional scaling² on the dissimilarity data between the 24 items of the original Post-Critical Belief scale.³ As a dissimilarity measure, we used the Euclidean distances between the standardized items. The two-dimensional solution had a Kruskal stress of .09, explained 96% of the variance in the optimally transformed dissimilarities, and can be said to fit the data well (Borg & Groenen, 1997, p. 38).⁴ One way to interpret a configuration generated by multidimensional scaling is the neighborhood interpretation (Kruskal & Wish, 1978, p. 43). In this interpretation one looks for regions within the configuration that contain a distinguishable type of items. In a two-dimensional representation of the 24 Post-Critical Belief items, three regions could be identified, each of them containing items supposed to belong to one single subscale (see Figure 2). The upper left quadrant, quadrant 1, encompasses the Orthodoxy items (except for item O1-). The lower left quadrant, quadrant 2, encompasses the External Critique items (except for item E5-). Both the upper and the lower right quadrants, quadrants 3 and 4, encompass the Historical Relativism items. The Historical Relativism items are spread out over the two right quadrants. A content analysis of the items indicated interpretative differences for the items that are situated in the upper right quadrant, quadrant 4, and the items situated in the lower right quadrant, quadrant 3 (see Figure 2 and Appendix). The items of quadrant 4 clearly capture an inclusion of tran-

¹ Billiet and De Witte (1991) argued that this scale is comprised of two subscales. The first would 'merely' measure xenophobia (a negative attitude towards immigrants). The second would actually measure racism: the negatively perceived characteristics of the immigrants are truly attributed to biological differences. However, both subscales correlated .70, nearly as high as their internal consistencies (.80 and .86 respectively). Furthermore, they yielded one robust principle components factor suggesting that the items all tap a single dimension, and they were almost perfectly similarly related to the subscales of the Post-Critical Belief scale. For these reasons, only one general racism dimension was retained in this article.

² We also carried out a metric multidimensional scaling analysis (Kruskal & Wish, 1978). This analysis yielded (almost) identical results with coordinates correlating over .98 for the two analyses.

³ In previous research with the Post-Critical scale (Hutsebaut, 1996; 1997; Desimpelaere et al., 1999), two items have been inversed before the analyses (O1- and E5-). In order to stay close to the data, we analysed all items as they have been responded to.

⁴ The Kruskal stress declined from .21 over .09, .06, .05, .04 to .04 for respectively a one-dimensional up to a six-dimensional solution. These different solutions explained respectively 86%, .96%, .98%, .98%, .98% and

scendence, while the items in quadrant 3 capture a more relativist stance. Therefore, conceptually, the items of quadrant 4 can be interpreted in terms of Restorative Interpretation and can be seen as an measuring what Ricoeur (1970) called Second Naïveté. Taking a relativistic stance towards religion fits the Reductive Interpretation in Wulff's model. Because of the content of the items in quadrant 3 we will refer to this quadrant as Relativism. The two items that were reversed in the original use of the Post-Critical Belief scale (item O1- and item E5-) (Hutsebaut, 1996; 1997; Desimpelaere et al., 1999) emerged opposite of the other items belonging to the same subscales. This could be expected, since we decided to stay close to the data and did not reverse these items. Because these items emerged in a meaningful part of the configuration without reversion, it is meaningful to consider them to belong to a different Post-Critical Belief subscale: item O1- can be considered to belong to External Critique, whereas item E5- can be considered to belong to Historical Relativism.

Insert Figure 2 about here

If External Critique constitutes an operationalization of Literal Disaffirmation, as hypothesized by Desimpelaere et al. (1999), the dimensions of the two-dimensional representation can be interpreted perfectly in terms of Wulff's model. The first bipolar dimension can be interpreted as Inclusion vs. Exclusion of Transcendence (see Figure 2): The items that were intended to measure the affirmation of the transcendent realm and the items that were intended to measure disaffirmation get clearly separated in this dimension. The second bipolar dimension can clearly be interpreted as Literal vs. Symbolic (see Figure 2): The items measuring literal (dis)affirmation of the transcendent realm and the items measuring symbolic (dis)affirmation get separated in this dimension. The present two-dimensional representation is considered as a point of reference for the internal structure analyses throughout this article.

Principal Component Analysis on the Post-Critical Belief scale. The discrepancy between the results of the multidimensional scaling revealing two bipolar dimensions as predicted by the model of Wulff (1991; 1997) and the discovery of three (predominantly) unipolar factors by factor analyses after VARIMAX rotation (Hutsebaut, 1996; 1997; Desimpelaere et al., 1999) calls for an explanation. Therefore, we subjected the responses to the 24-item Post-Critical Belief scale to a principal component analysis. In line with the original outlook on the Post-Critical Belief scale, Cattell's scree test (Cattell, 1966) pointed to three components.⁵ A three-componential solution accounted for 45% of the total variance. In order to investigate the relationship with the two-dimensional solution of the multidimensional scaling, the three-component solution was rotated towards the two-dimensional solution using an orthogonal Procrustes rotation (Schönemann, 1966; see also McCrae et al., 1996). After

.98% of the variance in the optimally transformed dissimilarities. The two dimensional solution was retained because this solution was theoretically well interpretable and already accounted for nearly all of the variance.

⁵ The eigenvalues for the first six components, after extraction, were 5.51, 2.96, 2.32, 1.08, 1.02 and 0.90 respectively.

doing this, two bipolar components and one unipolar component showed up (see Table 1). The first component could be interpreted as Inclusion vs. Exclusion of Transcendence: Both the Orthodoxy items and the Second Naïveté items loaded positively onto this dimension, whereas both the External Critique items and the Relativism items loaded negatively onto this dimension. The second component could be interpreted as Literal vs. Symbolic: Both the Orthodoxy items and the External Critique items loaded negatively onto this dimension whereas both the Relativism items and the Second Naïveté items loaded positively onto this dimension. Tucker's Phi indices suggested high congruence between the first two components and the two dimensions found by multidimensional scaling: .99 for Inclusion vs. Exclusion of Transcendence and .95 for Literal vs. Symbolic. All items loaded positively on the third component.

Insert Table 1 about here

Post-Critical Belief subscales. For each of the three original subscales, scale scores were computed by averaging the item scores of the items theoretically belonging to these subscales.⁶ Estimates of internal consistency (Cronbach alpha's) were .79 for Orthodoxy (*Mean*=2.69, *SD*=1.29) (8 items), .79 for External Critique (*Mean*=3.78, *SD*=1.32) (8 items), and .62 for Historical Relativism (*Mean*=4.24, *SD*=1.09) (8 items). Orthodoxy was negatively related to External Critique ($r=-.26, p<.0001$) and positively related to Historical Relativism ($r=.19, p<.0001$). External Critique and Historical Relativism were slightly negatively related ($r=-.15, p<.0001$).

