


Big Two Personality and Religiosity Across Cultures: Communals as Religious Conformists and Agentics as Religious Contrarians

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Jochen E. Gebauer¹, Delroy L. Paulhus², and Wiebke Neberich³

Abstract

How are the Big Two personality dimensions of agency (e.g., competence, uniqueness, ambition) and communion (e.g., warmth, relatedness, morality) related to religiosity? A standard view assumes that communion encourages religiosity, whereas agency is independent of religiosity. Our model is more nuanced, taking into account the Big Two's motivational base as well as culture: Because communal individuals seek *assimilation* with their ambient culture, they should be most religious in religious cultures and least religious in nonreligious cultures. Conversely, because agentic individuals seek *differentiation* from their ambient culture, they should be most religious in nonreligious cultures and least religious in religious cultures. Data from 187,957 individuals across 11 cultures supported this model. Thus, direct relations between the Big Two and religiosity are not culturally universal. Instead, communal individuals are religious conformists, whereas agentic individuals are religious contrarians. In this sense, the patterns are culturally universal.

Keywords

agency, communion, religiosity, culture, assimilation, differentiation

How are the Big Two personality dimensions of agency (e.g., competence, uniqueness, ambition) and communion (e.g., warmth, relatedness, morality) related to religiosity? Prominent writers puzzling over the link between personality and religiosity (Allport, 1950; Bakan, 1966) have sought explanations that apply universally. Instead, we believe that the relation between Big Two personality and religiosity varies across cultures. In this article, we introduce a model based on theorizing about the *motivational base* of agency and communion. This motivational model assigns culture-level religiosity a moderating role in the relation between Big Two personality and religiosity. We test the model in a sample of 187,957 individuals from 11 cultures.

Big Two Personality: Agency and Communion

Much research has converged on the utility of organizing personality into two fundamental dimensions. These “Big Two” have been assigned different labels in different research traditions. The broadest labels, “agency” and “communion” (Bakan, 1966) subsume “dominance” and “nurturance” at the trait level (Wiggins, 1979). Other labels include “intellectual goodness” and “social goodness” (Rosenberg, Nelson, & Vivekananthan, 1968), “competence” and “warmth” (Fiske, Cuddy, Glick, & Xu, 2002),

“independence” and “interdependence” (Markus & Kitayama, 1991), “masculinity” and “femininity” (Bem, 1974), “plasticity” and “stability” (DeYoung, 2006), and “dynamism” and “social propriety” (Saucier, 2009). Although these label pairs differ somewhat in their emphasis, the underlying distinctions are remarkably similar (Abele, Cuddy, Judd, & Yzerbyt, 2008; Judd, James-Hawkins, Yzerbyt, & Kashima, 2005). Because he provided the earliest and most extensive elaboration of these fundamental factors, we will use Bakan's (1966) labels: *agency* and *communion*.

Whatever the labels, this two-factor organization simplifies and clarifies complex patterns of self-perceptions, other perceptions, and group perceptions. For self-perceptions, the Big Two help organize personality traits (Wiggins, 1979), social values (Trapnell & Paulhus, 2012), interpersonal problems (Horowitz,

¹ Institut für Psychologie, Humboldt-Universität zu Berlin, Berlin, Germany

² Department of Psychology, University of British Columbia, Vancouver, Canada

³ Affinitas GmbH, Berlin, Germany

Corresponding Author:

Jochen E. Gebauer, Humboldt-Universität zu Berlin Rudower Chaussee 18, 12489 Berlin, Germany
Email: mail@JochenGebauer.info

Rosenberg, Baer, Ureno, & Villasenor, 1988), and self-enhancement strategies (Campbell, Rudich, & Sedikides, 2002). The Big Two also help organize person perceptions (Abele & Wojciszke, 2007), group perceptions (Fiske et al., 2002), and cultural differences (Markus & Kitayama, 1991). The two dimensions can be distinguished even at early stages of information processing (Abele & Bruckmüller, 2011). These findings confirm the deep organizational function of the Big Two.

