

Vivisecting the religious mind: religiosity and motivated social cognition

BART DURIEZ

Department of Psychology, K.U. Leuven, Belgium

ABSTRACT *The relation between motivated social cognition and the religiosity dimensions, which Wulff (1991, 1997) described (Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic), was investigated in a Flemish speaking Belgian student sample (N=330). The Need for Closure Scale (NFC, Webster & Kruglanski, 1994) was used to measure motivated social cognition and the Post-Critical Belief Scale (Duriez et al., 2000) was used to measure Wulff's religiosity dimensions. Although NFC was expected to relate to the Literal vs. Symbolic dimension only, results also revealed a relation between NFC and the Exclusion vs. Inclusion of Transcendence dimension. However, whereas the former relationship is due to the NFC facets, Discomfort with Ambiguity and Closed-Mindedness, the latter relation can be attributed to the facets, Order and Structure and Predictability. Results obtained in a second Flemish speaking Belgian student sample (N=392) confirm these findings. Thus, apparently, whereas religious belief as such seems to be associated with a preference for order and structure as well as predictability, it is those who deal with religious content in a literal way who are incapable of dealing with alternative opinions.*

Kruglanski (1989) argued that knowledge, beliefs and attitudes are arrived at through the process of a motivated search for information. A central construct in this theory is the need for nonspecific cognitive closure, which refers to the desire for any firm belief on a given topic, as opposed to further ambiguity. Though need for closure may vary as a function of the situation (e.g., Kruglanski & Webster, 1991; Kruglanski *et al.*, 1993), it also represents a dimension of stable individual differences (Webster & Kruglanski, 1994). According to Kruglanski (1989), the need for closure might spring from various sources. In particular, five facets are assumed to represent the universe of the construct (Webster & Kruglanski, 1994). Persons with a high need for closure would (1) desire order and structure in their lives, (2) prefer predictable situations, (3) experience a desire to reach closure, which is reflected in the decisiveness of judgements and choices, (4) experience ambiguous situations devoid of closure as aversive and (5) be unwilling to have

Correspondence to: Bart Duriez, Department of Psychology, K.U. Leuven, Tiensestraat 102, B-3000 Leuven, Belgium. E-mail: Bart.Duriez@psy.kuleuven.ac.be

one's knowledge and beliefs confronted and hence rendered insecure by inconsistent evidence or alternative opinions. Thus, some people may desire closure because they value ordered environments, whereas others may seek closure out of a concern for predictability, decisiveness, ambiguity-avoidance or sticking to their own knowledge, belief or opinion. Of course, closure may be desired for more than one reason. Hence, the different facets are considered additive in their impact on the total need for closure (Kruglanski *et al.*, 1997). Note that, although Kruglanski and his colleagues treat intolerance for ambiguity and closed-mindedness (respectively the fourth and the fifth facet of the need for closure) as motivational constructs, psychological theorizing traditionally framed these concepts in terms of cognitive styles (e.g., Sorrentino & Short, 1986; Rokeach, 1960). This point of view of Kruglanski and his colleagues is largely in line with the theory of the authoritarian personality (Adorno *et al.*, 1950), which depicts rigidity as motivated by psychodynamic defences (Kruglanski & Webster, 1996).

Previous research suggests that at least some of the need for closure facets and related constructs are positively related to religiosity. In this respect, no matter how it was measured, religiosity has been related to intolerance of ambiguity (Budner, 1962; Feather, 1964; Hassan & Khalique, 1981; Lansky & Pihl, 1976; Sinha & Hassan, 1975), dogmatism (Di Giuseppe, 1971; Hoge & Carroll, 1973; Kilpatrick *et al.*, 1970; Paloutzian *et al.*, 1978; Parker, 1991; Raschke, 1973; Swindell & L'Abate, 1970; Thompson, 1974; Wahrman, 1981; Wilson, 1985) and rigidity (Ahmad, 1973; Hassan & Khalique, 1981). However, as Maltby (1998) noted, these relations might not be very pronounced. Some studies even suggest that religiosity is independent of intolerance of ambiguity, dogmatism and rigidity (Eckhardt & Newcombe, 1969; Francis, 1997). Some studies also seem to suggest that the way in which religion is perceived and treated might be more important than religiosity as such. Kaboe (1974) found that dogmatism was related to extrinsic but not to intrinsic religiosity (Allport & Ross, 1967). Feather (1967) did find a relation between religious affiliation and intolerance of ambiguity and dogmatism, but this relation was obscured by the kind of religious affiliation, with members of fundamentalist groups obtaining higher intolerance of ambiguity and dogmatism scores than members of liberal religious groups (cf. Glass, 1971). In a similar vein, Stanley (1963) argued that it is fundamentalism that represents the religious manifestation of the closed mind, and Pargament *et al.* (1985) argued that churches may selectively attract and keep members with and/or shape members towards varying levels of tolerance of ambiguity.

