

Cognitive, Affective and Behavioral Correlates of Internalization of Regulations for Religious Activities

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Abstract The main goal of this study was to examine the relationship between different types of extrinsic motivation for religious behaviors as conceptualised within self-determination theory (Ryan & Deci, 2000) and Wulff's (1991) framework of literal versus symbolic approaches of religious contents. Results from a Belgian sample of active believers ($N = 186$) show that the internalization of one's reasons for performing religious behaviors was positively associated with an open, symbolic interpretation of religious belief contents and a stronger adherence to Christian beliefs. Moreover, internalization was also positively related to general well-being and frequency of prayer but unrelated to church attendance. It is concluded that individuals who engage in religious behaviors because of its perceived personal significance will show more cognitive flexibility and open-mindedness towards Christian belief contents, a stronger adherence to this message, higher well-being and more frequent engagement in specific religious behaviors.

Keywords Religious internalization · Self-determination theory · Symbolic belief interpretation

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A great variety of religious beliefs and practices play a significant role throughout most, if not all, cultures. Religious practices can be motivated by very different reasons. For instance, religious activities can be driven by personally endorsed religious values (e.g., compassion, brotherly love, etc.), they can be instigated by threatening guilt feelings or they can be performed to meet external norms and demands. Self-determination theory (Deci & Ryan, 1985a, 2002) distinguishes four types of extrinsic reasons for engaging in (religious) activities as a function of the degree in which they are internalized.

Central in the present research is the question whether and how individuals' reasons for engaging in religious practices are related to the way they approach religious belief contents. Anecdotal evidence and previous theoretical work within the psychology of religion Duriez & Hutsebaut, (*in press*; Wulff, 1991, 1997) suggests that some religious individuals approach religious beliefs in a closed-minded, unreflective and literal manner, thereby rigidly defending themselves against possible intruders and ignoring other religious viewpoints as a meaningful alternative. In contrast, other religious individuals approach belief contents in a more openminded and symbolic way, considering religion as a meaningful but not exclusive framework that provides one's life with a sense of purpose and meaning. The intriguing question we aim to examine in the present research is whether a more internalized regulation of religious activities leads one to approach one's own religion in a symbolic and open manner, thereby leaving room for other interpretations? Conversely, does the open and reflective stance that characterises symbolic believers allow for a better and more anchored integration of regulations for religious activities in one's sense of self? Similarly, are individuals who perform their religious behaviors mainly to avoid feelings of anxiety and guilt more likely to defensively cling onto their own religious truth in

a literal way? Vice versa, does a narrow, literal interpretation complicate the understanding of the personal relevance of religious behavior and, hence, hampers the internalization of regulations for religious practices? Addressing these questions, the present research aimed to bridge the gap between the psychology of religion, that has primarily paid attention to people's different cognitive approaches towards religion and the psychology of motivation in general and self-determination theory in particular.

In addition to focusing on these cognitive outcomes, the present research examined the effects of internalization of reasons for religious activities on adherence to the Christian message; on well-being, which was considered an affective outcome; and on church attendance and prayer frequency, which served as behavioral outcomes. Before presenting the specific hypotheses that guided our research, we begin by discussing self-determination theory in general and how it has been applied to the study of motives for religious behaviors. Different ways of cognitively approaching religious contents are discussed in a second section, and conceptual and empirical links between both theoretical frameworks are proposed in a third section.

Self-determination theory

In earlier motivational research, the question of 'why' a person performs a specific activity was answered by considering the extent to which the activity was intrinsically or extrinsically motivated (Deci, 1975; Lepper, Greene, & Nisbett, 1973). Intrinsic motivation pertains to the engagement in an activity because it is inherently interesting, enjoyable or satisfying. An activity is undertaken simply for its own sake and, hence, does not require any external reinforcements. In contrast, extrinsic motivation pertains to performing an activity to obtain an outcome that is separable from the activity itself. In self-determination theory (SDT), different types of extrinsic motivation are distinguished depending on the degree to which the regulation of the extrinsically motivated behavior has been internalized. Within SDT, internalization refers to people's inherently active tendencies of "taking in," assimilating and integrating originally external reasons for certain behaviors into a coherent and unifying sense of self (Deci & Ryan, 1985a, 1991; Ryan, 1993). When an external reason or regulation is taken in and fully accepted as one's own, people will perform the behavior with a sense of psychological freedom and volition, as the behavior spontaneously emanates from their sense of self (Ryan & Deci, 2000). Because this internalization can be more or less successful, four different types of extrinsic motivation have been distinguished (Ryan & Connell, 1989).

A behavior is externally regulated when it is performed to meet overtly external contingencies, such as other peo-

ple's expectations, the promise of reward, or the threat of punishment. The reason for performing the behavior has not been internalized at all, and the enactment of the behavior is typically accompanied by a sense of coercion or pressure. Because of their clear lack of volition and autonomy, these behaviors are said to be characterised by an external perceived locus of causality (deCharms, 1968). For example, adolescents may go to church every weekend because their parents oblige them to do so.