Based on the multidimensional scaling and the principal component analysis, Historical Relativism was split into two separate subscales: Relativism and Second Naïveté. Estimates of internal consistency (Cronbach alpha's) were .55 for Relativism (*Mean*=4.57, *SD*=1.28) (4 items), and .73 for Second Naïveté (*Mean*=3.92, *SD*=1.58) (4 items). The latter rose up to .82 when one item (H6) was left out of the analysis. We decided to do so. Relativism was negatively related to Orthodoxy ($r=-.23, p<.0001$), positively related to External Critique ($r=.31, p<.0001$) and slightly positively related to Second Naïveté ($r=.07, p<.05$). Second Naïveté was positively related to Orthodoxy ($r=.46, p<.0001$) and negatively related to External Critique ($r=-.51, p<.0001$).

Relationships with racism. Racism was positively related to both Orthodoxy ($r=.35, p<.0001$) and External Critique ($r=.14, p<.005$), and was slightly negatively related to Historical Relativism ($r=-.10, p<.05$). However, taking into account the results of the previous analyses, it became apparent that the slightly negative correlation between Historical Relativism and racism was due to the existence of a negative correlation between Relativism and racism ($r=-.16, p<.0005$). Second Naïveté and racism were unrelated ($r=-.03, n.s.$).⁷

⁶ Item O1- and item E5- were reversed as was done in the original scale.

⁷ The relationships between the four religiosity scales and racism are not affected by the educational level of the subjects. In regression analyses with the religiosity scales, educational level and the interaction effects between the religiosity scales and educational level as predictors and racism as criterion, all interaction effects

Conclusion

Two bipolar dimensions were identified that could be interpreted in terms of Wulff's model: Inclusion versus Exclusion of Transcendence and Literal versus Symbolic (Wulff, 1991; 1997). This representation sheds new light on the Post-Critical Belief subscales. Contrary to the original interpretation (Hutsebaut, 1996; 1997), External Critique is situated at the literal side of the second dimension. Furthermore, Historical Relativism appears to be comprised of two subscales, Second Naïveté⁸ and Relativism, which correspond to Wulff's Restorative and Reductive Interpretation respectively.⁹

The stability of the configuration was supported via method convergence. After orthogonal Procrustes rotation of the component solution to the multidimensional scaling solution, the first two components were highly similar to the two dimensions. However, the third component cannot be interpreted in terms of any religious attitude dimension. After orthogonal Procrustes rotation all items loaded positively onto this third component, even items with a clearly contradictory content (e.g. E2 and S2). The existence of differences between subjects in response style, especially acquiescence, forms a plausible explanation for the emergence of this component. If there exist systematic differences between subjects in the tendency to endorse items in the Post-Critical Belief scale, irrespective of their specific content, it will exert a systematic bias on the correlations between the items (see also Green, Goldman & Salovey, 1993): Positive correlations will become more positive and negative correlations will be suppressed. Multidimensional scaling is only marginally affected by a response style that systematically influences all correlations since it represents the pattern of relationships between the items and not the absolute size of these relationships. Factor analysis, on the contrary, does represent the absolute size of the correlations and, hence, will be affected by a systematic response tendency. A VARIMAX-rotation will then produce unipolar factors, which represent the positive correlations. However, if the factor structure is rotated to a structure that is unaffected by this response tendency - as is done here by a rotation to the two-dimensional multidimensional representation - an extra factor, representing interindividual differences in the systematic response tendency, should show up.

The renewed interpretation of External Critique is supported by its positive relationship to racism.

turned out to be non-significant: $t(502)=1.80$, n.s., for the interaction between Orthodoxy and educational level; $t(502)=-0.83$, n.s., for the interaction between External Critique and educational level; $t(502)=1.57$, n.s., for the interaction between Relativism and educational level; and $t(502)=-0.43$, n.s., for the interaction between Second Naïveté and educational level.

⁸ In previous research, this dimension was also labeled Historical Awareness (Duriez, Hutsebaut & Roggen, 1999) and Symbolic Belief (Fontaine et al., 2000; Luyten et al., 1998). We prefer the term Second Naïveté, because it explicitly points to the concept of Ricoeur (1965) which we tried to operationalize.

⁹ This interpretation receives support from the relations with frequency of Sunday mass attendance. These were .48 ($p<.0001$) for Orthodoxy, -.48 ($p<.0001$) for External Critique and .36 ($p<.0001$) for Historical Relativism. However, these relations were -.08 ($p<.01$) for Relativism and .57 ($p<.0001$) for Second Naïveté.

The differential relationship between Second Naïveté and racism on the one hand and Relativism and racism on the other hand supports the distinction between both aspects of Historical Relativism. Even though the Relativism scale is far less reliable than the Second Naïveté scale, a negative relationship was found between Relativism and Racism, whereas no relationship was found between Second Naïveté and racism. Results of the first study thus provide clear empirical support for the interpretation of the Post-Critical Belief scale in terms of Wulff's bipolar four-quadrant model (Wulff, 1991; 1997).

Study 2

Introduction

The renewed interpretation of External Critique and the disentanglement of Historical Relativism in Relativism and Second Naïveté rise questions about the construct representation of the 24 items of the original Post-Critical Belief scale. Relativism, for instance, was constituted of four items only and appeared to have low internal consistency. Therefore, a revised 33-item version of the Post-Critical Belief scale was developed. First, we decided to change the formulation of item O1- because some of the participants of the first study reported difficulties filling out this item. Probably this was due to the unintended complexity of this item. The renewed formulation of this item can be found in the Appendix (O9). Second, for similar reasons we decided to change some of the External Critique items (E1, E4 and E5-). Probably, the difficulty with these items was that they did not clearly enough capture a stance of unbelief. We decided to substitute them by a couple of new items (E9-E12, see Appendix). In this way we also aimed to broaden the range of the concept. Third, we found it necessary to further elaborate both Relativism and Second Naïveté. Concerning Relativism, we decided to include extra items (R5-R8, see Appendix), further elaborating what we thought was typical of this position. To avoid confusion, we relabeled the original Relativism items (see Appendix). Concerning Second Naïveté, we decided to leave out item H6, relabel the retained items (see Appendix) and elaborate the scope of the concept's operationalization by including some new items (S4-S8, see Appendix) so that it would more closely resemble the concept of Ricoeur (1970). Empirical evidence for the validity of this revised version, based on internal structure analyses and the relationship with racism, is presented in this second study.

Method

Sample. The questionnaires were distributed by undergraduate students of the Faculty of Psychology of the Catholic University Leuven (Belgium). In total, they distributed 300 questionnaires, of which 76% were returned. Some of them, however, were only partially completed. All respondents were Flemish-speaking Belgians; 52.2% were female. The age groups were: 16-18 (4.4%), 19-25 (52.6%), 26-35

(7.0%), 36-45 (8.3%) and 46-65 (27.7%). The highest educated group (89.5%) consisted of people who had obtained a university degree or were either university students, the second group (6.6%) consisted of people who had completed or were attending a non-university higher education. The level of Sunday mass attendance was comparable to that in our first study: 40.1% claimed to attend weekly or at least often, 33.3% claimed to attend on special occasions only and 25.9% claimed to never attend.