The present study aims to clarify whether and how need for closure relates to religiosity. In this respect, Wulff (1991, 1997) recently provided an interesting perspective on religiosity. According to Wulff (1991, 1997), all possible attitudes to religion can be summarized along two dimensions. The Exclusion vs. Inclusion of Transcendence dimension specifies whether the objects of religious interest are granted participation in a transcendent reality. The Literal vs. Symbolic dimension indicates whether religious expressions are interpreted literally or

symbolically. In this way, a distinction can be made between the effects of being religious or not (Exclusion vs. Inclusion of Transcendence) and the effects of the way in which religion and religious contents are approached (either in a literal or in a symbolical way). Hence, according to Wulff, one can dogmatically adhere to both atheism and religion. Both can be examples of a rigidity that precludes reality and logic by insisting that one correct idea or belief must prevail. Thus, rather than religion *per se*, dealing with religious contents in a fundamentalist, dogmatic, literal way would constitute the real threat to reason. Hence, need for closure is expected to relate to the Literal vs. Symbolic dimension, rather than to the Exclusion vs. Inclusion of Transcendence dimension.

Method

Participants

In order to be able to check the stability of these relationships, two samples were gathered, respectively in 2001 and 2002. Participants in the first sample were 330 first-year psychology students, ranging in age from 17 to 23 with a mean of 18 (75% were female). Participants in the second sample were 392 first-year psychology students, ranging in age from 17 to 31 with a mean of 18 (80% were female). All participants had Belgian nationality and belonged to the Flemish-speaking part of the country. Participation was obligatory and participants received course credit. Confidentiality and anonymity were guaranteed. All participants having over two missing values on one of the scales included were excluded from further analyses. In total, 5 participants were removed in the first sample and 3 participants were removed in the second sample. For participants that were not removed, missing values were replaced by the mean of the item. In total, only 19 missing values were replaced in the first sample and only 4 missing values were replaced in the second sample.

Measures

As a measure of motivated social cognition, participants completed the Dutch version of the Need for Closure Scale (NFC, Cratylus, 1996; 42 items). The items of this scale were scored on a 5-point Likert scale. Like the original scale (Webster & Kruglanski, 1994), the Dutch version consists of five subscales, each of which assesses a specific facet of need for closure. The Order and Structure (OS) subscale measures the desire for order and structure in life. The Predictability (PR) subscale measures the degree to which predictable situations are preferred. The Decisiveness (DE) subscale measures the speed at which decisions are made and the degree to which one doubts this was the right decision. The Discomfort with Ambiguity (DA) subscale measures the discomfort produced by ambiguity. The Closed-Mindedness (CM) subscale measures the degree to which one is

prepared to have one's knowledge confronted by alternative opinions or inconsistent evidence. However, Cratylus (1996) has argued that the Dutch version of the DA subscale is rather unreliable, and that extending this scale with other items should be considered. For this purpose, Kirton's (1981) Intolerance of Ambiguity Scale was chosen (7 items). Each respondent's aggregate Need for Closure score as well as a score for the subscales were calculated by summing up all relevant items (after reverse scoring the appropriate items) (cf. Webster & Kruglanski, 1994). In both samples, the internal consistency of the DA subscale was improved by substituting four original DA items by Kirton's (1981) items. Estimates of internal consistency (Cronbach Alphas) were 0.81 and 0.80 for OS, 0.83 and 0.79 for PR, 0.71 and 0.80 for DE, 0.60 and 0.58 for DA, 0.60 and 0.55 for CM, and 0.85 and 0.84 for NFC in the first and second sample respectively [1].