A religious activity might also be regulated by internal (instead of external) pressures, as when one feels that one is "supposed to" perform the behavior. In this case, the regulation is said to be introjected, implying that the behavior is motivated by threatening internal compulsions, such as feelings of shame, guilt, or self-esteem contingencies (Deci & Ryan, 1991). For instance, a person who prays daily to avoid feeling guilty is said to display introjected regulation. Due to the internal pressures, one has the feeling that one has no choice than to engage in the activity. For this reason, introjected regulation is—as is the case for external regulation—said to be characterized by an external perceived locus of causality. Introjected regulation differs from external regulation because the behavioral regulation is now inside the person. However, the regulation has not been accepted by the self yet and therefore, introjection constitutes partial internalization.

A fuller form of internalization is achieved when a person consciously identifies with the importance or value of an activity. A person can go to church because (s)he attaches great personal importance to this activity. The behavior is now regulated by personally endorsed values or commitments, so that the behavior is enacted in a more willing and autonomous manner. For this reason, identified regulation is characterized by an internal perceived locus of causality (deCharms, 1968; Ryan & Deci, 2003). However, the regulation of an activity will only be completely internalized when it is integrated into one's coherent sense of self, meaning that it is brought into congruence with other values, goals or ideas that the person endorses. Behavioral regulations are then not only accepted for their personal significance, but also because they fit with one's coherent self-defining structure. In the case of an integrated regulation, religious behaviors will fully emanate from and reflect one's core sense of self (Assor, Cohen-Malayev, Kaplan, & Friedman, 2005). When a person donates to church because he strongly values the religious message of brotherly love, this value would be integrated when it is in accordance with other personally endorsed values and is shown in other instances such as being empathic towards other people.

In sum, four different types of extrinsic motivation are distinguished according to the degree to which the behavioral regulation has been internalized, with external regulation representing a complete lack of internalization and

integrated regulation representing full internalization. The more the regulation of an activity is internalized, the more the activity will be enacted in a psychologically free and volitional manner (Deci & Ryan, 2000; Ryan & Connell, 1989). Enacting an activity for well-internalized or autonomous reasons has been found to predict a variety of positive outcomes, including physical and psychological well-being (e.g., Soenens & Vansteenkiste, 2005; Vansteenkiste, Lens, Dewitte, De Witte, & Deci, 2004), effective performance (e.g., Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004) and behavioral persistence (e.g., Vallerand, Fortier, & Guay, 1997; Vansteenkiste, Simons, Soenens, & Lens, 2004). In contrast, enacting an activity for externally or internally controlled reasons has been found to predict impaired functioning and ill-being (see Deci & Ryan, 2000 for reviews). These findings have been reported in a broad variety of domains, age groups and cultures, testifying to the generalizability of SDT.

Only few SDT-based studies have been conducted in the domain of religious behaviors as well (see Neyrinck, Lens, & Vansteenkiste, 2005 for a more extensive overview). O'Connor and Vallerand (1990) reported that non-self-determined motivation (e.g., “because I should”) was positively related to depression, and negatively predicted life satisfaction, self-esteem, and sense of meaning in life, whereas the opposite pattern emerged for self-determined motivation (e.g., “for the pleasure of doing it”). A subsequent study by Ryan, Rigby, and King (1993) focused on introjected and identified regulation, thereby showing that an introjected regulation was positively related to ill-being, as indexed by anxiety, depression, and somatic complaints, and negatively predicted well-being, as indexed by self-esteem, identity integration and self-actualisation, whereas the opposite pattern of results emerged for identified religiosity. Furthermore, identified regulation was found to yield positive effects on behavioral outcomes, such as church-attendance and the amount of financial donation to churches (Baard, 2002; Ryan et al., 1993; Strahan & Craig, 1995). Finally, in a recent study among Jewish individuals, Assor et al. (2005) report positive relations between an internalized regulation and the performance of typical Jewish-orthodox practices, such as keeping the sabbath and keeping kosher. In short, these studies suggest that a more internalized regulation of religious practices has a significant positive effect on domain-relevant behaviors and general psychological well-being (see also Sheldon, 2006 for a recent comparison of religious motivations in Catholic and Protestant samples).

However, when studying religion, SDT researchers failed to distinguish between qualitatively different ways of approaching contents of religious belief. In this regard, Ryan, et al. (1993, p. 594) raised a self-critique when they wrote that they failed “. . . to distinguish between dogmatic and authentic (reflective, self-critical) religiosity.” Dogmatic religiosity

can be understood as a literal, narrow, closed-minded way of approaching belief contents, whereas authentic religiosity can be understood as a more open-minded, symbolic way of dealing with religious symbols and messages (Duriez & Hutsebaut, *in press*). The main goal of the present research was to explore the links between the internalization of regulations of religious activities and individuals' cognitive styles of approaching Christian belief contents, as they are conceptualized within Wulff's (1991, 1997) framework.

