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# Values and religiosity: a meta-analysis of studies using Schwartz's model

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## Abstract

This meta-analysis reviews studies on 21 samples from 15 countries (total  $N = 8551$ ), all using the Schwartz's model of values in order to investigate how religiosity is related to the importance attributed to values. Results lead to the conclusion that religious people tend: to favor values that promote conservation of social and individual order (Tradition, Conformity, and to a lesser extent, Security) and, conversely, to dislike values that promote openness to change and autonomy (Stimulation, Self-Direction); also, to favor values that allow for a limited self-transcendence (Benevolence, but not Universalism), and to dislike Hedonism and to a lesser extent values that promote self-enhancement (Achievement, Power). Many effects were constant across different religious denominations (Christians, Jews, and Muslims) and cultures but the magnitude of the effects seemed to depend on the socio-economic development of the countries concerned.  
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*Keywords:* Values; Religion; Meta-analysis; Conservatism; Hedonism; Autonomy; Socio-economic development

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## 1. Introduction

Theoretically, values and religiosity are perceived to be considerably related to each other. On the one hand, religion emphasizes the importance of some specific values while downplaying the importance of some others (Rokeach, 1969). Great religious figures are admired for their high moral standards and values (James, 1985/1902). Transmission of religion through socialization (especially within the family) may be considered as part of a more general transmission of values.

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It cannot, on the other hand, be excluded that people with specific value priorities seek out religion in general and/or specific religions in particular, either because religions provide mechanisms that may positively or negatively reinforce these values (Schwartz & Huisman, 1995) or because the specificity of religion is to unify values, moral codes, beliefs, ritual, emotions, and community into an integrative whole (Hinde, 1999). The relation between values and religion may also be indirect. Individual (personality) differences predispose people to be, remain, or become religious (Beit-Hallahmi & Argyle, 1997) and, interestingly, values reflect personality differences to an important degree (Bilsky & Schwartz, 1994; Roccas, Sagiv, Schwartz, & Knafo, 2002). (However, values seem to be stronger predictors of religiosity than personality traits; Roccas et al., 2002.)

In the past, links between religion and values have been empirically investigated through different value theories and models (e.g., Rokeach, 1969). Recently, however, Schwartz's (1992) model of 10 values has been established in psychology of values as a comprehensive, cross-culturally stable model that can predict series of external constructs. Values are defined by Schwartz (1992) as desirable, transsituational goals, varying in importance, that serve as guiding principles in people's lives. The model includes a set of 10 motivationally distinct types of values (based on  $\pm 56$  single values), a set comprehensive of the core values recognized in cultures around the world (validated now in more than 50 countries). The set of the 10 types probably does not exclude any significant types of basic values and disposes a near-universal structure of relations among the 10 value types (beyond the differences between groups and individuals in the importance they attribute to these values). Finally, individual differences in self-reported value priorities obtained through the Schwartz Value Survey relate meaningfully to real behaviors such as prosocial, antisocial, environmental, political, consumer, and intellectual behaviors (Schwartz & Bardi, 2001, for a review of studies).

The relation between religiosity and Schwartz's values was first studied by Schwartz and Huisman (1995). In that study, the authors provided specific hypotheses for every value based on previous theological, sociological, and psychological analyses of religion; and results confirmed almost all of their hypotheses in large samples from five countries. Religion was positively associated with Tradition and Conformity, and, to a lesser extent, with Security and Benevolence, and negatively associated with Hedonism, Stimulation, and Self-Direction, and, to a lesser extent or not all, with Achievement, Power, and Universalism.

Since then, several new studies on religion and values using Schwartz's model have been published. These studies have been mainly conducted in countries other than those in Schwartz and Huisman's (1995) study. The main intention of our study is to meta-analytically review all these studies together in order to assess whether there is a general pattern of value priorities as a function of religiosity as well as the magnitude of the mean effects for every value. Meta-analysis is increasingly replacing the traditional vote-counting method of reviewing studies (see Rosenthal, 1991; Schmidt, 1996). It allows for accumulation of knowledge and is more informative than isolated studies. Emphasis is placed upon the presence and power of the associations or effects rather than on the traditional criterion of statistical significance that increases the risk of a Type II error (rejection of a true hypothesis) by overcontrolling for the risk of a Type I error (acceptance of a false hypothesis).

Moreover, as studies from different denominations, religions, and countries are included, such a review may be helpful in exploring cross-religious/cultural differences vs. trans-religious/cultural

constants. An open debate exists on whether one has to focus on the uniqueness of context, culture, and history in order to fully psychologically understand religion at a given moment, in a given society (e.g., Belzen, 2000), or whether there is also evidence for trans-religious/cultural constants in the psychological aspects of religion, beyond possible differences between specific denominations, religions, and societies (Saroglou, 2003). In addition, previous studies have indicated that (Schwartz's) value importance-priorities depend on socio-economic/cultural factors such as the democratization and development of a country (Schwartz & Sagie, 2000) and that modernization and economic development lead to certain changes in basic (traditional–religious vs. secular–rational and survival vs. self-expression) values (Inglehart & Baker, 2000). In the present meta-analysis, we were thus interested in exploring the moderating impact of the socio-economic situation of countries on the religiosity–values association.