As a measure of Wulff's (1991, 1997) religiosity dimensions, participants completed the Post-Critical Belief Scale (Duriez *et al.*, 2000; 33 items), which allows one to disentangle the effects of being religious or not (Exclusion vs. Inclusion of Transcendence) from the way in which religious contents are dealt with (either in a literal or in a symbolical way) (see Fontaine *et al.*, in press). The items were scored on a 7-point Likert scale. As in Fontaine *et al.* (in press), a level of acquiescence estimation was subtracted from the raw scores. A Principal Component Analysis (PCA) was then carried out on these corrected scores. A scree test pointed to a two-componential solution. However, since PCA allows freedom of rotation, the componential structures of different samples cannot be compared straightforwardly. Therefore, this structure was subjected to an orthogonal Procrustes rotation towards the average structure reported by Fontaine *et al.* (in press). In both samples, Tucker's Phi indices were above the rule-of-thumb recommendation of 0.90 provided in the literature (Bentler & Bonett, 1980; Van de Vijver & Leung, 1997) for both components. Hence, these components could be interpreted as Exclusion vs. Inclusion of Transcendence and Literal vs. Symbolic respectively [2].

Results

The relation between the religiosity dimensions and Need for Closure (NFC) and its subscales was investigated by means of bivariate correlations (see Table 1). Results from the first sample suggest that, although both religiosity dimensions relate to NFC, the positive relation between Exclusion vs. Inclusion of Transcendence and NFC stems from the positive relation with Order and Structure and Predictability, whereas the negative relation between Literal vs. Symbolic and NFC is due to the negative relation with both Discomfort with Ambiguity and Closed-Mindedness [3]. Decisiveness was unrelated to both religiosity dimensions. Results from the second sample confirm these results [4].

TABLE 1. Correlations between the religiosity dimensions and need for closure and its subscales

	<i>Exclusion vs. Inclusion</i>		<i>Literal vs. Symbolic</i>	
	<i>Study 1</i>	<i>Study 2</i>	<i>Study 1</i>	<i>Study 2</i>
Need for Closure	.19**	.17**	-.19**	-.17**
Order and Structure	.18**	.17**	-.03	-.05
Predictability	.17**	.17**	-.10	-.10
Decisiveness	.00	-.04	-.10	.03
Discomfort with Ambiguity	.12	.10	-.20***	-.18**
Closed-Mindedness	.10	.08	-.24***	-.29***

* $p < .01$, ** $p < .001$, *** $p < .0001$.

Discussion

According to Neuberg *et al.* (1997), the decisiveness facet measures the seizing process, whereas the other Need for Closure facets measure the freezing process. In line with this reasoning, seizing turns out to be irrelevant when it comes to religious beliefs. In contrast, freezing seems important. Both religiosity dimensions relate to freezing processes, but they differ in the exact processes they relate to. Apparently, people who are more religious, as evinced by higher scores on Exclusion vs. Inclusion of Transcendence, have a higher need for closure than people who are less religious *because* they desire an ordered and predictable environment. This suggests some instrumentality of religion, which is in line with the point of view that religion, by offering a global worldview and a moral program, reduces the complexity of life and creates a psychologically safe environment (Schwartz & Huismans, 1995). In contrast, people who deal with religious contents in a literal way have a higher need for closure than people who deal with religious content in a symbolical way *because* they need to avoid ambiguity or are unwilling to have their beliefs confronted by alternative opinions. Thus, apparently, whereas religious belief as such seems to be associated with a preference for order and structure as well as predictability, it is those who deal with religious content in a literal way who are incapable of dealing with alternative opinions.

Notes

- [1] The mean scores on these scales were 3.20 (SD=0.62) and 3.16 (SD=0.59) for OS, 3.06 (SD=0.65) and 2.99 (SD=0.55) for PR, 2.87 (SD=0.62) and 2.98 (SD=0.70) for DE, 2.99 (SD=0.44) and 3.09 (SD=0.41) for DA, 2.63 (SD=0.47) and 2.52 (SD=0.41) for CM, and 3.02 (SD=0.34) and 3.02 (SD=0.32) for NFC in the first and second sample respectively.
- [2] Due to the statistical methods that are used (in casu the correction for level of acquiescence), the mean score for both religiosity dimensions in any given sample equals zero (SD=1). For details on the use of this scale, readers are referred to Fontaine *et al.* (in press).