Distinct Motivational Bases: Differentiation and Assimilation

Underlying the Big Two are two distinct *motivational bases*. This proposition has already been stipulated in Bakan's (1966) first essay on agency and communion: "agency [is] for the existence of an organism as an individual, and communion for the participation of the individual in some larger organism of which the individual is a part. . . . Agency manifests itself in the formation of separations; communion in the lack of separations" (pp. 14–15). This conception of the Big Two has upheld the test of time: "Agency arises from strivings to individuate and expand the self. . . . Communion arises from strivings to integrate the self in a larger social unit" (Abele & Wojciszke, 2007, p. 751).

Others have argued for similar motivational bases. In Hogan's (1982) words, agency is about "getting ahead," whereas communion is about "getting along." Ybarra, Chan, and Park (2001) described agency and communion as adaptations to two core motives, namely, "standing out" from others and "fitting in" with others. Brewer and Chen (2007) interpret agency and communion as routes for satisfying fundamental human needs for uniqueness (Snyder & Fromkin, 1980) and social belonging (Baumeister & Leary, 1995), respectively. Most recently, Frimer, Walker, Dunlop, Lee, and Riches (2011) linked agency to the motive to "increase psychological distance" from others and communion to the motive to "decrease psychological distance" from others (see also Blatt & Luyten, 2009; Grotevant & Cooper, 1998; Helgeson, 1994; McAdams, Hoffman, Mansfield, & Day, 1996).

Similar motivational bases underlying agency and communion are evident in the Big Two's link to the standard dimensions of cross-cultural comparisons: individualism and collectivism (Markus & Kitayama, 1991; Wojciszke, 1997): Individualism maps onto agency, since individualists are primarily concerned with differentiation from others. Collectivism maps onto communion, since collectivists are primarily concerned with assimilation to others (Sedikides, Gaertner, & Toguchi, 2003).

Finally, research on the "Big Five" model of personality (McCrae & Costa, 2008) revealed two higher order factors: openness and extraversion reflect a dynamic, agentic orientation, whereas agreeableness and conscientiousness reflect a conformist, communal orientation (Paulhus & John, 1998; Saucier, 2009). The former dimension focuses on changing one's environment, whereas the latter focuses on stabilizing it (DeYoung, 2006).

In sum, a wealth of research suggests that the predominant motivational base underlying agency is to *seek differentiation*

from one's ambient culture. This research also suggests that the predominant motivational base underlying communion is to *seek assimilation with one's ambient culture*.

Big Two Personality and Religiosity

In his pioneering work, Bakan (1966) argued that a religious worldview is compatible with communion but unrelated to agency. Bakan reasoned that individuals with a communal predisposition endorse religiosity, because religiosity allows the execution of communion (e.g., via religious commandments). At the same time, Bakan saw no reason for a link between agency and religiosity, because religiosity does usually not allow execution of agency. Yet, direct empirical tests of those hypotheses are sparse. We only know of one: Trapnell and Paulhus (2012) presented three studies in line with Bakan's view. Their first study was a reanalysis of Richards's (1966) data on life goals among American college freshman. Two factors emerged. One was characterized by agentic goals. The other one was characterized by communal goals. In line with Bakan's view, "being active in religious affairs" and "following a formal religious code" both loaded on the communal factor. Trapnell and Paulhus's second study was a reanalysis of Roberts and Robins's (2000) data on major life goals among Californian sophomores. Again, two factors emerged. One was characterized by agentic life goals. The other one was characterized by communal life goals. Again, in line with Bakan's view, religious life goals loaded on the communal factor. Finally, Trapnell and Paulhus's third study examined the relative importance of communal over agentic values among Canadian university students. Once more, they found that students with a stronger religious identity expressed pronounced preferences for communal over agentic values.

A larger body of indirect evidence, involving the Big Five, is available. Saroglou (2010) has meta-analyzed this evidence, aggregating data from 71 samples ($N = 21,715$). Agreeableness and conscientiousness were most strongly related to religiosity. Extraversion and openness were relatively unrelated to religiosity. This evidence is consistent with Bakan's predictions regarding the Big Two and religiosity, because (as noted above) agreeableness and conscientiousness share a communal element, whereas extraversion and openness share an agentic element (DeYoung, 2006; Paulhus & John, 1998; Saucier, 2009).