Various approaches towards religion

Wulff (1991, 1997) provided an interesting new perspective on religiosity. According to Wulff, all possible attitudes to religion can be located in a two-dimensional space with two orthogonal bipolar dimensions. The vertical axis in this space, the *Exclusion* versus *Inclusion of Transcendence* dimension, refers to the degree to which a transcendental reality is accepted or not. The horizontal axis, the *Literal* versus *Symbolic* dimension, indicates whether religious contents are interpreted literally or symbolically. Building further on Wulff's framework, Hutsebaut and colleagues (Duriez, Soenens, & Hutsebaut, 2005; Fontaine, Duriez, Luyten, & Hutsebaut, 2003) developed the Post-Critical Belief Scale (PCBS) to measure these different approaches towards religion within a Christian context. The dimension *Exclusion* versus *Inclusion of Transcendence* refers to the degree to which one adheres to the Roman Catholic message, and hence to the degree to which one believes in a transcendental realm as defined within Roman Catholicism. The *literal* versus *symbolic* dimension assesses one's literal versus symbolic interpretation of this message. The Christian message is literally approached when it is adhered to in a rigid, unreflective and closed-minded fashion. A symbolic approach means that religious beliefs are adopted in an open and flexible way and that one is able to consider and assimilate other ideas as well.

Research has shown that literal thinkers are less prepared to have their knowledge confronted by alternative opinions and that they are less able to cope with (feelings of discomfort produced by) ambiguity (Duriez, 2003). Furthermore, literal thinking was found to be positively related with right-wing authoritarianism (RWA; Duriez & Van Hiel, 2002; Duriez, Van Hiel, & Kossowska, 2002), which reflects the adherence to conventional norms and values, an uncritical subjection to authority, and feelings of aggression towards norm violators. In a more positive vein, Duriez, Soenens, and Beyers (2004) showed that symbolic thinking was positively predicted by openness to experience, one of the Big Five personality traits that measures an open structure of consciousness and the endorsement of less conventional and more liberal values (McCrae, 1996). Moreover, the relation between openness

and the literal versus symbolic dimension was mediated by an information oriented identity style (Berzonsky, 1990), which taps an open attitude of active gathering, processing and utilizing identity relevant information. In sum, these various studies point out that individuals who interpret religious contents in a symbolic instead of literal fashion are less likely to be close minded and conservative, and are more open to new (religious) information.

Present research

The general aim of the present research was to examine the cognitive, affective, and behavioral correlates of an internalized regulation of religious practices. We examined the following five specific issues.

First, we hypothesized that the more internalized the regulation of religious practices, the more positively it will be associated with a symbolic rather than a literal interpretation of religious belief contents (Hypothesis 1). Such a prediction is consistent with Assor et al.'s (2005) suggestion that individuals who perform religious behaviors out of internalized reasons have the “ability to live with some inconsistencies” (p. 118), so that religious belief contents and practices are adopted in a flexible and open-minded manner. This flexibility and open-mindedness leads one to recognize that neither they themselves nor religious authorities have found or might ever be capable of finding a satisfactory answer to certain religious and existential questions (Assor et al., 2005). In contrast, when religious individuals have poorly internalized their reasons for religious practices, they are likely to adopt a more radical and rigid perspective towards religious issues and conflicts. The questioning of one's religious approach is likely to be interpreted as a threat to one's self-worth. Such conflictual experiences are likely to be resolved by defensively denying other viewpoints and strictly adhering to one's own belief contents. In other words, one's own belief contents are interpreted in a literal manner, that is, they are considered as the ultimate truth.

This reasoning fits with Hodgins' and Knee's (2002) general point that autonomously functioning individuals are likely to approach socially relevant information, internal emotions and other people in an open and honest fashion, whereas controlled oriented individuals are more vulnerable to function defensively. In line with this, an autonomous causality orientation related positively to an informational identity style, whereas a controlled causality orientation positively predicted a normative identity style and was associated with a rigid adherence of social conventions (Soenens, Berzonsky, Vansteenkiste, Beyers, & Goossens, 2005; Neyrinck, Lens, & Vansteenkiste, 2006). Notably, the predicted positive association between an internalized regulation of religious practices and symbolic vs. literal approach

of belief contents can also be interpreted in the opposite direction. An increased ability to deal with religious contents in an open-minded and flexible manner is likely to enable one to better grasp its personal relevance, enhancing the internalized regulation of religious behaviors. On the other hand, a one-sided literal interpretation of religious beliefs can make regulations for religious behaviors more difficult to digest, allowing only to introject instead of fully integrating them.

Second, when religious behaviors are autonomously adopted, one is more likely to strongly adhere to belief contents and values. In contrast, a poorly internalized enactment of religious practices would only result in a superficial endorsement of religion (Assor et al., 2005). In the latter case, religious behaviors are only performed in function of self- and others' approval, the imagined “shoulds” and the avoidance of guilt and shame instead of being personally adopted (Deci & Ryan, 1991). Hence, we predict that the more internalized the regulation of belief practices, the more positively it will predict the adherence to religion, which was assessed with the dimension (exclusion vs.) inclusion of transcendence of the PCBS (Hypothesis 2).