## 2. Method

### 2.1. Data collection

We included in the present review published studies with which we were already familiar, as well as studies found through the PsycInfo database, using the syntax *relig\* and value\* and Schwartz* (published up to June, 2003). Taken together, these studies provide results on the associations between religiosity and values in 21 independent samples from 15 different countries (total  $N$  of participants = 8551). They were all conducted in the same decade (1990s), often among students, but also among adults in general (see Table 1 for details on studies and samples). With one exception, all of them used the same measure of values (SVS; Schwartz Value Survey). A recent study (Schwartz et al., 2001) that used a new, shorter, and less cognitively complex measure of Schwartz's 10 values (PVQ; Portrait Values Questionnaire) was also included: the PVQ is very similar to the SVS and findings of that study are pretty close to the ones of the present meta-analysis. Finally, all studies provided partial correlations between religiosity and values, controlling for mean importance of values (except an additional study, not included in the meta-analysis, in 176 Spanish students; Gouveia, Clemente, & Vidal, 1998).

### 2.2. Measures

#### 2.2.1. Values

The Schwartz (1992) Value Survey includes 56 single-value items representing 10 motivationally distinct value constructs. Respondents rate the importance of each value item as “a guiding principle in my life”, on a 9-point scale from 7 (*of supreme importance*) to –1 (*opposed to my values*). Cross-cultural research has supported the distinctiveness of the 10 values, as well as the fact that, although people differ in the importance they attribute to values, the values are organized by a common structure of motivational oppositions and congruities. On a first axis, Self-Transcendence values (*Universalism* and *Benevolence*, i.e., values emphasizing acceptance of others as equals and concern for their welfare) are opposed to Self-Enhancement values (*Achievement* and *Power*, i.e., values emphasizing the pursuit of one's own relative success and dominance over others). A second axis, somewhat orthogonal to the first, opposes Conservation

Table 1  
Studies reviewed

Studies	Country	Religion	Participants	<i>N</i>	Measure
Schwartz and Huisman (1995)	Israel	Jews	Students + teachers	629	Religious index
	The Netherlands	Protestants	Students + teachers	216	Religious index
	Spain	Catholics	Students + teachers	473	Religious index
	Greece	Greek Orthodox	Students + teachers	398	Religious index
	Germany	Protestants	General	849	Church attendance
	Germany	Catholics	General	827	Church attendance
Roccas and Schwartz (1997)	Italy	Catholics	Students + teachers	396	Religious index
	Portugal	Catholics	Students + teachers	374	Religious index
	Czech Republic	Catholics	Students + teachers	344	Religious index
	Poland	Catholics	Students + teachers	385	Religious index
	Hungary	Catholics	Students + teachers	300	Religious index
Burriss and Tarpley (1998)	USA	Mostly Christians	Students	185	Intrinsic religion
Bilsky and Peters (1999)	Mexico	Catholics	Students	107	Church attendance
Kusdil and Kagitcibasi (2000)	Turkey	Muslims	Teachers	183	Religious index
Dollinger (2001)	USA	Christians	Students	102	Religious autophotography
Schwartz et al. (2001)	Israel	Jews	Students	200	Religious index
Devos, Spini, and Schwartz (2002)	Switzerland	Catholics + Protestants	Students	265	Religious index
Roccas et al. (2002)	Israel	Jews	Students	246	Religious index
Anciaux (2002)	Belgium (French)	Catholics	Old-aged	131	Religious index
Saroglou and Galand (in press)	Belgium (French)	Catholics + Muslims	Students	246	Religious index
Fontaine, Duriez, Luyten, Corveleyn, and Hutsebaut (submitted for publication)	Belgium (Dutch)	Catholics	Students + adults	1695	Inclusion of Transcendence

values (*Conformity*, *Tradition*, *Security*, i.e., values emphasizing submissive self-restriction, preservation of traditional practices, and protection of stability) to Openness to change values (*Self-Direction* and *Stimulation*, i.e., values emphasizing its own independent thought and action and favoring change). The 10th value of *Hedonism* is located in the space between the Openness to change and the Self-Enhancement axes. Each single value (representative of a larger value type) is followed in parentheses by a short explanatory phrase (e.g., Social order [stability of society]). Indexes of the importance of each value type are provided by averaging the importance ratings of the corresponding specific single values. Definitions of the values, corresponding single-value items, as well as the prototypical circular structure of the values located in the dimensional space of the two axes may be found in many published papers (e.g., Sagiv & Schwartz, 1995; Schwartz, 1992; Schwartz et al., 2001).

### 2.2.2. *Religiosity*

With two exceptions of studies including multidimensional approaches of religion (Burriss & Tarpley, 1998; Fontaine et al., submitted for publication), the large majority of studies used a simple (one- or few-item) measure of general, personal religiosity. For the present meta-analysis, we were thus obliged to select for the above two studies those measures used that were the closest to those of general–personal religiosity, i.e., Intrinsic religiosity and Inclusion vs. Exclusion of Transcendence, respectively. Although psychological understanding of religion may be deepened when one distinguishes between different religious dimensions (e.g., Batson, Schoenrade, & Ventis, 1993), results based on general religiosity are still valid, meaningful, and often similar (so more economical) to those obtained with multidimensional religious scales. In addition, according to Schwartz and Huisman (1995), “the unidimensional approach is more appropriate when the primary interest is in relating religiosity to broad cultural attitudes (values) rather than in unraveling relations among the various components of religion” (p. 96); these authors found also that their one-item religiosity index was importantly correlated with measures of intrinsic religiosity and religious beliefs or practice.