Together, established theory and research on personality and religiosity points to a positive association between communion and religiosity and the absence of an association between agency and religiosity. However, such conclusions did not take the motivational base of agency and communion into account. Here, we formulate such a motivational model. Subsequently, we illustrate that the predictions of Bakan's (1966) model and the motivational model fall together in religious cultures such as North America. This illustration is important, because it can explain why past evidence, largely amassed in North America (Saroglou, 2010; Trapnell & Paulhus, 2012), is in line with Bakan's model.

Big Two Personality and Religiosity: A Motivational Model

As detailed above, communal individuals seek assimilation with their ambient culture, whereas agentic individuals seek differentiation from their ambient culture. At the core of our motivational model lies the assumption that religious belief can stand in the service of seeking assimilation and differentiation.

One effective mechanism for assimilation into one's culture is to adopt values and beliefs that meet the cultural norm (Bernard, Gebauer, & Maio, 2006; Cialdini & Trost, 1998; DeWall, 2010; Griskevicius, Goldstein, Mortensen, Cialdini, & Kenrick, 2006; Goldstein & Cialdini, 2007; Williams, Cheung, & Choi, 2000). Therefore, we predict that communal individuals should be most religious in cultures that value religiosity and least religious in cultures that do not value religiosity. Put differently, we predict that communal individuals are religious conformists: Conforming to culture-level religiosity, communal individuals should be religious in religious cultures and nonreligious in nonreligious cultures.

One effective mechanism for differentiating oneself from one's culture is to adopt values and beliefs that differ from the cultural norm (Bernard et al., 2006; Griskevicius et al., 2006; Maslach, Stapp, & Santee, 1985). Therefore, we predict that agentic individuals should be least religious in cultures that value religiosity and most religious in cultures that do not value religiosity. Put differently, we predict that agentic individuals are religious contrarians: Deviating from culture-level religiosity, agentic individuals should be religious in nonreligious cultures and nonreligious in religious cultures.

By emphasizing the motivational base of agency and communion, our model leads to different predictions for different cultures. In fact, preliminary evidence is consistent with cultural differences as stipulated by the motivational model. Specifically, Saroglou's (2010) aforementioned meta-analysis found somewhat stronger relations between personality and religiosity in religious North America than in less religious Europe. That meta-analysis focused on a comparison between continents rather than countries because there were too few data sets available from different European countries to treat them separately. This drawback is unfortunate because country-level religiosity varies widely across Europe (Gebauer, Sedikides, & Neberich, 2012). These large country-level differences between European cultures provide a suitable ground for testing the motivational model.

Scale Validation Study

For this article, we obtained self-report data from participants in a large European online-dating site. The strength of this data set is that it allowed us to test our hypotheses across a large number of countries ($N = 11$) with a very large number of participants ($N = 187,957$), who varied widely in their age, education, and occupation. One limitation of this data set is that the

item set, although broad in content, was already fixed by the dating site developers. For this reason, we first conducted a Scale Validation Study to ensure that the items we extracted were valid for measuring our key variables—agency, communion, and religiosity.

Method

344 German participants (80% female; $M_{age} = 38.75$, $SD_{age} = 11.95$) were recruited via www.psytest.de, a website that advertises online studies for voluntary participation. Participants completed our measures of agency, communion, and religiosity as well as established measures of these constructs. The order of measures was randomized across participants.

Agency and Communion

Our measures of agency and communion consisted of 10 items each. Participants were asked "How well does each of the following generally describe you?" The agentic items were "adventurous," "ambitious," "bossy," "clever," "competitive," "dominant," "leader," "outgoing," "rational," and "wise" (1 = *not at all*, 7 = *very much*; $\alpha = .78$). The communal items were "affectionate," "caring," "compassionate," "faithful," "honest," "kind," "patient," "sensitive," "trusting," and "understanding" ($\alpha = .80$).

Abele, Uchrowski, Suitner, and Wojciszke (2008) carefully constructed measures of agency and communion, consisting of 12 items each. Agentic examples are "able," "independent," and "lazy" (reverse-scored; 1 = *not at all*, 7 = *very much*; $\alpha = .80$). Communal examples are "understanding," "helpful," and "egoistic" (reverse-scored; $\alpha = .73$).