Third, we predicted that the more internalized the regulation of religious practices, the more it will promote religious behaviors such as prayer frequency and church attendance (Hypothesis 3). When people are enacting religious practices willingly, they are more likely to engage in core Roman Catholic religious behaviors such as praying and church attendance compared to when they feel pressured to enact religious practices. Initial evidence for this hypothesis in the domain of religion has been reported by Assor et al. (2005) in a group of Jewish participants and by Ryan et al. (1993) in a group of American Christians, but evidence for this hypothesis among Belgian Roman Catholic individuals is still lacking.

Fourth, we expected that a relatively more internalized regulation of one's religious practices would be more strongly positively related to well-being (Hypothesis 4), as evidenced in both hedonic (i.e., self-esteem and life satisfaction) and eudaimonic (i.e., self-actualization and identity integration) indicators of well-being (Ryan & Deci, 2000; Waterman, 1993). This prediction is derived from the SDT assumption that a more internalized regulation of one's activities is more consistent with basic need satisfaction, which functions as the crucial nutriment for one's well-being (Ryan, 1995). O'Connor and Vallerand (1990) and Ryan et al. (1993) provided evidence for this hypothesis among Christian participants in the US. The present study aimed to replicate these findings in a Belgian context.

Finally, we examined whether the predicted relationships would hold after controlling for individuals' general tendencies to act in an autonomous or controlling fashion across life-domains, better known under the label of autonomous and controlled causality orientations (Deci & Ryan, 1985b).

Table 1 Factorloadings of the religious internalization items after principal components analysis with promax-rotation

Regulation		Factor 1	Factor 2	Factor 3
Integrated	Because it connects well with what I want in life.	.80	.02	.05
	Because it is in harmony with my way of life.	.82	–.12	.04
	Because it corresponds well with how I approach other things in life.	.72	.07	.04
	Because it is in accordance with my vision of life.	.85	.00	.17
Identified	Because it is a meaningful activity to me.	.69	–.15	–.03
	Because I find it personally important.	.45	.11	–.40
	Because I find it a personally valuable attitude.	.67	–.02	.00
	Because I fully endorse it.	.60	.13	–.33
Introjected	Because I would feel bad if I don't.	.02	.81	–.39
	Because I would feel guilty if I don't.	–.13	.87	–.13
	Because I want others to see me as a worthy person.	.17	.46	.38
	Because I would feel ashamed if I didn't do it.	.08	.60	.19
External	Because I feel I'm expected to do so.	–.06	.72	.26
	Because I'm supposed to do so.	–.04	.58	.41
	Because I feel pushed by others.	.01	.11	.74
	Because others put me under pressure to do so.	.02	.01	.83

Controlling for general causality orientations allows us to directly attribute the obtained effects to the domain-specific regulations for religious behaviors (see Black & Deci, 2000 for a similar procedure).

Method

Participants and procedure

A total of 186 people interested in or committed to Roman Catholic religion participated in the study. Participants included 29 people attending a seminar on psychology of religion, 59 teachers of religion, 31 people attending preparatory activities of the World Youth Days in Keulen (Germany) and 67 members of several religious (youth) groups in the surroundings of Leuven (Belgium). Seventy-four men (40%) and 110 women (60%) participated in the study, two participants failed to disclose their gender. The average age of the participants was 43 years ($SD = 17$); 23% were 25 years or younger, 16% were between 26 and 40 years old, 50% had an age between 40 and 65 years old, and 11% were between 66 and 80 years old. Seven participants failed to disclose their age.

Measures

All measures were presented in Dutch, the participants' mother tongue. Most scales were 5-point Likert scales ranging from 1 (*completely disagree*) to 5 (*completely agree*). Exceptions will be indicated.

Religious internalization scale

In contrast to Ryan et al. (1993), who assessed participants' motives for a priori defined activities such as "turning to God," "praying," "attending church," and "sharing faith with others," we asked participants to personally generate a religious activity perceived as most helpful in expressing their belief attitude. We used this procedure because in a secularized society as Flanders, Belgium (Dobbelaere & Voyé, 2000), many individuals are likely to identify themselves as being religious without necessarily engaging in religious activities such as the ones defined by Ryan et al. (1993). Examples of activities listed by the participants include "reading and discussing religious literature," "following lectures or courses on religious themes," "going to church," "teaching religion," and "living life with full attention." After generating this activity, participants' different kinds of regulations (integrated, identified, introjected and external) for performing the religious activity were assessed (see Table 1). The items were adapted from existing measures of self-regulation (e.g., Ryan & Connell, 1989) and the Christian Religious Internalization Scale (Ryan et al., 1993). Principal component analysis (with promax rotation) was performed on these 16 belief regulation items. Contrary to an expected four-factor solution, three factors had an eigenvalue that exceeded 1, explaining 58 percent of the variance. The items representing integrated and identified belief regulation loaded together on factor 1 and introjected and external regulation represented factors 2 and 3 (see Table 1). Contrary to our expectations, two items (i.e., "Because I feel I'm expected to do so" and "Because I'm supposed to do so") did not load on the factor external regulation. Interestingly, those two items did not contain any reference

to an external agent, who might be forcing the person to engage in the religious activity, as this was the case for the two external regulation items (i.e., “Because I feel pressured by others”; “Because others put me under pressure to do so”). In contrast, the former two items seemed to reflect an internal pressure to engage in the activity, as they both loaded significantly on the introjection factor. One of them had a cross-loading and was therefore dropped from further analyses. In addition, the item “Because I find it personally important” loaded $-.40$ on the third (external) factor, and was also dropped. Accordingly, three subscales were created: the identified (seven items, Cronbach’s $\alpha = .86$), introjected (five items, Cronbach’s $\alpha = .77$) and external regulation for performing a religious activity (two items, Cronbach’s $\alpha = .72$).