- [3] Although the internal consistency of the CM subscale is highly similar to the ones reported by both Cratylus (1996) and Webster and Kruglanski (1994), this internal consistency is rather low. On the one hand, this makes it more difficult to find significant correlations with external variables. On the other hand, this heightens the chance of finding significant correlations that should be attributed to error covariance. However, the stability of the external relationships across both samples included in this study suggests that the observed relations truly exist and are probably underestimated. A similar remark can be made regarding the DA subscale.
- [4] In order to investigate gender effects, multiple regression analyses were carried out in which the relevant religiosity dimension was predicted by gender, the Need for Closure Scale (or one of its subscales), and the interaction between gender and the Need for Closure Scale (or one of its subscales). Results show that, although a significant main effect of gender was found in 3 out of the 24 cases, no interaction effects between gender and the Need for Closure Scale or one of its subscales showed up. Moreover, the correlations that are reported in Table 1 are not affected by gender. When controlling for gender, all of the significantly positive correlations remained significantly positive, all of the significantly negative correlations remained significantly negative, and all non-significant correlations remained significantly negative.

References

- ADORNO, T.W., FRENKEL-BRUNSWIK, E., LEVINSON, D.J. & SANFORD, R.N. (1950). *The Authoritarian Personality*. New York: Harper.
- ALLPORT, G.W. & ROSS, J.M. (1967). Personal religious orientation and prejudice. *Journal of Personality and Social Psychology*, 5, 432–443.
- AHMAD, M.H. (1973). Religiosity as a function of rigidity and anxiety. *Indian Journal of Experimental Psychology*, 7, 49–50.
- BENTLER, P.M. & BONETT, D.G. (1980). Significance tests and goodness-of-fit in the analyses of covariance structures. *Psychological Bulletin*, 88, 588–606.
- BUDNER, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, 30, 29–50.
- CRATYLUS (1996). *Need for Closure (Nederlandse versie)*. Amsterdam: Vrije Universiteit Amsterdam, Vakgroep Sociale Psychologie.
- DI GIUSEPPE, R.A. (1971). Dogmatism correlation with strength of religious conviction. *Psychological Reports*, 28, 64.
- DURIEZ, B., FONTAINE, J.R.J. & HUTSEBAUT, D. (2000). A further elaboration of the Post-Critical Belief Scale: Evidence for the existence of four different approaches to religion in Flanders-Belgium. *Psychologica Belgica*, 40, 153–181.
- ECKHARDT, W. & NEWCOMBE, A.G. (1969). Militarism, personality, and other social attitudes. *Journal of Conflict Resolution*, 13, 210–219.
- FEATHER, N.T. (1964). Acceptance and rejection of arguments in relation to attitude strength, critical ability, and intolerance of inconsistency. *Journal of Abnormal and Social Psychology*, 69, 127–136.
- FEATHER, N.T. (1967). Evaluation of religious and neutral arguments in religious and atheist student groups. *Australian Journal of Psychology*, 19, 3–12.
- FONTAINE, J.R.J., DURIEZ, B., LUYTEN, P. & HUTSEBAUT, D. (in press). The internal structure of the Post-Critical Belief Scale, *Personality and Individual Differences*.
- FRANCIS, L.J. (1997). Personal and social correlates of the 'closed mind' among 16 year old adolescents in England. *Educational Studies*, 23, 429–437.
- GLASS, K.D. (1971). Denominational differences in religious belief, practice, anxiety, and dogmatism. *Religious Education*, 66, 204–206.
- HASSAN, M.K. & KHALIQUE, A. (1981). Religiosity and its correlates in college students. *Journal of Psychological Researches*, 25(3), 129–136.
- HOGUE, D.R. & CARROLL, J.W. (1973). Religiosity and prejudice in northern and southern churches. *Journal for the Scientific Study of Religion*, 12, 181–197.