Procedure. Participants completed the renewed Post-Critical Belief scale. Of the 33 items, 8 try to capture Orthodoxy (O2-O9), 9 try to capture External Critique (E2-3, E6-E12), 8 try to capture Relativism (R1-R8), and 8 try to capture Second Naïveté (S1-S8) (see Appendix). Participants also completed the racism scale. The internal consistency (Cronbach alpha) of this scale was .84 ($Mean=2.04$, $SD=0.93$).

Results

Multidimensional Scaling on the Post-Critical Belief scale. A non-metric multidimensional scaling on the Euclidean distances between the 33 standardized items of the revised Post-Critical Belief scale was performed. The two-dimensional solution (see Figure 3) fitted the data well. It had a Kruskal stress of .11 and explained .94% of the variance in the optimally transformed dissimilarities.¹⁰ In order to optimally compare the internal structure of the revised version of the Post-Critical Belief scale to the internal structure of the original version, an orthogonal Procrustes rotation (Schönemann, 1966) towards the internal structure of this original version was applied. After rotation, Tucker's Phi indices indicated a high congruence for both dimensions: .96 for Inclusion vs. Exclusion of Transcendence and .92 for Literal vs. Symbolic.¹¹

Insert Figure 3 about here

As in Study 1, the four quadrants of the two-dimensional representation could straightforwardly be interpreted (see Figure 3). The upper left quadrant, quadrant 1, encompasses the Orthodoxy items. The lower left quadrant, quadrant 2, encompasses the External Critique items and one of the supposed Relativism items (R8). The lower right quadrant, quadrant 3, encompasses the Relativism items (except R2 and R8) and one of the supposed Second Naïveté items (S4). Finally, the upper right quadrant, quad-

¹⁰ The Kruskal stress declined from .28 over .11, .08, .06, .05 to .04 for respectively a one-dimensional up to a six-dimensional solution. These different solutions explained respectively 76%, .94%, .96%, .98%, .98% and .98% of the variance in the optimally transformed dissimilarities. The two dimensional solution was retained because this solution was theoretically well interpretable and already accounted for nearly all of the variance.

rant 4, encompasses the Second Naiveté items (except for S4) and one of the Relativism items (R2). Thus, in total, 30 items emerged in the hypothesized quadrant whereas 3 items emerged in a quadrant adjacent to the hypothesized quadrant.

Principal Component Analysis on the Post-Critical Belief scale. The revised 33-item Post-Critical Belief scale was also subjected to a principal component analysis. Cattell's scree test (Cattell, 1966) pointed to three components.¹² A three-componential solution accounted for 37% of the total variance. After an orthogonal Procrustes rotation (Schönemann, 1966) towards the dimensional structure generated by multidimensional scaling in the first study, again two bipolar and one unipolar component showed up (see Table 2). Tucker's Phi indices suggested high congruence between the two bipolar components and the dimensions found in the first study: .97 for Inclusion vs. Exclusion of Transcendence and .91 for Literal vs. Symbolic.

Insert Table 2 about here

Post-Critical Belief subscales. For each of the four subscales, scale scores were computed by averaging the item scores of all of the items theoretically belonging to the subscales of the revised Post-Critical Belief scale.¹³ Estimates of internal consistency (Cronbach alpha's) were .76 for Orthodoxy (*Mean*=2.18, *SD*=1.00) (8 items), .84 External Critique (*Mean*=5.04, *SD*=0.92) (9 items), .65 for Relativism (*Mean*=5.08, *SD*=0.93) (8 items), and .87 for Second Naiveté (*Mean*=4.65, *SD*=1.37) (8 items). Orthodoxy was negatively related to both External Critique ($r=-.35, p<.0001$) and Relativism ($r=-.49, p<.0001$) and was positively related to Second Naiveté ($r=.34, p<.0001$). External Critique was positively related to Relativism ($r=.30, p<.0001$) and was negatively related to Second Naiveté ($r=-.62, p<.0001$). Relativism and Second Naiveté were unrelated ($r=.10, n.s.$).

Relationships with racism. Again, we expected both Orthodoxy and External Critique to be positively related to racism (Hypothesis 1 and 2). Based on our previous findings, we expected Relativism to be negatively related to racism (Hypothesis 3) and Second Naiveté to be unrelated to racism (Hypothesis 4). Results supported hypotheses 1, 3 and 4. Racism was positively related to Orthodoxy ($r=.35, p<.0001$), negatively related to Relativism ($r=-.21, p<.005$), and unrelated to Second Naiveté ($r=-.05, n.s.$). Hypothesis 2 received no support. Racism and External Critique were unrelated ($r=.04,$

¹¹ The congruence with the configuration of the first study was computed on the basis of 19 items that were common in both the original and the revised version of the Post-Critical Belief scale.

¹² The eigenvalues for the first six components, after extraction, were 6.49, 3.61, 2.16, 1.43, 1.30 and 1.18 respectively.

¹³ The three items that fell into a wrong quadrant (R2, R8 and S4) were also included for the construction of the subscales. The decision to nevertheless include these items was taken because study 3 showed that these small mismatches are due to sampling fluctuations.

n.s.).

Conclusion

Based on the congruence measures between the internal structure of the 33-item revised Post-Critical Belief scale and the 24-item original version, we can conclude that the internal structures are (almost) identical. The two dimensions fit Wulff's Inclusion vs. Exclusion of Transcendence dimension and Literal vs. Symbolic dimension (Wulff, 1991; 1997). Again, Orthodoxy measured Literal Affirmation, External Critique measured Reductive Interpretation, Relativism measured Reductive Interpretation and Second Naïveté measured Restorative Interpretation.¹⁴ But although the internal structure of the revised version is highly similar to the original version, the revised version can appeal to a better construct representation of the four separate quadrants.

The relationships with racism, where in line with the findings of the first study for three of the four Post-Critical Belief subscales. Again, a positive relationship with Orthodoxy, a negative relationship with Relativism and no relationship at all with Second Naïveté was found. However, the expected positive relationship between External Critique and racism was not observed. Nevertheless, despite the failure to observe a direct relationship between External Critique and racism, a well interpretable internal structure, which strongly relates to the structure in Study 1, was revealed in this second study.

Study 3

Introduction

In this third study, we tried to replicate the results of the second study. Our main question is how stable the two bipolar religious attitude dimensions are. Furthermore, it is investigated whether the failure to find a relationship between External Critique and racism is generalizable to other samples. This could point to specific effects of the newly constructed External Critique items.

Method

Sample. Participants were 338 first year psychology students at the Katholieke Universiteit Leuven (Belgium), ranging in age from 17 to 24 years old (*Mean*= 18). All of them were Flemish speaking

¹⁴ Correlations with frequency of Sunday mass attendance were .49 ($p < .0001$) for Orthodoxy, -.66 ($p < .0001$) for External Critique, -.21 ($p < .005$) for Relativism and .63 ($p < .0001$) for Second Naïveté.