The three scales were theoretically supposed to form a quasi-simplex pattern (Guttman, 1969), where scales more adjacent to each other on the continuum should correlate positively, while scales more distant to each other should be less (or negatively) correlated. This quasi-simplex pattern was indeed observed. Specifically, identified regulation was positively related to introjected regulation ($r = .17$, $p < .05$), whereas it was negatively related to external regulation ($r = -.24$, $p < .01$); introjected and external were positively correlated ($r = .34$, $p < .001$). This pattern of correlations provides evidence for the internal validity of the scale and justifies the creation of a summarizing relative autonomy index (Vallerand, Guay, & Fortier, 1997). To create such index, each self-regulatory style is assigned a weight depending on the placement on the continuum of autonomy. In so doing, identified, introjected and external regulation were weighted $+3$, -1 and -2 respectively; these weighted scores were summed to create an overall composite score. A similar weighting procedure has been used in numerous previous studies (e.g., Soenens & Vansteenkiste, 2005; Vansteenkiste, Zhou, Lens, & Soenens, 2005). Because these studies tapped people’s intrinsic motivation (i.e., enjoyment & interest) or amotivation (i.e., lack of motivation) for performing the activity, which are considered the most and least self-determined types of motivation respectively, the created composite score in these studies was labeled the relative autonomy index. However, because the present study only assessed different types of extrinsic motivation that vary in their degree of internalization, it seems conceptually more appropriate to label the currently created composite score the *relative internalization index* (RII).¹

¹ Because the different kinds of regulations (i.e., intrinsic, identified, introjected, and external) are supposed to lie on one continuum of self-determination, the weights that are assigned to these regulations (i.e., $+2$, $+1$, -1 , and -2 , respectively) when creating a relative autonomy index in empirical research are balanced. Such a weighting procedure guarantees that the sum of the assigned weights is zero and

Post-critical belief scale (PCBS)

Participants completed the shortened (18-item) Post-Critical Belief scale (Duriez, Soenens, & Hutsebaut, 2005) measuring four approaches towards religion: Literal Inclusion (five items; e.g., “I think that Bible stories should be taken literally, as they are written”); Symbolic Inclusion (four items; e.g., “Despite the high number of injustices Christianity has caused people, the original message of Christ is still valuable to me”); Literal Exclusion (five items; e.g., “Faith is an expression of a weak personality”); and Symbolic Exclusion (four items; e.g., “I am well aware my ideology is only one possibility among so many others”). All items were scored on a 7-point Likert scale ranging from 1 (*completely disagree*) to 7 (*completely agree*). To control for individual differences in acquiescence, the average score over all items was subtracted from the raw scores (for a detailed description of this procedure, see Fontaine et al., 2003). A Principal Component Analysis (PCA) was then carried out on the corrected scores. A scree test pointed to a two-component solution, explaining 42 percent of the variance. After orthogonal Procrustes rotation towards an estimated average structure that was computed across 16 samples (Fontaine et al., 2003), these two components could be interpreted in terms of (Exclusion versus) Inclusion of Transcendence and (Literal versus) Symbolic Approach. Tucker’s Phi indices were well above $.90$ for both components, suggesting good congruence between the sample specific and the average configuration (Bentler & Bonett, 1980; Van de Vijver & Leung, 1997). A positive score on (Exclusion versus) Inclusion of Transcendence indicates a tendency to include transcendence, that is to adhere to the Roman Catholic message. A positive (Literal versus) Symbolic score indicates the tendency to process religious contents in a symbolic fashion.

Self-reported religious behaviors

The self-reported frequency of two specific religious behaviors were assessed. Frequency of prayer was measured

that autonomous and controlled types of regulation are equally weighted in the creation of a relative autonomy index. Because principal component analysis in the present study yielded only three factors, we were forced to assign a stronger weight (i.e., $+3$) to identified regulation to make sure that the autonomous (i.e., identified) and controlled (i.e., introjected & external) regulations were equally weighted in creating the RII and that the sum of the weights would be zero. However, by assigning such a strong positive weight to identified regulation, the RII was strongly influenced by identified regulation. To overcome this problem, we created a new RII by assigning a weight of $+2$ to identified, -1 to introjected and -2 to external regulation. The results of this newly created RII stayed, however, virtually unchanged; the only changes were that this new RII index was marginally related with Satisfaction with Life ($r = .13$, $p = .08$)