Fiske, Cuddy, Glick, and Xu (2002) measured agency and communion with 6 items each. Agentic examples are "competent," "confident," and "competitive" (1 = *not at all*, 7 = *very much*; $\alpha = .90$). Communal examples are "warm," "sincere," and "good natured" ($\alpha = .80$).

Trapnell and Paulhus (2012) devised measures of agentic and communal values, consisting of 10 items each. We were interested in the degree to which participants possessed (rather than valued) Trapnell and Paulhus's items. Therefore, we adapted the scale instructions. Specifically, participants were asked to indicate to what degree each attribute describes them (rather than to what degree each attribute is an important value for them). Agentic examples are "achievement oriented," "competent," and "independent" (1 = *not at all*, 7 = *very much*; $\alpha = .80$). Communal examples are "altruistic," "loyal," and "polite" ($\alpha = .72$).

Religiosity

Our measure of religiosity was the single-item "My personal religious beliefs are important to me" (1 = *not at all*, 7 = *very much*). Single-item religiosity measures are common and effective (Norenzayan & Hansen, 2004).

The Duke Religion Index (Koenig, Meador, & Parkerson, 1997) is a 5-item measure of global religiosity. Sample items are “In my life, I experience the presence of the Divine (i.e., God),” and “I try hard to carry my religion over into all other dealings in life” (1 = *not at all*, 7 = *very much*; $\alpha = .87$).

The Global Religiosity Measure (Gebauer & Maio, in press) is a 4-item measure of global religiosity. Sample items are “How religious are you?” and “How strongly do you believe in God?” (1 = *not at all*, 7 = *very much*; $\alpha = .79$).

Results and Discussion

First, we conducted an exploratory factor analysis that included all agency and communion measures. A two-factor principal components solution with varimax rotation revealed that our agency measure loaded strongly (.87) on a factor that included other agency measures (Abele et al., 2008 [.86]; Fiske et al., 2002 [.85]; Trapnell & Paulhus, 2012 [.87]). At the same time, our communion measure loaded strongly (.91) on a factor that included other communion measures (Abele et al., 2008 [.91]; Fiske et al., 2002 [.88]; Trapnell & Paulhus, 2012 [.84]). Further, our agency measure loaded weakly (–.09) on the communion factor, as did the other agency measures (Abele et al., 2008 [.14]; Fiske et al., 2002 [.19]; Trapnell & Paulhus, 2012 [.19]). Conversely, our communion measure loaded weakly on the agency factor (.17), as did the other communion measures (Abele et al., 2008 [–.13]; Fiske et al., 2002 [.17]; Trapnell & Paulhus, 2012 [.22]).

Next, we conducted an exploratory factor analysis, including all measures of religiosity. A single factor emerged and our single-item measure strongly loaded on this factor (.90) together with the other two measures (Gebauer & Maio, in press [.95]; Koenig et al., 1997 [.94]). Together, these results support the suitability of the Main Study’s measures.

Main Study

Method

The eDarling Data set (Gebauer & Neberich, 2011) comprises data from 187,957 participants (47% female; $M_{\text{age}} = 37.49$, $SD_{\text{age}} = 12.22$) whose country of residence is relatively evenly distributed across 11 European countries. Participants came from Austria ($N = 17,109$), France ($N = 18,105$), Germany ($N = 19,318$), Italy ($N = 13,899$), The Netherlands ($N = 13,552$), Poland ($N = 18,789$), Russia ($N = 19,734$), Spain ($N = 17,339$), Sweden ($N = 19,457$), Switzerland ($N = 11,183$), and Turkey ($N = 19,472$).

All participants completed a large number of self-report items while registering their personal profiles at the online-dating site *eDarling*. We utilized these self-report items to form measures of agency (.73 [Austria] $\leq \alpha \leq .85$ [Russia]; $\alpha = .78$ across all cultures), communion (.83 [Spain] $\leq \alpha \leq .89$ [Turkey]; $\alpha = .86$ across all cultures), and religiosity. These measures are described in the Scale Validation Study. Therefore, here, we only describe (a) a test of the measurement

equivalence of agency and communion across all 11 countries and (b) the culture-level religiosity indices.