### 2.2.3. *Moderator variables*

For each country, we considered several indicators of its socio-economic development. Trying to remain as close as possible to the year of publication–realization of the reviewed studies, we extracted from *L'État du monde* (1989, for the Czech Republic, Poland, Hungary, Greece, Portugal, Spain, Italy, Germany, and The Netherlands; 1995, for Israel, Mexico, Belgium, USA, Turkey, and Switzerland) the following indicators: (1) percentage of urban population, (2) enrolment ratios in tertiary education, (3) Gross Domestic Product per capita, (4) percentages of the GDP spent on education expenses, and (5) number of television receivers per 1000 inhabitants. In addition, we considered (6) daily newspapers circulation per 1000 inhabitants (source: UNESCO, 1997).

## 2.3. *Statistical analyses*

### 2.3.1. *Combining effect sizes*

Given that, in all studies, results were presented in terms of  $r$  (Pearson product moment correlation), we selected  $r$  as the estimator of effect sizes in each study. As a meta-analytic statistic, we used for each of the 10 meta-analyses (religiosity  $\times$  10 values) first, the unweighted mean (average) effect size, and, second, the weighted mean effect size,  $r' = \sum(N_j - 3)r'_j / \sum(N_j - 3)$ , where Fisher's transformations of  $r$ s to  $r'$ s were averaged and weighted by the number of participants per study ( $N$ ): the final weighted  $r'$  was reconverted back to  $r$ . The weighted mean effect size is an important statistic for meta-analysis, as it allows each study to contribute to the overall effect size proportionally to the size of its own sample. However, the unweighted mean effect size provides complementary information, especially in our meta-analysis, where the large size of some studies also implies stronger contribution of some countries (with specific socio-economic and other characteristics) to the overall effects in comparison with countries represented by small samples.

### 2.3.2. *Confidence intervals*

The confidence intervals (CI) at the 95% level of confidence for the unweighted mean effect sizes were also calculated ( $r' \pm 1.96 / \sqrt{(N - 3k)}$ ) and then transformed back from  $r'$  to  $r$ . The range of

the effect sizes (minimum and maximum) in the different studies was also coded for each meta-analysis.

### 2.3.3. Significant testing

Given the large total number of participants ( $N = 8551$ ), obviously, even the smallest mean effect size would be significant. Consequently, we were interested only in the magnitude of the effect sizes as well as in their stability (CI must not include the value of zero).

### 2.3.4. Heterogeneity and moderating variables

For the heterogeneity test we used the formula  $\chi^2_{(k-1)} = \sum((N_j - 3) \times (r'_j - r')^2)$ . As can be seen in Table 2, in all cases homogeneity was rejected. In fact, large-size samples (like ours) considerably increase heterogeneity and, so, in most meta-analyses, homogeneity is rejected. Rejection of the homogeneity has a practical implication, i.e., trying to look out for possible moderators.

In order to test for the impact of possible moderator variables (indicators of socio-economic development; see above for details) on the religiosity–values association, we conducted zero-order correlational analyses between, on the one hand, these moderator variables for each country and, on the other hand, the values–religiosity correlations for the same country. However, as the number of studies was small, only effect sizes larger than 0.20 were retained for the discussion.

Religious denomination could also be a possible moderator but, first, as detailed in Table 1, distribution of denominations across studies was highly unequal. It would, thus, not make sense to contrast Catholics ( $n = 11$ ) with Protestants ( $n = 3$ ), Greek Orthodox ( $n = 1$ ), Muslims ( $n = 2$ , mainly from Turkey), or Jews ( $n = 3$ , only from Israel). Second, in comparisons between countries of different religious traditions, the religious denomination effect could be confounded with socio-economic and cultural differences between the respective countries. However, for exploratory reasons, we investigated (non-parametric correlations) whether the rank order of the value priorities as a function of religiosity was similar between the three main monotheistic traditions, Catholics, Muslims, and Jews (previous studies suggested that there are no differences in the religiosity–values associations between Catholics and Protestants living in the same country: Devos et al., 2002, for Switzerland; Schwartz & Huismans, 1995, for Germany).

A cross-cultural contrast that seemed meaningful to us was the one between Mediterranean countries (Greece, Italy, Portugal, Spain) and Western, more modern, economically developed, and secularized European countries (Belgium, Germany, the Netherlands); see the 1999 European Values Study (Halman, 2001) for series of relevant differences between these two sets of countries. For this contrast, we used the formula  $Z = r'_1 - r'_2 / \sqrt{\frac{1}{N_1-3} + \frac{1}{N_2-3}}$ . In order to control for cross-religious differences, we focused only on countries with a Christian background and, thus, we did not include Turkey and Israel. Neither did we include the USA, which could also be considered as a “strongly” Western country, because previous empirical evidence has demonstrated that the USA constitutes a unique case comparatively to other industrialized-developed countries when investigating traditional–religious vs. secular–rational values in countries all around the world (Inglehart & Baker, 2000).

Other socio-demographic variables of participants (e.g., gender, age) could not be included as possible moderators because, unfortunately, with one exception (Schwartz & Huismans, 1995, Study 2), the studies reviewed here did not provide the relevant information. In the only study that

investigated such moderators (Schwartz & Huisman, 1995, Study 2), it turned out that gender, age, and income of participants did not alter the correlations of religiosity with values.