Table 2 Means, standard deviations and correlations among study variables

	M	SD	RII	Identified regulation	Introjected regulation	External regulation
1. Symbolic approach	0	1	.22*	.30***	.06	-.07
2. Inclusion of transcendence	0	1	.31***	.46***	.16*	-.09
3. Self-reported behavior						
Frequency of prayer	3.32	1.06	.26***	.35***	.18*	-.15*
Church-attendance	3.63	1.06	.12	.27***	.29***	-.06
4. Well-being						
Self-actualization index	3.55	.57	.43***	.30***	-.20**	-.33***
Identity integration	3.39	.60	.22**	.25***	.06	-.15*
Global self-esteem	3.29	.59	.21**	.24**	.02	-.11
Life satisfaction	3.76	.64	.17*	.24**	.16*	-.10
Well-being composite	0.00	.82	.31***	.31***	.02	-.21**

Note. RII = Relative Internalization Index.

* $p < .05$; ** $p < .01$; *** $p < .001$.

with the question “How often do you pray?” (1 = never to 5 = very often) and church-attendance was framed in “How often do you participate in religious worship?” (1 = never to 5 = very often).

Well-being measures

Four measures were used to tap general well-being of the respondents. Principal components analysis on each of the four separate measures clearly pointed to a one-factor solution. The Self-Actualization Index (SAI, Jones, & Crandall, 1986) is a 15-item self-report measure designed to assess one’s ability to fulfill one’s potential. Sample items include ‘It is better to be yourself than to be popular.’ Six items, which had a factor loading lower than .30, were deleted from further analysis. Cronbach’s alpha of the resulting nine item SAI-scale was .74. Furthermore, all participants completed the subscales Identity Integration (IDN) and Global Self-esteem (GSE) of the Multidimensional Self-Esteem Inventory (O’Brien & Epstein, 1987). Each scale consists of 10 items scored on a 5-point Likert scale assessing the degree of agreement to (see above) or frequency with which an item applies to a respondent (1 = never to 5 = very often). Sample items include “I nearly always have a highly positive opinion of myself” (GSE) and ‘How often do you feel very certain about what you want out of life?’ (IDN). Cronbach’s alpha was .80 for the IDN subscale and .87 for the GSE subscale. As a fourth measure of well-being we used the five-item Satisfaction With Life Scale (SWLS, Arrindell, Meeuwesen, & Huyse, 1991; Diener, Emmons, Larsen, & Griffin, 1985). An example item reads: ‘In most ways my life is close to my ideal.’ Cronbach’s alpha was .79. All four well-being measures correlated significantly positive at the .001 level, ranging from .39 to .75. A higher order PCA on the four standardized subscales showed these scales to load

on one component (loadings from .77 to .91), explaining 69% of the variance. This higher order component justifies averaging the four scales into a composite well-being score (alpha = .85).

Causality orientations

Participants’ general autonomous and controlled orientations were assessed using the General Causality Orientations Scale (GCOS; Deci & Ryan, 1985b), which consists of 12 vignettes briefly describing specific situations (e.g., considerations that you make when you are embarking on a new career). Each vignette or situation is accompanied by two responses, each of which reflects one of two causality orientations: the autonomous orientation (e.g., “how interested you are in that kind of work”) and the controlled orientation (e.g., “whether there are good possibilities for advancement”). Cronbach’s Alphas were .70 for the Autonomous Orientation subscale and .75 for the Controlled Orientation subscale.

Results

Background variables

Independent samples *t*-tests pointed to three gender differences. In comparison to women, men tended to score higher on introjected belief regulation (men: $M = 2.34$, $SD = .91$; women: $M = 2.10$, $SD = .79$; $t(181) = 2.2$, $p = .05$), higher on general control orientation (men: $M = 2.66$, $SD = .59$; women: $M = 2.48$, $SD = .66$; $t(174) = 1.92$, $p = .06$) and lower on general autonomous orientation (men: $M = 4.09$, $SD = .38$; women: $M = 4.25$, $SD = .32$; $t(179) = -2.99$, $p < .01$). The only measures correlating with age were symbolic approach of religion ($r = -.15$, $p = .05$), SAI ($r = .16$, $p < .05$) and IDN ($r = .22$, $p < .01$).

Correlations

To examine our main hypotheses, we performed correlational analyses between the RII and the three belief regulations and various outcomes. These results can be found in Table 2. In line with our first hypothesis, the RII was positively correlated with a symbolic approach of religion. When the correlational pattern of the three different self-regulatory styles is considered, it can be noticed that the pattern of correlations between the different religious regulations and symbolic approach to religion was decreasingly positive in moving over the internalization continuum from identified to introjected to external regulation. The same pattern of results emerged for inclusion of transcendence (Hypothesis 2). The RII positively predicted inclusion of transcendence and the effects of the separate self-regulatory styles were decreasingly positive, with identified and introjected regulation being positively correlated and external regulation being unrelated to inclusion of transcendence.