Measurement Equivalence

We examined measurement equivalence of our agency and communion measures across the 11 countries of our sample. Using Multigroup Confirmatory Factor Analysis, we compared a model with no measurement equivalence constraints across cultures with three constraint models. In the first constraint model, we defined all 10 agentic factor loadings as equal across cultures, and we also defined all 10 communal factor loadings as equal across cultures. In the second constraint model, we added two additional constraints. Specifically, we defined the variance of the agentic latent factor as equal across cultures, and we also defined the variance of the communal latent factor as equal across cultures. In the third constraint model, we added two additional (and particularly conservative; Byrne, 2001) constraints. Specifically, we defined the variances of the 10 agentic error terms as equal across cultures, and we defined the variances of the 10 communal error terms as equal across cultures.

We judged measurement equivalence by change in goodness of fit (i.e., ΔGFI), because the popular likelihood ratio test (i.e., $\Delta\chi^2$) is unsuitable when sample sizes are large (Brannick, 1995; Kelloway, 1995). Cheung and Rensvold (2002) found that all GFIs, except of root mean square error approximation (RMSEA), are at least partially dependent on model complexity (e.g., number of manifest variables), which is why they recommend using ΔRMSEA . In this respect, ΔRMSEA of less than or equal to .01 indicate measurement equivalence (Cheung & Rensvold, 2002). Using this criterion, we found strong evidence for measurement equivalence across all 11 cultures: the RMSEA of the unconstraint model was .026, and we found ΔRMSEAs of smaller than .001 when comparing the unconstraint model with the first and the second constraint models. Even when comparing the unconstraint model with the conservative third constraint model, the ΔRMSEA was .005.

Culture-Level Religiosity

We tested all hypotheses with three different culture-level religiosity indices. First, the within-culture mean of participants’ personal religiosity score served as culture-level religiosity index 1 (CLR 1). Second, our participants also indicated their interest in church involvement (in Muslim Turkey: religious institutional involvement), which we also averaged for each culture, serving as culture-level religiosity index 2. Finally, the 2007–2008 Gallup World Poll provided an external indicator for culture-level religiosity. Specifically, Gallup World Poll participants were asked: “Does religion occupy an important place in your life?” Percentages of participants per culture, who answered “No” are publically available (“Religion in Europe,” n.d., para. 2.1), serving as culture-level religiosity index 3. We reverse-scored the latter index, so that higher scores indicated greater religiosity for all three indices.

Validity of all three indices has been supported by prior research (Gebauer et al., 2012).

Results

Analytic Strategy

Participants were nested within cultures. Hence, we used multi-level modeling (Hierarchical Linear Modeling 6.06; Raudenbush, Bryk, & Congdon, 2004). Because our hypotheses concerned cross-level interactions, we centered our Level 1 predictors around their group (culture) means, rather than around the grand (full sample) mean. Specifically, only group-mean centering, but not grand-mean centering, allows an unambiguous interpretation of cross-level interactions (Raudenbush, 1989a, 1989b). This is the case, because cross-level interactions under grand-mean centering of Level 1 predictors can be distorted by possible interactions involving the group means of these Level 1 predictors. Consequently, such distortion cannot occur under group-mean centering (Enders & Tofghi, 2007; Hofmann & Gavin, 1998).

Multilevel Analyses

We specified a multilevel model with the following predictors: communion (Level 1; group-mean centered), agency (Level 1; group-mean centered), CLR 1 (Level 2; grand-mean centered), Communion \times CLR 1 (cross-level interaction), and Agency \times CLR 1 (cross-level interaction). Personal religiosity (Level 1) served as criterion.

The top third of Table 1's first column shows the results of this multilevel model. The middle and bottom third of Table 1's first column shows the results of two additional multilevel models, each one using a different culture-level religiosity index. As can be seen, results were identical for each of the three models. Specifically, we consistently found an overall positive effect of communion on personal religiosity, as well as an overall positive effect of agency on personal religiosity. More important, in all three models both effects were qualified by culture-level religiosity. Significant Communion \times Culture-Level Religiosity interactions signified that the positive relation between communion and religiosity was relatively small in nonreligious cultures and relatively high in religious cultures. In contrast, significant Agency \times Culture-Level Religiosity interactions signified that the positive relation between agency and religiosity was relatively small in religious cultures and relatively high in nonreligious cultures.