### 3. Results

The unweighted and the weighted mean effect sizes, the 95% confidence intervals of the former, the minimum and maximum range of the effects observed in the different studies, and the results of the heterogeneity test for each of the 10 values are detailed in Table 2. Only six outliers were detected (in italics in Table 2; Czech Republic,  $-0.31$ , for Security; one sample from Belgium,  $-0.11$ , for Benevolence, and one from the USA,  $0.10$ , for Tradition; Greece,  $0.45$ , for Conformity; Hungary,  $-0.32$ , for Achievement; and Turkey,  $-0.55$ , for Universalism). As detailed in Table 2, recalculation of mean effect sizes without these outliers (number in parentheses) did not really change the results for the above values. The outliers were thus not excluded from the analyses. None of the 10 95% confidence intervals included zero, clearly indicating the presence of an association between religiosity and all values.

Across all 21 samples, religiosity was associated with high importance attributed to the conservation values, mainly *Tradition* and *Conformity*; similarly, religiosity was related to low *Self-Direction*. The conservatism in values as a function of religion included *Security*, but only weakly. Interestingly, as already observed by Roccas and Schwartz (1997), religiosity in two Eastern European countries with oppositional relations between the State and the Church during the years that preceded data gathering (the Czech Republic and Hungary) was related to low Security ( $r_s = -0.31, -0.11$ ; data collected in 1993 and 1990, respectively); if these two samples are left out, the mean effect size rises to  $0.10$ . Finally, in all samples, religiosity was also clearly associated with low importance attributed to the hedonistic values, *Hedonism* and *Stimulation*.

Moreover, religiosity was overall positively related to *Benevolence*, although, beyond the one outlier (one sample from Belgium), the associations were near to zero in three cases (Turkey, Greece, and one sample from Israel). Religiosity was related, constantly across samples, to low

Table 2  
Meta-analyses of the correlations between religiosity and values (Schwartz's model) in 21 samples from 15 countries

Values	Weighted $r^a$	Unweighted $r$	CI 95%	Range <sup>b</sup>	Heterogeneity
Security	0.07 (0.09)	0.04 (0.06)	0.02/0.06	<i>-0.31/0.31</i>	125.27 ( $p < 0.001$ )
Conformity	0.23 (0.22)	0.22 (0.21)	0.20/0.24	0.11/ <i>0.45</i>	61.48 ( $p < 0.001$ )
Tradition	0.45 (0.45)	0.48 (0.49)	0.46/0.50	<i>0.10/0.64</i>	164.77 ( $p < 0.001$ )
Benevolence	0.14 (0.15)	0.17 (0.18)	0.15/0.19	<i>-0.11/0.43</i>	75.61 ( $p < 0.001$ )
Universalism	-0.09 (-0.08)	-0.11 (-0.09)	-0.09/-0.13	<i>-0.55/0.17</i>	193.42 ( $p < 0.001$ )
Self-Direction	-0.24	-0.25	-0.23/-0.27	-0.37/0.01	70.68 ( $p < 0.001$ )
Stimulation	-0.26	-0.26	-0.24/-0.28	-0.08/-0.44	62.66 ( $p < 0.001$ )
Hedonism	-0.30	-0.34	-0.32/-0.35	-0.19/-0.49	73.98 ( $p < 0.001$ )
Achievement	-0.11 (-0.10)	-0.14 (-0.13)	-0.12/-0.16	<i>-0.32/-0.01</i>	55.53 ( $p < 0.001$ )
Power	-0.09	-0.12	-0.10/-0.14	-0.29/0.03	64.19 ( $p < 0.001$ )

Note:  $N = 8551$ .

<sup>a</sup> Number in parentheses corresponds to effect sizes once outliers were removed.

<sup>b</sup> Number in italics indicates outlier.

importance attributed to *Achievement* and *Power* (only two exceptions). The mean effect sizes were however weak. Interestingly, with regard to *Power*, the mean effect size seemed to be mainly due to some countries: the magnitude of the negative association was higher than 0.20 in the three Eastern European countries (see also Roccas & Schwartz, 1997, for a statistical contrast) and the USA (the correlations in the other samples varied from  $-0.15$  to  $0.03$ ). Finally, a negative association between religiosity and *Universalism* was also found, and it was mainly due to the Mediterranean countries, including Israel and Turkey ( $r$ s in these countries varied from  $-0.08$  to  $-0.55$ , mean  $r = -0.26$ ); these associations were lower or even positive in the other countries ( $r$ s varied from  $-0.13$  to  $0.17$ , mean  $r = -0.01$ ).

In order to explore similarities between religions, as announced in Section 2, we investigated whether the rank order of the value priorities as a function of religiosity is similar between samples from the three main monotheistic traditions, Jews (three samples;  $N = 1075$ ), Catholics (11 samples;  $N = 5113$ ), and Muslims (two samples;  $N = 255$ ). The three respective series of the weighted mean effect sizes of the religiosity–values associations were computed (Catholics from Devos et al., 2002, study were not included because no distinct correlations for Catholics and Protestants were provided in that study). Similarly across the three sets of samples (see Fig. 1), religiosity was considerably associated with low Hedonism ( $-0.33$ ,  $-0.33$ ,  $-0.26$ ), Stimulation ( $-0.24$ ,  $-0.25$ ,  $-0.15$ ), and Self-Direction ( $-0.27$ ,  $-0.26$ ,  $-0.32$ ) and high Tradition ( $0.58$ ,  $0.46$ ,  $0.61$ ) and Conformity ( $0.19$ ,  $0.25$ ,  $0.25$ ). It was also correlated with high Security ( $0.11$ ,  $0.07$ ,  $0.18$ ) and Benevolence ( $0.13$ ,  $0.19$ ,  $0.03$ ), and low Achievement ( $-0.15$ ,  $-0.14$ ,  $-0.17$ ), Power ( $-0.08$ ,  $-0.12$ ,  $-0.12$ ), and Universalism ( $-0.18$ ,  $-0.06$ ,  $-0.40$ ). The between-religious groups similarity on the rank order of value priorities as a function of religiosity was significant: it was very high between Jews and Catholics, Kendall's  $\tau = 0.91$ ,  $p < 0.001$ , and important between Muslims and Catholics,  $\tau = 0.64$ , or Jews,  $\tau = 0.73$ ,  $p < 0.01$ . However, between-religious groups comparisons on the magnitude of associations were not computed, since the Muslims were underrepresented.