Belgians; 82% were female. Participation was obligatory and all participants received course credit. Full confidentiality and anonymity were guaranteed. Of all participants, 9% indicated to attend Sunday mass weekly or at least often, 67.2% indicated to attend only at special occasions, and 23.3% indicated to never attend.

Procedure. Participants completed the revised 33-item Post-Critical Belief scale, as presented in Study 2. Participants also completed the racism scale. The internal consistency (Cronbach alpha) of this scale was .84 (*Mean*=1.96, *SD*=0.61).

Results

Multidimensional Scaling on the Post-Critical Belief scale. A non-metric multidimensional scaling analysis on the Euclidean distances between the standardized items of the 33-item revised Post-Critical Belief scale was carried out. A two-dimensional solution (see Figure 4) was adequate to represent the internal structure.¹⁵ It had a Kruskal stress of .13 and explained 90% of the variance in the optimally transformed dissimilarities. After an orthogonal Procrustes rotation (Schönemann, 1966) towards the dimensional structure of the original version, Tucker's Phi indices suggested high congruence for both dimensions: .97 for Inclusion vs. Exclusion of Transcendence and .93 for Literal vs. Symbolic. This configuration was also highly similar to the configuration in the second study (Tucker's Phi of .90 for Inclusion vs. Exclusion of Transcendence and of .93 for Literal vs. Symbolic).¹⁶

Insert Figure 4 about here

As in Study 1 and 2, the four quadrants of the two-dimensional representation could straightforwardly be interpreted (see Figure 4). The upper left quadrant, quadrant 1, encompasses the Orthodoxy items (except 09). The lower left quadrant, quadrant 2, encompasses the External Critique items. The lower right quadrant, quadrant 3, encompasses the Relativism items (except R7). Finally, the upper right quadrant, quadrant 4, encompasses the Second Naiveté items, one of the Orthodoxy items (O9) and one of the Relativism items (R2). Thus, in total, 31 out of the 33 items emerged in the hypothesized quadrant. The two items shifting to an adjacent quadrant are different items than the items shifting to an adjacent quadrant in the previous study. This suggests that these small shifts are resulting from sampling fluctuation.

¹⁵ The Kruskal stress declined from .34 over .13, .09, .07, .06 to .05 for respectively a one-dimensional up to a six-dimensional solution. These different solutions explained respectively 66%, .90%, .94%, .96%, .96% and .98% of the variance in the optimally transformed dissimilarities. The two dimensional solution was retained because this solution was theoretically well interpretable and already accounted for most of the variance.

¹⁶ The congruence with the configuration of the first study was computed on the basis of 19 items that were common in both the original and the revised version of the Post-Critical Belief scale. The congruence with the configuration of the second study was computed on the basis of all 33 items of the revised version.

Principal Component Analysis on the Post-Critical Belief scale. As in the two previous studies, the 33-item revised Post-Critical Belief scale was subjected to a principal component analysis. Again, Cattell's scree test (Cattell, 1966) pointed to a three-componential solution, which accounted for 45% of the total variance.¹⁷ When orthogonally rotating this three-componential solution to the two-dimensional solution of the first study, the two bipolar and the unipolar component showed up again (see Table 3). Tucker's Phi indices suggested high congruence between the first two components and the two dimensions generated by multidimensional scaling in the first study: .97 for Inclusion vs. Exclusion of Transcendence and .93 for Literal vs. Symbolic. If the three-componential solution of the present study is rotated to the two-dimensional scaling solution of the second study, the congruence is even higher (.99 for Inclusion vs. Exclusion of Transcendence and .96 for Literal vs. Symbolic).

Insert Table 3 about here

Post-Critical Belief subscales. As in the previous study, scale scores were computed by averaging the item scores of all of the items theoretically belonging to the subscales of the revised Post-Critical Belief scale. Estimates of internal consistency (Cronbach alpha's) were .70 for Orthodoxy (*Mean*=2.19, *SD*=0.82) (8 items), .78 External Critique (*Mean*=3.72, *SD*=0.93) (9 items), .62 for Relativism (*Mean*=4.94, *SD*=0.69) (8 items), and .82 for Second Naïveté (*Mean*=4.16, *SD*=1.11) (8 items). Orthodoxy was negatively related to both External Critique ($r=-.20, p<.0005$) and Relativism ($r=-.32, p<.0001$) and was positively related to Second Naïveté ($r=.33, p<.0001$). External Critique was positively related to Relativism ($r=.12, p<.05$) and negatively to Second Naïveté ($r=-.60, p<.0001$). Relativism and Second Naïveté were positively related ($r=.17, .005$).

Relationships with racism. Again, we expected both Orthodoxy and External Critique to be positively related to racism (Hypothesis 1 and 2), Relativism to be negatively related to racism (Hypothesis 3) and Second Naïveté to be unrelated to racism (Hypothesis 4). Results supported all hypotheses. Racism was positively related to both Orthodoxy ($r=.29, p<.0001$) and External Critique ($r=.18, p<.0005$) and negatively related to Relativism ($r=-.16, p<.005$). No relationship with Second Naïveté was found ($r=-.10, n.s.$).¹⁸

Conclusion

¹⁷ The eigenvalues for the first six components after extraction were 8.07, 4.04, 2.24, 1.52, 1.33, 1.17.

¹⁸ A 10-item version of the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1960) was also included in this study. Results showed that the relationships between racism and the different dimensions of the Post-Critical Belief scale largely remained unaltered when controlling for socially desirable answering: .32

Again, a two-dimensional representation of the revised Post-Critical Belief items could be interpreted perfectly in terms of Wulff's (1991; 1997) model. Orthodoxy measured Literal Affirmation, External Critique measured Reductive Interpretation, Relativism measured Reductive Interpretation and Second Naïveté measured Restorative Interpretation.¹⁹ This time the relationships with racism clearly supported this interpretation. Racism was negatively related to Relativism, but was not related at all to Second Naïveté. Furthermore, racism was positively related to both Orthodoxy and External Critique. This last finding shed some light on the results of the second study, where this relationship was not found. An explanation in terms of the newly constructed External Critique items is unlikely in the light of the relationship found in the present study. Therefore, the absence of this relationship in the second study is probably due to sample characteristics.

General Discussion

Across the three studies presented in this article, the internal structure of both the original and the revised Post-Critical Belief scale is highly stable and replicable. This conclusion is supported by the congruence measures between the solutions of the various studies. Very few items shift to adjacent quadrants, and since the shifting of items occurred randomly across the three studies, this phenomenon has to be attributed to sampling fluctuation. The better construct representation of the religious attitude domain distinguishes the original version from the revised version.