Figure 1 displays the communion-religiosity correlations and the agency-religiosity correlations as a function of culture-level religiosity. Note that the communion-religiosity correlation (controlling for agency) was positive in particularly religious cultures (Turkey and Poland, $.16 < r_{\text{partial}} < .22$), considerably smaller in less religious cultures (Germany and France, $.003 < r_{\text{partial}} < .05$), and even negative in atheistic Sweden ($r_{\text{partial}} = -.06$). At the same time, the agency-religiosity correlation (controlling for communion) was strongest in relatively nonreligious cultures (Sweden and Germany, $.09 < r_{\text{partial}}$

$< .12$) and weakest in particularly religious cultures (Turkey and Poland; $.009 < r_{\text{partial}} < .06$).

Do our results hold even when controlling for culture-level individualism-collectivism (obtained from Hofstede, Hofstede, & Minkov, 2010) and culture-level gross domestic product (GDP) per capita in international dollars (obtained from "List of countries by GDP (PPP) per capita," n.d.; World Bank 2007 data)? To examine this question, we conducted two additional sets of multilevel analyses. In the first additional set, we repeated the three above described multilevel analyses (one per country-level religiosity index), while additionally including individualism-collectivism (Level 2; grand-mean centered), Communion \times Individualism-collectivism (cross-level interaction), and Agency \times Individualism-collectivism (cross-level interaction) in all three models. Table 1's second column shows that our results remained robust despite this conservative control. The second additional set of multilevel analyses, was identical to the first additional set, except that we exchanged culture-level individualism-collectivism with culture-level GDP per capita. Table 1's third column shows that our results once more remained robust.

In absolute terms, the effect sizes within cultures were small (see Figure 1). Yet, these values are typical for effect sizes involving religiosity. Examples include religiosity and self-enhancement, $r(15,396) = .10$ (Sedikides & Gebauer, 2010), agreeableness, $r(14,432) = .19$ (Saroglou, 2010), and conscientiousness, $r(14,773) = .16$ (Saroglou, 2010).

Discussion

Bakan's (1966) classic proposition posits that religiosity is fully compatible with a communal orientation to life but unrelated to agency. We have proposed a more nuanced model. Our model takes into account the motivational base of communion, that is, seeking assimilation with one's ambient culture, along with the motivational base of agency, that is, seeking differentiation from one's ambient culture. As such, our motivational model predicts that communal individuals should be most religious in religious cultures and least religious in non-religious cultures, whereas agentic individuals should be most religious in nonreligious cultures and least religious in religious cultures.

Although Bakan's model and our motivational model differ in many ways, they make identical predictions in religious cultures. This may be the reason why past research is in line with Bakan's predictions, considering that past research was largely conducted in religious North America (Saroglou, 2010; Trapnell & Paulhus, 2012). Thus, to differentiate between Bakan's model and the motivational model, it is important to compare associations between religiosity and Big Two personality across cultures that vary widely in culture-level religiosity. Our data permitted such a test of cross-cultural differences.

Results from religious cultures (e.g., Turkey and Poland) were in line with Bakan's model (1966) as well as with the motivational model. Thus, our results have conceptually replicated past research in religious cultures. However, we detected a contrasting pattern of results in less religious cultures. In

Table 1. Multilevel Model (MLM) Results for Each of the Three Culture-Level Religiosity Indices (CLR 1–CLR 3), Including No Culture-Level Covariates (Column 1), Individualism as Culture-Level Covariate (Column 2), and Gross Domestic Product (GDP) per Capita as Culture-Level Covariate (Column 3).