Indicators of the socio-economic development (urbanization, enrollment in higher education, GDP per capita, proliferation of media, i.e., TV and newspapers, and national expenditures on education) of the 15 countries (for each value–religiosity association, one mean weighted effect size for multiple samples of the same country was included) turned out to influence the magnitude

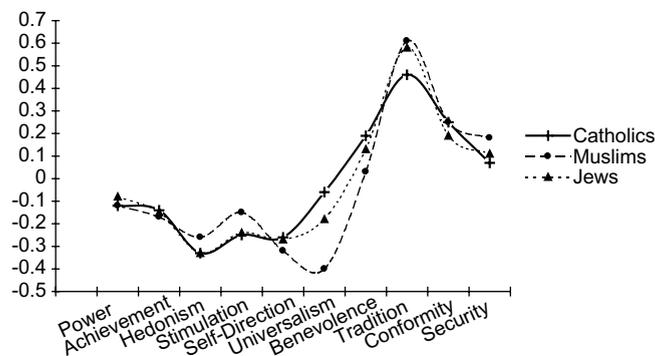


Fig. 1. Correlations between religiosity and values, distinctly for Jew ( $n = 3$ ,  $N = 1075$ ), Catholic ( $n = 11$ ,  $N = 5113$ ), and Muslim ( $n = 2$ ,  $N = 255$ ) samples. Order of presentation of values follows the hypothetical model of Schwartz and Huijman (1995).

Table 3

Coefficients of correlations between indicators of socio-economic development and the values–religiosity associations in the 15 countries

Indicators	SE	CO	TR	BE	UN	SD	ST	HE	AC	PO
Urban population	0.15	<b>-0.27</b>	-0.19	-0.14	0.05	<b>0.46</b>	0.13	0.19	<b>0.24</b>	0.16
Tertiary education	-0.08	<b>-0.31</b>	<b>-0.32</b>	-0.07	0.09	<b>0.28</b>	0.00	-0.09	<b>0.44</b>	0.08
TV receivers	<b>-0.43</b>	<b>-0.32</b>	-0.19	<b>0.28</b>	<b>0.35</b>	<b>0.35</b>	-0.04	-0.17	<b>0.23</b>	<b>-0.32</b>
Newspapers	<b>-0.58</b>	<b>-0.57</b>	<b>-0.22</b>	0.08	<b>0.61</b>	<b>0.56</b>	0.10	0.19	0.04	-0.12
GDP per capita	-0.11	<b>-0.33</b>	<b>-0.60</b>	-0.09	0.16	<b>0.50</b>	<b>0.22</b>	0.04	<b>0.68</b>	0.18
Education expenses	<b>-0.62</b>	<b>-0.41</b>	-0.11	<b>0.54</b>	<b>0.47</b>	<b>0.55</b>	0.19	0.05	-0.17	<b>-0.26</b>

Note: Effect sizes larger than 0.20 are in bolds.

SE: Security. CO: Conformity. TR: Tradition. BE: Benevolence. UN: Universalism. SD: Self-Direction. ST: Stimulation. HE: Hedonism. AC: Achievement. PO: Power.

of the religiosity–values associations, and this in a direction emphasizing the modernization process (see Table 3, for results of Spearman correlations). Overall, on the basis of at least three of the six indicators, it turned out (effects higher than 0.20) that the more developed the country, the less positive the correlation of religiosity with the conservation (Conformity, Tradition, and Security) values, and the less negative the correlation of religiosity with Self-Direction, Universalism, and Achievement. The results regarding Conformity and Self-Direction were similar across all six indicators. In addition, on the basis of two out of six indicators, it appeared that in more developed countries the correlation of religiosity with Benevolence was more positive, and the one with Power was more negative. No influence of the socio-economic indicators on the association of religiosity with the hedonistic values was found.

Finally, similar findings were obtained when contrasting the subgroup of the Christian Western European countries with the subgroup of the Christian Mediterranean countries. Mean effect sizes of the religiosity–values associations for each value were computed for the two groups (see Table 4). The effects were unweighted, because the large size of some samples may have had a disproportional impact in comparison to other countries of the same group. Each country was represented once (we averaged the correlations for multiple samples in Belgium and Germany). As detailed in Table 4, in Mediterranean countries, more than in Western countries, religiosity reflected conservation (CO, TR, SE) values and low openness to others (UN), to change, and to hedonism (SD, HE, ST) values. No differences were observed with regard to Power, Achievement, and Benevolence.