Concerning the internal structure, method convergence was observed. After orthogonal Procrustes rotation, the first two components of a three-component solution turned out to be highly related to the two dimensions of the geometrical representation. The difference is the emergence of a general component with all items loading positively on it in the principal component analyses. This component did not emerge as a dimension in the multidimensional scaling. As explained earlier, interindividual differences in a response style, such as acquiescence, form a plausible explanation.

In the present research, we investigated whether responses to the items of the Post-Critical Belief scale can be interpreted in terms of Wulff's model (Wulff, 1991; 1997). Responses to these items can indeed be interpreted in terms of Wulff's two dimensions (Inclusion vs. Exclusion of Transcendence and Literal vs. Symbolic). Orthodoxy consistently measured Literal Affirmation. External Critique consistently measured Literal Disaffirmation, as was suggested by Desimpelaere et al. (1999). Furthermore, it was consistently found that Historical Relativism needed to be split up into two different di-

($p < .0001$) for Orthodoxy, .17 ($p < .005$) for External Critique, -.17 ($p < .005$) for Relativism, and -.10 (n.s) for Second Naïveté.

¹⁹ Correlations with frequency of Sunday mass attendance were .26 ($p < .0001$) for Orthodoxy, -.38 ($p < .0001$) for External Critique, -.03 (n.s.) for Relativism and .39 ($p < .0001$) for Second Naïveté.

mensions: Relativism, which forms an operationalization of the Reductive Interpretation, and Second Naïveté, which forms an operationalization of Restorative Interpretation.

The renewed interpretation of the Post-Critical Belief subscales has important consequences. Lack of differentiation, as was the case in the original version, leads to partly meaningless and even faulty interpretations of the relationships between religiosity and racism. Contrary to what we previously thought, we could not find any evidence for the existence of an explicit belief stance that truly counters racism. Apparently, religion cannot be said to provide a real antidote for racism in Flanders (for a more thorough discussion: see Duriez & Hutsebaut, 2000). Recent research indicates that the renewed outlook on the Post-Critical Belief scale is also relevant for the investigation of the relationship between religiosity and other concepts like value orientations (Duriez, Fontaine & Luyten, in press; Fontaine, Luyten & Corveleyn, 2000; Fontaine, Duriez, Hutsebaut & Luyten, 2000), authoritarianism and social dominance orientation (Duriez & Van Hiel, 2000), and economic and cultural conservatism (Duriez, Luyten, Snauwaert & Hutsebaut, 2000).

We can conclude that there clearly is validity evidence for a multidimensional conceptualization of religious attitudes in the Flemish secularized context. Interindividual differences in religious attitudes can be interpreted in terms of Wulff's (1991; 1997) theoretical framework. The present conclusion is supported by extensive analyses of the internal structure of the Post-Critical Belief scale as well as by the external relationships between the various subscales of this Post-Critical Belief scale and racism. Therefore, the Post-Critical Belief scale offers new perspectives for the empirical study of interindividual differences in religiosity. However, further research should point out whether and to which extent this scale can be generalized to other cultural groups and religious denominations.

References

- Allport, G.W., & Ross, J.M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, 5, 432-443.
- Barron, F. (1963). *Creativity and psychological health: Origins of personal vitality and creative freedom*. Princeton, NJ: Van Nostrand.
- Batson, C.D. (1976). Latent aspects of "From Jerusalem to Jericho." In M.P. Golden (Ed), *The research experience*. Itasca, IL: F.E. Peacock.
- Billiet, J., & De Witte, H. (1991). Naar racisme neigende houdingen in Vlaanderen: Typologie en maatschappelijke achtergronden [Attitudes that tend towards racism in Flanders: Typology and societal backgrounds]. *Cultuur en Migratie*, 1, 25-62.
- Borg, I., & Groenen, P. (1997). *Modern multidimensional scaling. Theory and applications*. New York: Springer.
- Cattell, R.B. (1966). The scree test for the number of factors. *Multivariate Behavioral Research*, 1, 245-276.
- Crowne, D.P., & Marlowe, D. (1960). A new scale of social desirability independent of pathology. *Journal of Consulting Psychology*, 24, 349-354.

- Davison, M.L. (1983). *Multidimensional scaling*. New York: Wiley.
- Desimpelaere, P., Sulas, F., Duriez, B., & Hutsebaut, D. (1999). Psycho-epistemological styles and religious beliefs. *The International Journal for the Psychology of Religion*, 9, 125-137.
- Dobbelaere, K. (1996). Godsdienstbeleving en individualisme in Europese en Noord-Amerikaanse landen [Individualism and the perception of religion in Europe and Northern American countries]. *Academica Analecta*, 58, 43-68.
- Duriez, B., Fontaine, J.R.J., & Luyten, P. (in press). La religiosité influence-t-elle encore notre vie? Nouvelles preuves soutenant la différenciation des structures de valeur de différents types de religiosité [Does religiosity still influence our lives? New evidence for discriminating value patterns of different types of religiosity]. In V. Saraglou & D. Hutsebaut (Eds.), *Religion et développement humain: Questions psychologiques* [Religion and human development: Psychological questions]. Paris: L'Harmattan.
- Duriez, B., Hutsebaut, D., & Roggen, F. (1999). Racism and Post-Critical Belief. A new approach of an old problem. *Journal of Empirical Theology*, 12, 5-27.
- Duriez, B., & Hutsebaut, D. (2000). The relation between religion and racism: The role of post-critical beliefs. *Mental Health, Religion & Culture*, 3(1), 85-102.
- Duriez, B., Luyten, P., Snauwaert, B., & Hutsebaut, D. (2000). *The relative importance of religiosity and value orientations in predicting political attitudes. Empirical evidence for the continuing importance of religion in Flanders (Belgium)*. Manuscript submitted for publication.
- Duriez, B., & Van Hiel, A. (2000). *The march of modern fascism. A comparison of social dominance orientation and authoritarianism*. Manuscript submitted for publication.
- Fontaine, J.R.J., Luyten, P., & Corveleyn, J. (2000). Tell me what you believe and I'll tell you what you want. Empirical evidence for discriminating value patterns of five types of religiosity. *The International Journal for the Psychology of Religion*, 10, 65-84.
- Fontaine, J.R.J., Duriez, B., Hutsebaut, D., & Luyten, P. (2000). *Meta-analyses and validation of the Post-Critical Belief scale dimensions and its consequences for the relationships between religiosity and values*. Manuscript submitted for publication.
- Fowler, J.W. (1981). *Stages of faith: The psychology of human development and the quest for meaning*. San Francisco: Harper & Row.
- Green, D.P., Goldman, S. L., & Salovey, P. (1993). Measurement error masks bipolarity in affect ratings. *Journal of Personality and Social Psychology*, 64, 1029-1041.
- Heps, M., & Wellemans, L. (1994). *Studie van de religieuze volwassenheid. Een nieuwe benadering van het religieuze attitude-onderzoek* [A study on religious maturity. A new approach of the religious attitude research]. Unpublished master's dissertation, KULeuven, Leuven.
- Hutsebaut, D. (1996). Post-Critical Belief: A new approach to the religious attitude problem. *Journal of Empirical Theology*, 9(2), 48-66.
- Hutsebaut, D. (1997). Identity statuses and ego-integration, God representation and religious cognitive styles. *Journal of Empirical Theology*, 10, 39-54.
- Kruskal, J., & Wish, M. (1978). *Multidimensional scaling*. Beverly Hills, CA: Sage.
- Luyten, P., Corveleyn, J., & Fontaine, J. R. J. (1998). The relationship between religiosity and mental health: Distinguishing between shame and guilt. *Mental Health, Religion & Culture*, 1, 165-184.