	No Culture-Level Covariates (dfs = 187,948)					Culture-Level Covariate: Individualism (dfs = 187,945)					Culture-Level Covariate: GDP (dfs = 187,945)				
	b	SE	T	p		b	SE	t	p		b	SE	t	p	
Main effect communion	.179	.0055	32.47	.001	Main effect communion	.179	.0056	32.09	.001	Main effect communion	.175	.0057	30.79	.001	
Main effect agency	.178	.0052	34.23	.001	Main effect agency	.175	.0052	33.45	.001	Main effect agency	.171	.0053	32.23	.001	
Communion × CLR 1	.232	.0078	29.66	.001	Communion × CLR 1	.223	.0110	20.26	.001	Communion × CLR 1	.218	.0149	14.62	.001	
Agency × CLR 2	-.082	.0075	-10.97	.001	Agency × CLR 2	-.116	.0105	-11.06	.001	Agency × CLR 2	-.157	.0142	-11.11	.001	
MLM Involving CLR 2 (Church Attendance)															
Main effect communion	.182	.0055	32.89	.001	main effect communion	.170	.0056	30.53	.001	main effect communion	.170	.0056	30.25	.001	
Main effect agency	.177	.0052	33.93	.001	main effect agency	.174	.0052	33.24	.001	main effect agency	.171	.0053	32.37	.001	
Communion × CLR 2	.349	.0133	26.27	.001	Communion × CLR 2	.297	.0137	21.64	.001	Communion × CLR 2	.221	.0193	11.49	.001	
Agency × CLR 2	-.114	.0126	-9.10	.001	Agency × CLR 2	-.107	.0130	-8.18	.001	Agency × CLR 2	-.141	.0185	-7.62	.001	
MLM Involving CLR 3 (Gallup World Poll)															
Main effect communion	.191	.0055	34.67	.001	main effect communion	.179	.0056	32.23	.001	main effect communion	.173	.0056	30.60	.001	
Main effect agency	.180	.0052	34.65	.001	main effect agency	.177	.0052	33.66	.001	main effect agency	.172	.0053	32.45	.001	
Communion × CLR 3	.006	.0002	26.63	.001	Communion × CLR 3	.005	.0003	20.33	.001	Communion × CLR 3	.004	.0003	14.56	.001	
Agency × CLR 3	-.003	.0002	-11.59	.001	Agency × CLR 3	-.003	.0003	-10.73	.001	Agency × CLR 3	-.003	.0003	-10.10	.001	