Table 4

Comparisons between “Western” and Mediterranean European countries on mean associations between religiosity and values

Subgroups of countries	SE	CO	TR	BE	UN	SD	ST	HE	AC	PO
Western Europe (B, G, NL)	0.07	0.21	0.41	0.18	-0.06	-0.25	-0.27	-0.28	-0.11	-0.07
Mediterranean Europe (GR, I, P, S)	0.17	0.34	0.50	0.12	-0.27	-0.34	-0.34	-0.40	-0.11	-0.04
Z	3.02	3.99	3.25	1.56	6.02	2.90	2.38	3.98	0.20	0.89
p <	0.01	0.001	0.001	n.s.	0.001	0.01	0.01	0.001	n.s.	n.s.

#### 4. Discussion

Clearly, religious people, across a variety of contexts, tend to attribute high importance to conservation values (*Tradition* and *Conformity*) as well as low importance to hedonistic and openness to change values (*Hedonism*, *Stimulation*, and *Self-Direction*). This, at first glance, is not surprising as it is in line with the empirical literature on links of religiosity with (political and other types of) conservatism and negative attitudes towards sexuality (Hood, Spilka, Hunsberger, & Gorsuch, 1996; Lewis & Maltby, 2000), lack of Openness to experience (Saroglou, 2002b), risk aversion (Miller & Hoffmann, 1995), authoritarianism (including authoritarian submission; Altemeyer, 1996), need for closure (Saroglou, 2002a), order (Lewis, 1998), and control (e.g., low impulsivity, Francis, 1992). However, what is interesting is first the stability of these results across different contexts (religions, denominations, and countries) at the same period (all studies were conducted during the last decade). Second, the magnitude of these associations appears considerable when taking into consideration that many of the studies were conducted in secularized societies with young adults as participants and that the modern theological discourses in many religions tend (or claim) to value risk, body, sexuality, satisfaction in life, and autonomy in the personal appropriation of religious faith. Notice, finally, that the overlap of the religiosity index with the item “devout” included in the value of Tradition as measured by the Schwartz’s questionnaire seems to increase the religiosity–Tradition association, but the latter remains meaningful after the item “devout” is left out ( $r_s = 0.25$ , Saroglou & Galand, in press; 0.25 and 0.22, Schwartz & Huismans, 1995).

As suggested by the Roccas and Schwartz’s (1997) study, in contexts where religion is in conflict with dominant standards of society or is (was) even persecuted (e.g., in the Eastern European countries), religiosity clearly implies low importance attributed to harmony and stability of social order, to success, and to social status and prestige (low *Security*, *Achievement*, and *Power*). However, as the present meta-analysis suggests, even in contexts where religion preserves an honorable place in society, the associations with Power and Achievement are still in the same, negative, direction. Although it could be expected that religion promotes conscientiousness on work and the ambition to succeed, the (weak but) negative mean effect sizes may be due to the fact that these values include ambition and dominance over people and resources. Bilsky and Schwartz (1994) found that aggressiveness as a personality characteristic was strongly associated with Power and Achievement (see also Roccas et al., 2002, for negative relations of these values with Agreeableness), whereas there is some evidence that religious people generally tend to be less aggressive (Saroglou & Dernelle, 2003) and less appreciative of humor on weak targets such as disabled people (Saroglou & Anciaux, in press).

The mean positive association between religion and *Benevolence* was in line with previous literature on personality (Agreeableness, Saroglou, 2002b; or low Psychoticism, Francis, 1992) correlates of religion. However, this prosocial tendency was weak, comparatively for instance to what was the case with the hedonistic values. It cannot be excluded that, although many psychological theories of religion focus on the importance of prosociality and altruism (see Batson et al., 1993), the anti-hedonistic dimension is (today also) a more compelling reality for psychologically understanding religion. Interestingly also, although religious people tended, even weakly, to value the help of others, forgiveness, honesty and loyalty (*Benevolence*), this concern for the welfare of others was limited: overall, religion was not followed by high importance attributed to *Univer-*

*salism*, i.e., understanding, appreciation, tolerance, and protection for the welfare of all people and for nature. A possible interpretation (see also Schwartz & Huisman, 1995) could be that prosocial tendencies as a function of religion are limited to in-groups and are not extended to out-groups (for in-group favoritism and out-group discrimination as a function of religion, see Jackson & Essen, 1997; Jackson & Hunsberger, 1999). As Universalism includes the value of protection of nature and the environment, an additional interpretation could be that religion does not necessarily promote ecological values (see, e.g., Tarakeshwar, Swank, Pargament, & Mahoney, 2001).

The magnitude of the religiosity–values associations turned out to depend on the socio-economic development of the country. Overall, the more a society tended to be developed, the less religion implied conservation values (CO, TR, SE) and discomfort with autonomy (SD) and Achievement, and the more it reflected self-transcendence values (BE, UN) and neglect of Power. Comparison between three Western European countries (Belgium, Germany, the Netherlands) and four Mediterranean ones (Greece, Italy, Portugal, Spain), all with a Christian historical background, confirmed the above pattern regarding the conservation values, Self-Direction, and Universalism. In addition, this contrast indicated that religiosity in the former countries is less followed by discomfort with the hedonistic (HE, ST) values. Interestingly, in a recent study in 42 countries, development and democratization were found to be positively correlated with the importance of openness and self-transcendence values and negatively with the importance of conservation values (Schwartz & Sagie, 2000). It could then be that, in more developed societies, religion follows the general cultural change of autonomization and democratization of values and way of life, and then becomes less traditional and in-group focused, more individualized, and perhaps even less anti-hedonistic and more intrinsic (see the increase of importance on Benevolence and the decrease of importance on Power). This interpretation is in line with the process relating modernization with secularization: in a review of values (using other than the Schwartz's model) in 65 countries, Inglehart and Baker (2000) found that economic development and modernization lead to a move from traditional–religious towards secular–rational values and from survival towards self-expression values. In addition, one has to keep in mind that the above mentioned Mediterranean countries constitute uni-religious societies compared to the three Western European ones, which are characterized by multi-religiosity (Protestants and Catholics in the Netherlands and Germany) or co-existence of opposite ideologies with established subcultures and social networks (Catholics and atheists “free-thinkers” in Belgium). Interestingly, readiness for out-group contact has been found to correlate positively with emphasis on Universalism and Self-Direction, and negatively with emphasis on conservation values (Sagiv & Schwartz, 1995).