- McCrae, R.R., Zonderman, A.B., Costa, P.T., Bond, M.H., & Paunonen, S.V. (1996). Evaluating replicability of factors in the revised NEO Personality Inventory: Confirmatory factor analysis versus Procrustes rotation. *Journal of Personality and Social Psychology, 70*, 552-566.
- Perry, W.G. (1970). *Forms of intellectual and ethical development in the college years: The scheme*. New York: Holt, Rinehart & Winston.
- Ricoeur, P. (1970). *Freud and philosophy: An essay on interpretation* (D. Savage, Trans.). New Haven, CT: Yale University Press. (Original work published 1965).
- Schönemann, P.H. (1966). A generalized solution of the orthogonal Procrustes problem. *Psychometrika, 31*, 1-10.
- Sidanius, J. (1985). Cognitive functioning and sociopolitical ideology revisited. *Political Psychology, 6*, 637-661.
- Wulff, D.M. (1991). *Psychology of religion. Classic and contemporary views*. New York: Wiley.
- Wulff, D.M. (1997). *Psychology of religion. Classic and contemporary*. New York: Wiley.

Appendix

English translation of the items of the original Post-Critical Belief scale (Version 1) and of the revised Post-Critical Belief scale (Version 2), ordered according to the original and revised subscales (Orthodoxy (O), External Critique (E), Historical Relativism (H), Second Naïveté (S) and Relativism (R)), including the labels by which these items are referred to in this article.

| Label | Version | Items |
|-------|---------|---|
| O1- | 1 | It is not compulsory to believe in order to live a meaningful life. |
| O2 | 1 & 2 | God has been defined for once and for all and therefore is immutable. |
| O3 | 1 & 2 | Even though this goes against modern rationality, I believe Mary truly was a virgin when she gave birth to Jesus. |
| O4 | 1 & 2 | Only the major religious traditions guarantee admittance to God. |
| O5 | 1 & 2 | Religion is the one thing that gives meaning to life in all its aspects. |
| O6 | 1 & 2 | Ultimately, there is only one correct answer to each religious question. |
| O7 | 1 & 2 | Only a priest can give an answer to important religious questions. |
| O8 | 1 & 2 | I think that Bible stories should be taken literally, as they are written. |
| O9 | 2 | You can only live a meaningful life if you believe. |
| E1 | 1 | I sometimes find it hard to believe, because you never can be really certain. |
| E2 | 1 & 2 | Faith is more of a dream, which turns out to be an illusion when one is confronted with the harshness of life. |
| E3 | 1 & 2 | Too many people have been oppressed in the name of God in order to still be able to have faith. |
| E4 | 1 | I merely see God as an impersonal power somewhere. |
| E5- | 1 | I know that the testimony of my belief is sometimes weak and vulnerable but I still want to go on talking about my belief. |
| E6 | 1 & 2 | God is only a name for the inexplicable. |
| E7 | 1 & 2 | The world of Bible stories is so far removed from us, that it has little relevance. |
| E8 | 1 & 2 | A scientific understanding of human life and the world has made a religious understanding superfluous. |
| E9 | 2 | In the end, faith is nothing more than a safety net for human fears. |
| E10 | 2 | In order to fully understand what religion is all about, you have to be an outsider. |
| E11 | 2 | Faith is an expression of a weak personality. |
| E12 | 2 | Religious faith often is an instrument for obtaining power, and that makes it suspect. |
| H1/S1 | 1 & 2 | The Bible holds a deeper truth which can only be revealed by personal reflection. |
| H2/S2 | 1 & 2 | The Bible is a guide, full of signs in the search for God, and not a historical account. |
| H3/R1 | 1 & 2 | Each statement about God is a result of the time in which it was made. |
| H4/S3 | 1 & 2 | Despite the fact that the Bible was written in a completely different historical context from ours, it retains a basic message. |

Appendix (cont.)

| Label | Version | Items |
|-------|---------|--|
| H5/R2 | 1 & 2 | Ultimately, religion means commitment without absolute guarantee. |
| H6 | 1 | For me, God is not necessary or useful, but meaningful. |
| H7/R5 | 1 & 2 | Official Church doctrine and other statements about the absolute will always remain relative because they are pronounced by human beings at a certain period of time. |
| H8/R4 | 1 & 2 | God grows together with the history of humanity and therefore is changeable. |
| R5 | 2 | The manner in which humans experience their relationship to God, will always be colored by the times they live in. |
| R6 | 2 | I am well aware that my beliefs are only one possibility among so many others. |
| R7 | 2 | Secular and religious conceptions of the world give valuable answers to important questions about life. |
| R8 | 2 | There is no absolute meaning in life, only giving directions, which is different for every one of us. |
| S4 | 2 | If you want to understand the meaning of the miracle stories from the Bible, you should always place them in their historical context. |
| S5 | 2 | Because Jesus is mainly a guiding principle for me, my faith in him would not be affected, if it would appear that he never actually existed as a historical individual. |
| S6 | 2 | The historical accuracy of the stories from the Bible, is irrelevant for my faith in God. |
| S7 | 2 | Despite the high number of injustices Christianity has caused people, the original message of Christ is still valuable to me. |
| S8 | 2 | I still call myself a Christian, even though a lot of things that I cannot agree with have happened in the past in name of Christianity. |

Note that, although in our study, all items were administered in Flemish, we present them in English. To obtain these English versions the original items were first translated from Flemish into English. Second, they were independently translated back into Flemish in order to compare the original items and the doubly translated versions.

Table 1.

Component Loadings in Study 1 for the Original Version of the Post-Critical Belief Scale with Three Components After Orthogonal Procrustes Rotation to the Reference Configuration^a

| Item | C1 | C2 | C3 |
|------|------|------|-----|
| O1- | -.54 | .04 | .12 |
| O2 | .53 | -.26 | .34 |
| O3 | .59 | -.27 | .27 |
| O4 | .38 | -.31 | .44 |
| O5 | .69 | -.14 | .28 |
| O6 | .41 | -.39 | .32 |
| O7 | .30 | -.42 | .38 |
| O8 | .29 | -.52 | .37 |
| E1 | -.37 | -.07 | .44 |
| E2 | -.46 | -.29 | .45 |
| E3 | -.54 | -.13 | .33 |
| E4 | -.38 | -.07 | .45 |
| E5- | .67 | .25 | .25 |
| E6 | -.60 | -.24 | .27 |
| E7 | -.54 | -.26 | .26 |
| E8 | -.49 | -.45 | .17 |
| H1 | .63 | .32 | .28 |
| H2 | .52 | .40 | .31 |
| H3 | -.20 | .46 | .41 |
| H4 | .70 | .43 | .23 |
| H5 | -.25 | .17 | .56 |
| H6 | .11 | .27 | .44 |
| H7 | -.29 | .50 | .21 |
| H8 | -.33 | .39 | .26 |

^a Reference Configuration = Two-dimensional representation of original version of Post-Critical Belief Scale in Study 1

Table 2.