A similar pattern of correlations can be observed for self-reported religious behaviors (Hypothesis 3). The RII was positively correlated with frequency of prayer and the pattern of correlations between the self-regulatory styles and prayer was decreasingly positive when moving along the internalization continuum, so that identified and introjected regulation were positively correlated and external regulation was negatively correlated to frequency of prayer. This pattern of relationships was less clear cut for church-attendance: the RII was unrelated to church-attendance, presumably because both identified and introjected regulation correlated positively with it to a similar extent whereas external regulation was unrelated to it. Apparently both well-internalized values and internal pressure might provoke both prayer and church-attendance. As for the well-being outcomes (Hypothesis 4), the RII was positively correlated with all four well-being measures and their composite well-being score. The pattern of correlations between the different self-regulatory styles and the well-being outcomes was again decreasingly positive, so that identified regulation was most positively correlated with well-being and external regulation was unrelated or was even negatively related to it.

Regression analyses

To examine whether the RII would have an effect on the various outcomes after controlling for general autonomous and controlled orientations, we regressed our outcome variables onto RII controlling for gender, age, general autonomous and controlled orientation and their interaction (see Table 3). Controlling for gender, age and the causality orientations did not alter the effects of the RII that were noticed in the correlational analyses. The RII still yielded a positive effect on symbolic approach, inclusion of transcendence, self-

reported religious behavior and well-being.² Hence, a significant amount of variance can be explained by the domain-specific regulations for religious behaviors, and are not due to general autonomous or controlled functioning.

Discussion

In spite of the influential work of Allport (1950, Allport & Ross, 1967) on intrinsic versus extrinsic religious orientations (Donahue, 1985), some authors have called for “a strong theory to motivate and guide our research in the psychology of religion” (Kirkpatrick & Hood, 1990, p. 460). Answering such calls, motivational researchers have increasingly tried to apply motivational models in the domain of religion (see Maehr & Karabenick, 2005). One such motivation theory that has received increased attention in the field of the psychology of religion is self-determination theory (SDT; Deci & Ryan, 2000; see Assor et al., 2005; Neyrinck et al., 2005; Ryan, Rigby, & King, 1993). SDT posits that regulations of or reasons for religious practices can be internalized to varying degrees. When a religious activity is performed solely because one is obliged to meet external expectations, it is said to reflect a complete lack of internalization and to be externally regulated. When a religious activity is performed to avoid or compensate for guilt-feelings or to validate one’s self-worth in the religious community, people have introjected, but not fully digested the behavioral regulation. When people have fully endorsed the personal relevance of the religious activity and have brought this identification in coherence with other values and goals, they are said to have internalized the the reasons for their religious activities.

The present research shows that these different types of internalized motivation for performing religious activities can be successfully measured. Factor analyses pointed out that the two most internalized types of extrinsic motivation (i.e., identified and integrated regulation) could not be empirically disentangled. The co-loading of these identified and integrated items, in conjunction with the fact that two out of the four external regulation items loaded on the introjection factor, presumably because they did not contain a sufficiently strong reference to external expectations, resulted in a rather unbalanced number of items per type of internalized religious motivation. In spite of the low number of items for external regulation (i.e., two), the internal consistency of the scale as well as the internal consistency of the two other types of self-regulation was satisfactory. Furthermore, the three types of internalization formed, as expected, a clear simplex pattern, so that identified/integrated religious

² Because regression analyses on the separate well-being subscales essentially gave the same results, we only show the results using the well-being composite as dependent variable.

Table 3 Hierarchical multiple regression analyses of belief regulations predicting approaches towards religion, religious behaviors and general well-being

	Symbolic approach	Inclusion of transcendence	Frequency of prayer	Church-attendance	Well-being composite
Gender	-.13	.08	.04	.01	-.14
Age	-.21**	-.03	.09	.07	.14
Autonomy	.11	-.10	.08	-.09	.11
Control	-.17*	-.02	.09	-.05	-.14
Autonomy × Control	.15	.01	-.04	.02	-.06
RII	.20**	.33***	.23**	.14	.28***
R ²	.14***	.11**	.09*	.03	.18***

Note. RII = Relative Internalization Index.

* $p < .05$; ** $p < .01$; *** $p < .001$.

regulation correlated positively with introjected and negatively with external regulation, which justified the creation of the relative internalization index.

The most important contribution of the present research lies, in our view, in the examination of the link between people's relative degree of internalization of regulations of religious practices and their cognitive viewpoints towards religion. The present study reveals, in line with our hypotheses, that a more internalized regulation of religious behavior positively predicts the adherence to the Roman Catholic message and a flexible, open-minded symbolic way of approaching these religious belief contents. Thus, individuals who foresee the personal relevance of religion for themselves seem to be stronger believers, but they simultaneously are interpreting belief contents in a symbolic, non-rigid manner. Notably, when looking at the separate effects of the self-regulatory styles, it can be noticed that the positive effect of the RII is mostly carried by the positive association between identified regulation and symbolic approach of religion and adherence to the Christian message. It seems that the more one has identified with the personal importance of religious behaviors, the more one will flexibly adopt his or her religion and perceive it as one possible meaning-endowing framework. In the case of an identified/integrated regulation, the Christian message is openly approached and other people and other religious viewpoints are likely to be fully respected. These findings are in line with earlier work relating more autonomous functioning with an attitude of openness (Hodgins & Knee, 2002). Similar to general autonomous orientation predicting an open informational identity style and inhibiting rigid adherence to social conventions (Neyrinck et al., 2006; Soenens et al., 2005), a more autonomous regulation of religious behaviors positively predicts an open-minded reflection on religious contents.