Finally, it is worthy of note that, overall, the mean effect sizes of the associations between values and religion are stronger than those describing the personality (Big Five) correlates of religion (mean *r*s varying from  $-0.06$  to  $0.20$ ; Saroglou, 2002b, for a meta-analysis; see also Roccas et al., 2002). If we assume a causal direction that goes from religion to values, this difference may be due to the fact that religion's emphasis (through socialization) on (explicit) ideals, goals, and values may be stronger or perceptible in a clearer way than effects of religion on personality: for instance, a distance exists between altruist religious goals and practice (Batson et al., 1993) and religious conversion can result in life transforming changes in mid-level personality functions such as goals or attitudes but has minimal effect on elemental functions such as traits or temperaments (Paloutzian, Richardson, & Rambo, 1999). If we assume the opposite direction of causality, the one from values to religion, it may be that personality is more genet-

ically and temperamentally based whereas values reflect more cultural influences: interestingly, religiosity seems to depend on cultural–environmental influences in a stronger way than on genetic influences (D’Onofrio, Eaves, Murrelle, Maes, & Spilka, 1999).

The conclusions drawn from the present meta-analysis should still remain conservative. Most of the studies were conducted in Christian denominations, Catholic ones in particular. Almost all studies were conducted in Western societies with monotheistic religious traditions and little is known about the psychological empirical aspects of religion in Eastern societies. However, beyond the certain influence of moderators, the present review suggests impressive similarities in psychological aspects (effects or predictors) of religiosity across a variety of religions (Christians, Jews, and Muslims), denominations (Catholics, Orthodox, and Protestants) and countries from Europe, the USA, and Middle East. As suggested by Beit-Hallahmi and Argyle (1997), it seems that systematically across different societies, each having a specific history, context, religion, and culture, there are similar psychological reasons explaining why some (= the same) people and not others, or some (= the same) people more than others, are religious. Going further, however, we need to better understand among others what is the direction of causality between religion and values, whether personality may play a moderator or mediating role, and whether we can deepen our understanding by focusing on the more precise and nuanced level of single values rather than the 10 types of values: as already suggested (Schwartz & Huisman, 1995), different if not opposite links can be hypothesized between religiosity and specific components of the same type of values (e.g., success and competence vs. ambition and influence, for Achievement; social order vs. self-interest, for Power; and, we can add, social justice vs. environmental ideals, for Universalism).

## References

References marked with an \* indicate studies included in the meta-analysis.

- Altemeyer, B. (1996). *The authoritarian specter*. Cambridge: Harvard University Press.
- \*Anciaux, L. (2002). *Who likes sick humor?* Unpublished master’s thesis. Université catholique de Louvain, Louvain-la-Neuve, Belgium.
- Batson, C. D., Schoenrade, P., & Ventis, W. L. (1993). *Religion and the individual: A social–psychological perspective*. New York: Oxford University Press.
- Beit-Hallahmi, B., & Argyle, M. (1997). *The psychology of religious behaviour, belief and experience*. London: Routledge.
- Belzen, J. A. (Ed.). (2000). *Aspects in context: Studies in the history of psychology of religion*. Amsterdam: Rodopi.
- \*Bilsky, W., & Peters, M. (1999). Estructura de los valores y la religiosidad: Una investigación comparada realizada en México. *Revista Mexicana de Psicología*, 16, 77–88.
- Bilsky, W., & Schwartz, S. H. (1994). Values and personality. *European Journal of Personality*, 8, 163–181.
- \*Burris, C. T., & Tarpley, W. R. (1998). Religion as being: Preliminary validation of the Immanence scale. *Journal of Research in Personality*, 32, 55–79.
- \*Devos, T., Spini, D., & Schwartz, S. H. (2002). Conflicts among human values and trust in institutions. *British Journal of Social Psychology*, 41, 481–494.
- \*Dollinger, S. J. (2001). Religious identity: An autophotographic study. *International Journal for the Psychology of Religion*, 11, 71–92.
- D’Onofrio, B. M., Eaves, L. J., Murrelle, L., Maes, H. H., & Spilka, B. (1999). Understanding biological and social influences on religious affiliation, attitudes, and behaviors: A behavior genetic perspective. *Journal of Personality*, 67, 953–984.