Component Loadings in Study 2 for the Revised Version of the Post-Critical Belief Scale with Three Components After Orthogonal Procrustes Rotation to the Reference Configuration^a

| Item | C1 | C2 | C3 |
|------|------|------|-----|
| O2 | .55 | -.23 | .35 |
| O3 | .58 | -.23 | .07 |
| O4 | .47 | -.19 | .37 |
| O5 | .67 | -.12 | .27 |
| O6 | .21 | -.43 | .32 |
| O7 | .23 | -.44 | .25 |
| O8 | .37 | -.49 | .02 |
| O9 | .58 | -.18 | .32 |
| E2 | -.58 | -.39 | .25 |
| E3 | -.58 | -.09 | .24 |
| E6 | -.64 | -.06 | .20 |
| E7 | -.46 | -.30 | .25 |
| E8 | -.45 | -.42 | .29 |
| E9 | -.62 | -.48 | .06 |
| E10 | -.40 | -.37 | .26 |
| E11 | -.48 | -.31 | .30 |
| E12 | -.64 | -.22 | .09 |
| R1 | -.15 | .48 | .46 |
| R2 | .02 | .42 | .24 |
| R3 | -.25 | .52 | .37 |
| R4 | -.45 | .34 | .09 |
| R5 | -.15 | .36 | .45 |
| R6 | -.36 | .45 | .10 |
| R7 | -.40 | .20 | .11 |
| R8 | -.60 | .08 | .03 |
| S1 | .47 | .46 | .15 |
| S2 | .47 | .48 | .15 |
| S3 | .70 | .45 | .14 |
| S4 | -.07 | .30 | .57 |
| S5 | .47 | .39 | .26 |
| S6 | .14 | .48 | .27 |
| S7 | .61 | .52 | .14 |
| S8 | .69 | .40 | .19 |

^a Reference Configuration = Two-dimensional representation of original version of Post-Critical Belief Scale in Study 1

Table 3.

Component Loadings in Study 3 for the Revised Version of the Post-Critical Belief Scale with Three Components After Orthogonal Procrustes Rotation to the Reference Configuration^a

| Item | C1 | C2 | C3 |
|------|------|------|-----|
| O2 | .54 | -.16 | .15 |
| O3 | .44 | -.29 | .06 |
| O4 | .27 | -.46 | .40 |
| O5 | .61 | -.03 | .31 |
| O6 | .27 | -.46 | .26 |
| O7 | .22 | -.45 | .25 |
| O8 | .20 | -.55 | .22 |
| O9 | .62 | .07 | .22 |
| E2 | -.54 | -.29 | .22 |
| E3 | -.52 | -.22 | .35 |
| E6 | -.34 | -.07 | .28 |
| E7 | -.54 | -.41 | .14 |
| E8 | -.43 | -.58 | .17 |
| E9 | -.59 | -.19 | .32 |
| E10 | -.18 | -.28 | .54 |
| E11 | -.25 | -.36 | .32 |
| E12 | -.43 | .04 | .31 |
| R1 | -.25 | .32 | .33 |
| R2 | -.27 | .29 | .27 |
| R3 | -.21 | .46 | .28 |
| R4 | -.12 | .42 | .26 |
| R5 | -.19 | .39 | .34 |
| R6 | -.19 | .53 | .18 |
| R7 | .25 | .31 | .25 |
| R8 | -.41 | .20 | .15 |
| S1 | .53 | .41 | .20 |
| S2 | .42 | .33 | .11 |
| S3 | .55 | .56 | .16 |
| S4 | .11 | .38 | .25 |
| S5 | .64 | .27 | .18 |
| S6 | .35 | .46 | .19 |
| S7 | .47 | .57 | .06 |
| S8 | .69 | .18 | .12 |

^a Reference Configuration = Two-dimensional representation of original version of Post-Critical Belief Scale in Study 1

Figure 1. Wulff's (1991; 1997) diagram of approaches to religion

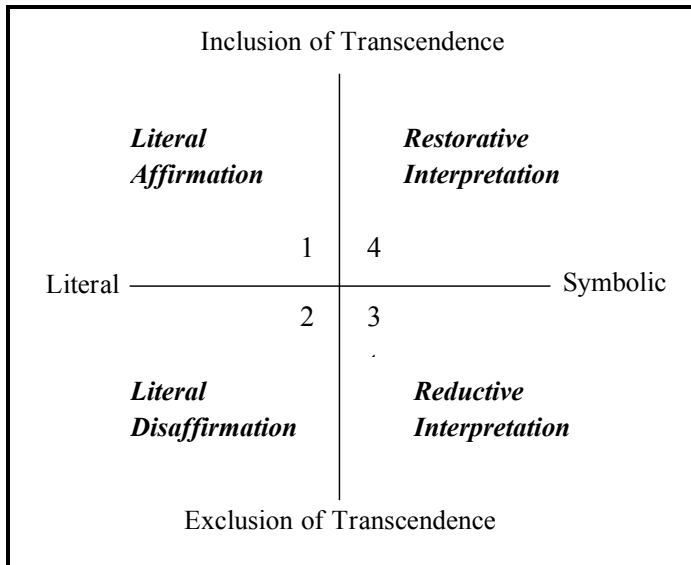


Figure 2. Two-dimensional configuration of the 24 Post-Critical Belief items (study 1)