- KABOE, R.D. (1974). Personality and achievement correlates of intrinsic and extrinsic religious orientations. *Journal of Personality and Social Psychology*, 29, 812–818.
- KILPATRICK, D.G., SUTKER, L.W. & SUTKER, P.B. (1970). Dogmatism, religion, and religiosity, a review and re-evaluation. *Psychological Reports*, 26, 15–22.
- KIRTON, M.J. (1981). A reanalysis of two scales of tolerance of ambiguity. *Journal of Personality Assessment*, 45, 407–414.
- KRUGLANSKI, A.W. (1989). *Lay Epistemic and Human Knowledge: Cognitive and motivational bases*. Plenum: New York.
- KRUGLANSKI, A.W. & WEBSTER, D.M. (1991). Group members' reactions to opinion deviates and conformists at varying degrees of proximity to decision deadline and of environment noise. *Journal of Personality and Social Psychology*, 61, 212–225.
- KRUGLANSKI, A.W. & WEBSTER, D.M. (1996). Motivated closing of the mind: Seizing and Freezing. *Psychological Review*, 103, 263–283.
- KRUGLANSKI, A.W., WEBSTER, D.M. & KLEM, A. (1993). Motivated resistance and openness to persuasion in the presence or absence of prior information. *Journal of Personality and Social Psychology*, 65, 861–876.
- KRUGLANSKI, A.W., ATASH, M.N., DEGRADA, E., MANNETTI, L., PIERRO, A. & WEBSTER, D.M. (1997). Psychological theory testing versus psychometric nay-saying: Comments on Neuberg *et al.*'s (1997) critique on the Need for Closure Scale. *Journal of Personality and Social Psychology*, 73, 1005–1016.
- LANSKY, D. & PIHL, R.O. (1976). Personality correlates of placebo responsivity and religiosity. *Psychological Reports*, 39, 975–982.
- MALTBY, J. (1998). Religious orientation and rigidity. *Journal of Psychology*, 132, 674–676.
- NEUBERG, S.L., JUDICE, T.N. & WEST, S.G. (1997). What the Need for Closure Scale measures and what it does not: Toward differentiating among related epistemic motives. *Journal of Personality and Social Psychology*, 72, 1396–1412.
- PALOUTZIAN, R.F., JACKSON, S.L. & CRANDALL, J.E. (1978). Conversion experience, belief system, and personal and ethical attitudes. *Journal of Psychology and Theology*, 6, 266–275.
- PARGAMENT, K.I., JOHNSON, S.M., ECHEMENDIA, R.J. & SILVERMAN, W.H. (1985). The limits of fit: Examining the implications of person-environment congruence within different religious settings. *Journal of Community Psychology*, 13, 20–30.
- PARKER, R.J. (1991). The relationship between dogmatism, orthodox Christian beliefs, and ethical judgment. *Counseling and Values*, 34, 213–216.
- RASCHKE, V. (1973). Dogmatism and committed and consensual religiosity. *Journal for the Scientific Study of Religion*, 12, 339–344.
- ROKEACH, M. (1960). *The Open and Closed Mind*. New York: Basic Book Inc., Publishers.
- SCHWARTZ, S.H. & HUISMANS, S. (1995). Value priorities and religiosity in four western religions. *Social Psychology Quarterly*, 58, 88–107.
- SINHA, R.R. & HASSAN, M.K. (1975). Some personality correlates of social prejudice. *Journal of Social and Economic Studies*, 3, 225–231.
- SORRENTINO, R.M. & SHORT, J.C. (1986). Uncertainty orientation, motivation and cognition. In: SORRENTINO, R.M. & HIGGINS, E.T. (Eds.) *Handbook of Motivation and Cognition: Foundations of social behavior* (pp. 379–403). New York: Guilford Press.
- STANLEY, G. (1963). Personality and attitude characteristics of fundamentalist theological students. *Australian Journal of Psychology*, 15, 121–123.
- SWINDELL, D.H. & L'ABATE, L. (1970). Religiosity, dogmatism, and repression-sensitization. *Journal for the Scientific Study of Religion*, 9, 249–251.
- THOMPSON, A.D. (1974). Open-mindedness and indiscriminate antireligious orientation. *Journal for the Scientific Study of Religion*, 13, 471–477.
- VAN DE VIJVER, F. & LEUNG, K. (1997). *Methods and Data Analysis for Cross-cultural Research*. Sage: London.
- WAHRMAN, I.S. (1981). The relationship of dogmatism, religious affiliation, and moral judgment development. *Journal of Psychology*, 108, 151–154.

- WEBSTER, D.M. & KRUGLANSKI, W. (1994). Individual differences in Need for Cognitive Closure. *Journal of Personality and Social Psychology*, 67, 1049–1062.
- WILSON, R.W. (1985). Christianity-biased and unbiased dogmatism's relationships to different Christian commitments, including conversion. *High School Journal*, 68, 374–388.
- WULFF, D.M. (1991). *Psychology of Religion: Classic and contemporary views*. Wiley: New York.
- WULFF, D.M. (1997). *Psychology of Religion: Classic & contemporary*. Wiley: New York.