- \*Fontaine, J. R. J., Duriez, B., Luyten, P., Corveleyn, J., & Hutsebaut, D. (submitted for publication). *Consequences of a multi-dimensional approach to religion for the relationship between religiosity and value priorities.*
- Francis, L. J. (1992). Religion, neuroticism, and psychoticism. In J. F. Schumaker (Ed.), *Religion and mental health* (pp. 149–160). New York: Oxford University Press.
- Gouveia, V. V., Clemente, M., & Vidal, M. A. (1998). El cuestionario de valores de Schwartz (CVS): Propuesta de adaptación en el formato de respuesta [Schwartz Value Survey (SVS): Adaptation of its response format]. *Revista de Psicología Social*, 13, 463–469.
- Halman, L. (2001). *The European values study, a third wave: Source book of the 1999/2000 European values study surveys*. Tilburg: Tilburg University.
- Hinde, R. A. (1999). *Why gods persist? A scientific approach to religion*. London: Routledge.
- Hood, R. W., Jr., Spilka, B., Hunsberger, B., & Gorsuch, R. (1996). *The psychology of religion: An empirical approach* (2nd ed.). New York: Guilford Press.
- Inglehart, R., & Baker, W. E. (2000). Modernization, cultural change, and the persistence of traditional values. *American Sociological Review*, 65, 19–51.
- Jackson, L. M., & Essen, V. M. (1997). Of scripture and ascription: The relation between religious fundamentalism and intergroup helping. *Personality and Social Psychology Bulletin*, 23, 893–906.
- Jackson, L. M., & Hunsberger, B. (1999). An intergroup perspective on religion and prejudice. *Journal for the Scientific Study of Religion*, 38, 509–523.
- James, W. (1985). *The varieties of religious experience: A study in human nature*. Cambridge, MA: Harvard University Press (original work published in 1902).
- \*Kusdil, M. E., & Kagıtcıbası, C. (2000). Tuerk oegretmenlerin deger yoenelimleri ve Schwartz deger kurami [Value orientations of Turkish teachers and Schwartz's theory of values]. *Turk Psikoloji Dergisi*, 15, 59–80.
- L'État du monde, édition 1989–1990: Annuaire économique et géopolitique mondial*. (1989). Paris: La Découverte.
- L'État du monde, édition 1996: Annuaire économique et géopolitique mondial*. (1995). Paris: La Découverte.
- Lewis, C. A. (1998). Cleanliness is next to godliness: Religiosity and obsessiveness. *Journal of Religion and Health*, 37, 49–61.
- Lewis, C. A., & Maltby, J. (2000). Conservatism and attitude towards Christianity. *Personality and Individual Differences*, 29, 793–798.
- Miller, A. S., & Hoffmann, J. P. (1995). Risk and religion: An explanation of gender differences in religiosity. *Journal for the Scientific Study of Religion*, 34, 63–75.
- Paloutzian, R. F., Richardson, J. T., & Rambo, L. R. (1999). Religious conversion and personality change. *Journal of Personality*, 67, 1047–1079.
- \*Roccas, S., Sagiv, L., Schwartz, S. H., & Knafo, A. (2002). The Big Five personality factors and personal values. *Personality and Social Psychology Bulletin*, 28, 789–801.
- \*Roccas, S., & Schwartz, S. H. (1997). Church-state relations and the association of religiosity with values: A study of Catholics in six countries. *Cross-Cultural Research*, 31, 356–375.
- Rokeach, M. (1969). Value systems and religion. *Review of Religious Research*, 11, 2–23.
- Rosenthal, R. (1991). *Meta-analytic procedures for social research* (rev. ed.). London: Sage Publications.
- Sagiv, L., & Schwartz, S. H. (1995). Value priorities and readiness for out-group social contact. *Journal of Personality and Social Psychology*, 69, 437–448.
- Saroglou, V. (2002a). Beyond dogmatism: The need for closure as related to religion. *Mental Health, Religion, and Culture*, 5, 183–194.
- Saroglou, V. (2002b). Religion and the five factors of personality: A meta-analytic review. *Personality and Individual Differences*, 32, 15–25.
- Saroglou, V. (2003). Trans-cultural/religious constants vs. cross-cultural/religious differences in psychological aspects of religion. *Archiv für Religionspsychologie*, 25, 71–87.
- Saroglou, V., & Ancaux, L. (in press). Liking sick humor: Coping styles and religion as predictors. *Humor: International Journal of Humor Research*.
- Saroglou, V., & Dernelle, R. (2003, May). *Prosocial behavior and religion: New evidence using projective measures*. Paper presented at the 100 years of Psychology and Religion Conference, Amsterdam, The Netherlands.
- \*Saroglou, V., & Galand, P. (in press). Identities, values, and religion: A study among Muslim, other immigrant, and native Belgian young adults after the 9/11 attacks. *Identity: An International Journal of Theory and Research*.

- Schmidt, F. L. (1996). Statistical significance testing and cumulative knowledge in psychology: Implications for training of researchers. *Psychological Methods*, *1*, 115–129.
- Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 25, pp. 1–65). Orlando, FL: Academic Press.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, *32*, 268–290.
- \*Schwartz, S. H., & Huismans, S. (1995). Value priorities and religiosity in four western religions. *Social Psychology Quarterly*, *58*, 88–107.
- \*Schwartz, S. H., Melech, G., Lehmann, A., Burgess, S., Harris, M., & Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *Journal of Cross-Cultural Psychology*, *32*, 519–542.
- Schwartz, S. H., & Sagie, G. (2000). Value consensus and importance: A cross-national study. *Journal of Cross-Cultural Psychology*, *31*, 465–497.
- Tarakeshwar, N., Swank, A. B., Pargament, K. I., & Mahoney, A. (2001). The sanctification of nature and theological conservatism: A study of opposing religious correlates of environmentalism. *Review of Religious Research*, *42*, 387–404.
- UNESCO (1997). *1996 Statistical Yearbook*. Paris: UNESCO Publishing–Bernan Press.