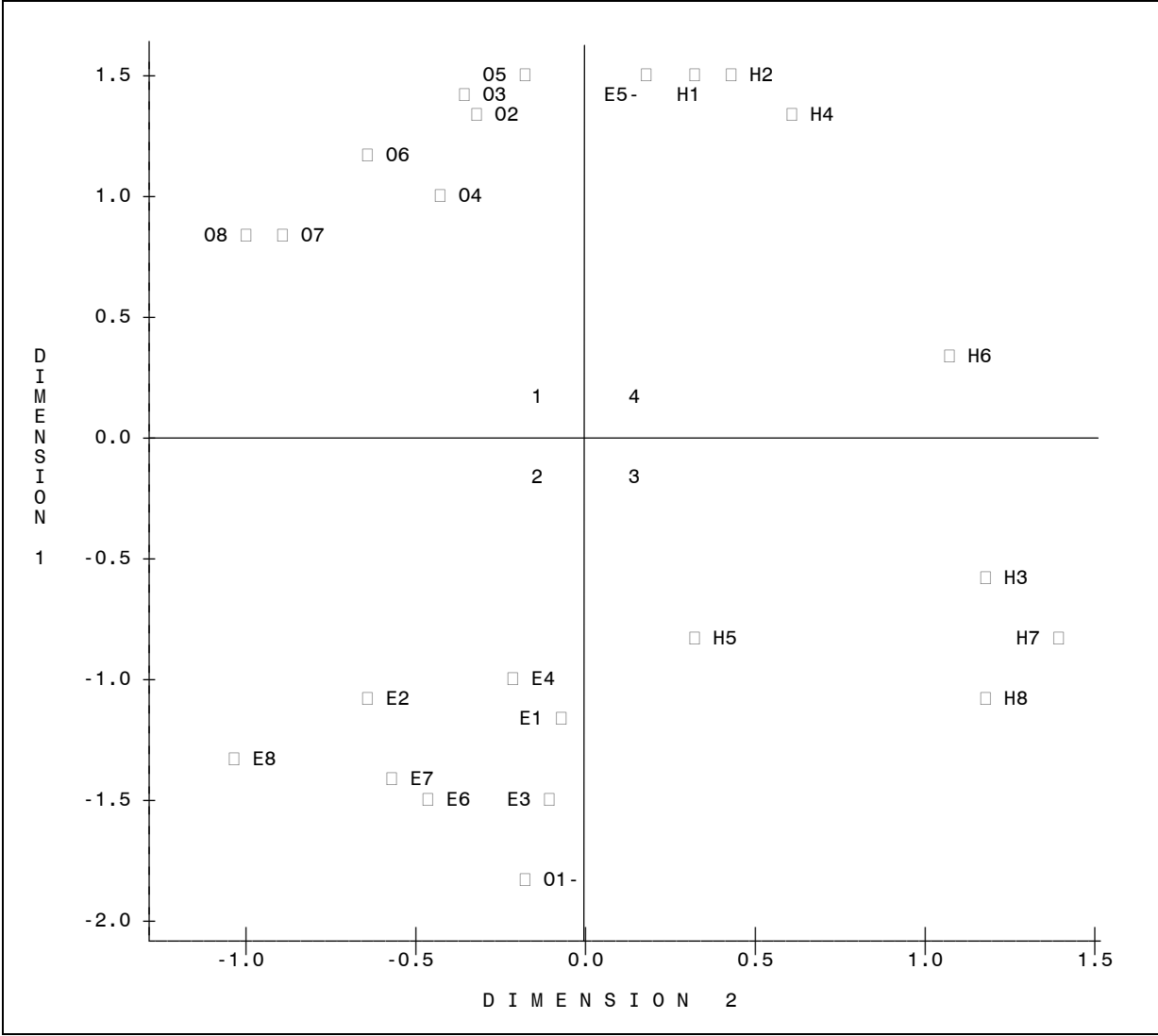


Figure 3. Two-dimensional configuration of the 33 Post-Critical Belief items (study 2)

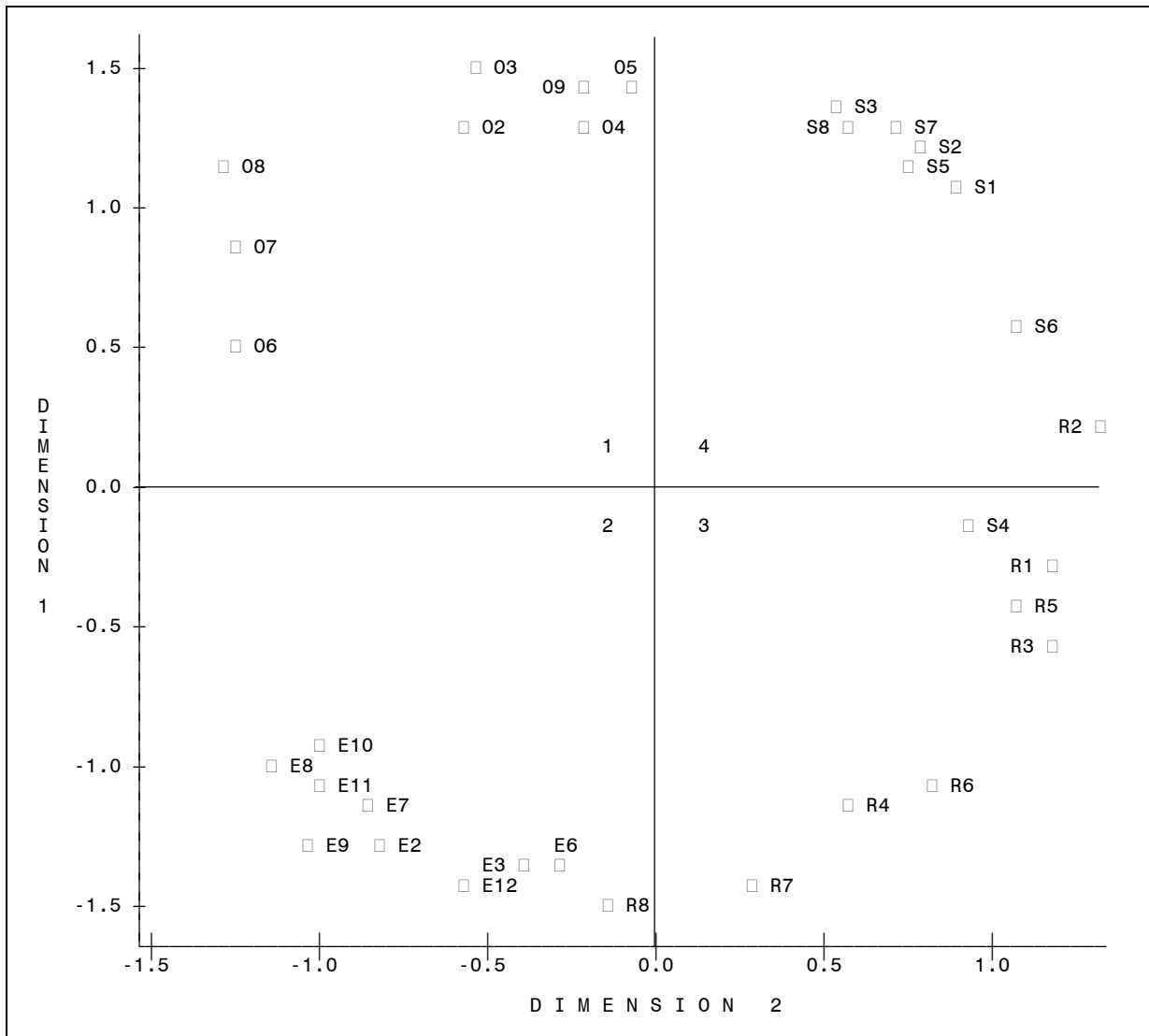


Figure 4. Two-dimensional configuration of the 33 Post-Critical Belief items (study 3)