The lack of association between the poor internalization of regulations for religious practices and a literal interpretation of religious belief contents is in contrast to our expectations. Clearly, the observed average positive relationship

between internalization and an open versus closed-minded interpretation of belief contents does not imply that literal believers are by definition engaging in religious activities for non-internalized reasons. In fact, the association between internalization and open versus literal interpretation of belief contents, although positive, was modest, which suggest that some individuals will literally interpret belief contents for internalized reasons. We had reasoned that individuals who poorly internalize regulations for religious practices would be more likely to defend themselves against ambiguities because these are experienced as threatening. To cope with this threat to their self-esteem, they rigidly cling to their religion by literally interpreting their religious beliefs. Perhaps the present study did not allow for an examination of this issue as we did not assess religious individuals' interpretation of belief contents under conditions of threat and criticism. Future experimental research might examine this issue.

A more internalized motivation for religious activities was also found to be a strong predictor of frequency of prayer, but not of church-attendance. The latter null-finding should be attributed to the fact that identified and introjected regulation equally predicted church-attendance. In our opinion, both behaviors are to some extent institutionally prescribed by the Catholic Church. There is, however, an important difference between these two religious activities: whereas prayer constitutes a private religious activity, church-attendance is a public activity. Hence, when individuals are enacting religious activities to avoid guilt and shame or to obtain a favorable image in the religious community, they seem to be as likely to engage in public activities compared to when they have fully internalized religious activities. It seems logical that introjected regulation does not as strongly predict a private activity as prayer, because people are less likely to gain other-approval when engaging in these private activities. However, by engaging in a social and public activity such as attending church, people are more likely to gain the approval of others or to avoid their disapproval and criticism, because other individuals are simply also attending church.

This pattern of findings fits with the general point within SDT that an introjected regulation can be a strong predictor of behavioral enactment, but the problem is with maintenance of the behavior over time (Ryan, Koestner, & Deci, 1991; Vansteenkiste & Deci, 2003; Vansteenkiste, Simons et al., 2004).

Finally, replicating previous work in the US and Canada, a more internalized regulation of religious practices was found to positively predict well-being, as indexed by life satisfaction, self-actualization, identity integration and global self-esteem. Thus, enacting religious practices for internalized reasons does not only yield a different cognitive approach towards religion and does not only result in a differential degree of enactment of religious behaviors, it also yields differential effects for individuals' general psychological well-being.

Limitations and further research

Some limitations of the current research endeavor should be mentioned. First of all, this research is only the first to show relations between regulations of religious behaviors and open- versus closedminded approaches of religious contents. Hence, further replication is needed to examine the generalizability of the current findings. More specifically, the sample was rather specific in terms of its high degree of symbolic interpretation of religious belief contents and in terms of its high degree of religious involvement and activity. Research among more orthodox and strictly literal believers and among less active, more casually active believers is needed to shed light on the generalizability of the current findings. Second, because of its correlational design, no inferences regarding the direction of effects can be made. Specifically, although we reasoned that different motivational orientations would result in a different approach towards religion, it is also well possible that different approaches might facilitate to different degrees the internalization of reasons for religious activities. Specifically, a symbolic and flexible stance towards the basic christian message might help people in grasping the personal relevance of religion, so that the religious behavior can receive the believer's full endorsement instead of being only half-heartedly endorsed. Longitudinal research can help clarify the directionality of these relations. Finally, questions can be raised regarding processes underlying the established relations between motivational and cognitive approaches to religion. Duriez and Soenens (2004) showed autonomy-supportive and controlling parenting styles to relate to symbolic and literal interpretations of religious contents. Hence, autonomy-supportive parents or religious authorities might facilitate integration of religious behaviors, fostering a more flexible, symbolic attitude towards the adhered message.

Conclusion

Following SDT (Deci & Ryan, 2000), qualitatively different kinds of extrinsic motivation for religious activities were successfully disentangled according to the degree of internalization of the reasons for performing the activity. It was found that a more internalized regulation of these religious activities predicted a stronger and more flexible adherence to the Roman catholic message. In other words, the more one foresees the personal relevance of one's religious activities, the more cognitively open-minded one's own belief contents are approached, confidently leaving room for possible ambiguous elements inherent in the Roman-Catholic message. Furthermore, earlier findings in American and Canadian samples (e.g., Ryan et al., 1993) relating regulations for religious activities with general well-being and domain specific behavior, are now for the first time replicated in Belgian, Roman-Catholic believers. These findings await further empirical generalisability into other samples.

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