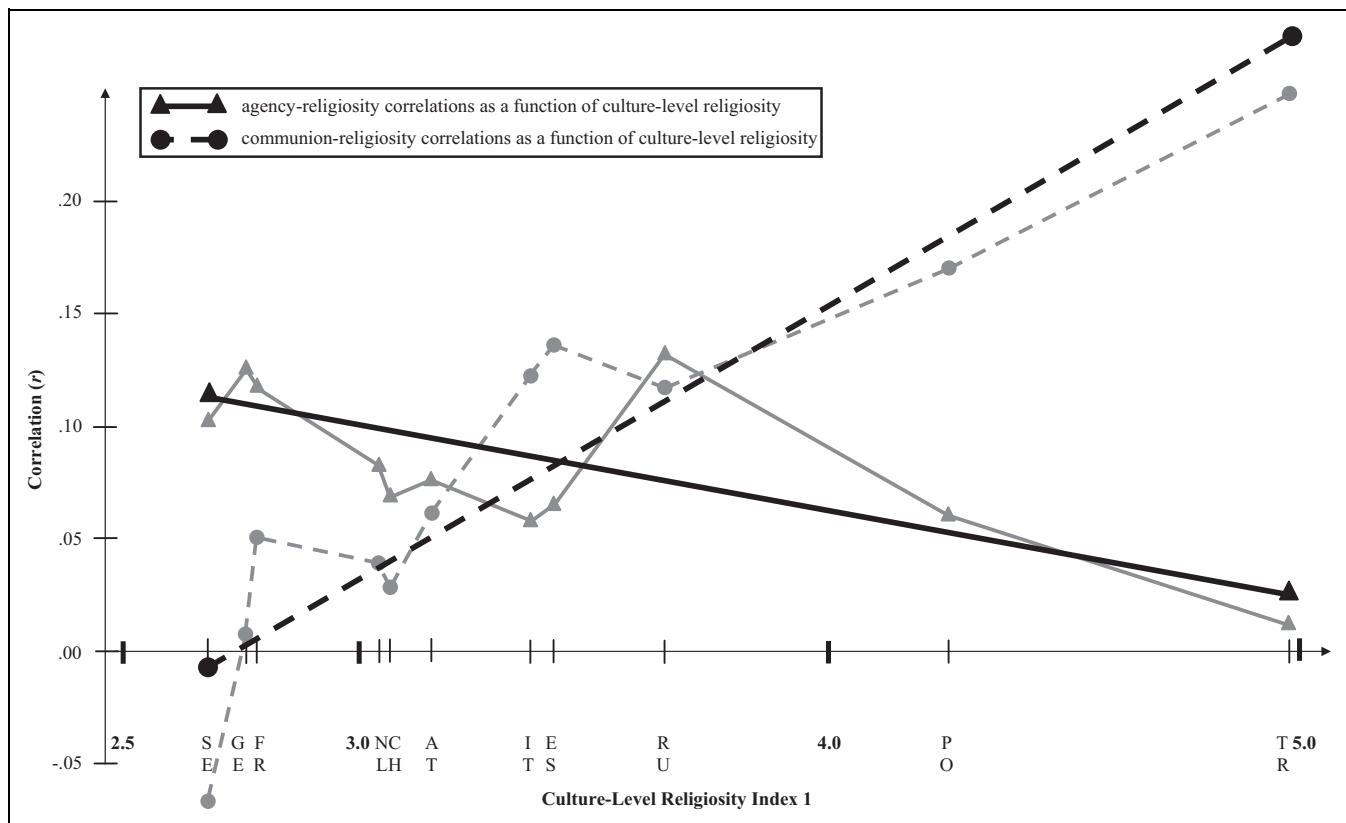


Figure 1. Agency–religiosity correlations (controlling for communion) and communion–religiosity correlations (controlling for agency) for each culture as a function of culture-level religiosity index *I* (CLR *I*; *I* = *not at all religious*, 7 = *very much religious*). Included cultures (CLR *I* scores in parentheses): Sweden (SE, 2.68), Germany (GE, 2.76), France (FR, 2.78), The Netherlands (NL, 3.04), Switzerland (CH, 3.06), Austria (AT, 3.15), Italy (IT, 3.36), Spain (ES, 3.41), Russia (RU, 3.65), Poland (PO, 4.25), Turkey (TR, 4.98). Gray symbols show the actual correlations within cultures; black lines and symbols represent the best-fitting regression lines.

Sweden, Germany, and France, we found comparatively lower (or even negative) associations between communion and religiosity but more positive associations between agency and religiosity. This reversal of effects in relatively nonreligious cultures (compared to religious cultures) fits the motivational model, but it is difficult to explain with Bakan's model.

Our results closely follow psychological theory regarding the motivational base of agency and communion. From a theological perspective, however, our results are counterintuitive. According to Christian teachings, the only righteous motivation for religiosity is the desire to worship almighty God, while all self-serving motives are frowned upon or even described as sinful (Baumeister, Campbell, Krueger, & Vohs, 2003; Benedict XVI, 2005; Greenberg, 2008; Leary, 2004). Yet, our results add to a growing body of evidence showing that religiosity can be motivated by self-serving desires such as self-enhancement, control, attachment, belongingness, a positive social identity, uncertainty reduction, and terror management (for a review, see Sedikides & Gebauer, *in press*).

The present results also invite speculation about changes in the link between Big Two personality and religiosity over the next decades to come. Specifically, religiosity is declining in most cultures (Dogan, 2002; but see Turkey for an exception;

Yeşilada & Noordijk, 2010). In other words, when it comes to religiosity, most cultures are predicted to become more similar to Sweden and less similar to Turkey. According to the motivational model, these changes in culture-level religiosity should be accompanied by changes in the link between Big Two personality and religiosity. Specifically, if Sweden's currently low culture-level religiosity ever became prototypical for the world, the agency–religiosity correlation may overall become more substantial than the communion–religiosity correlation.

As is the case for all prior research on personality and religiosity, our cross-sectional data cannot speak directly to causal mechanisms. Nonetheless, the assumption that personality emerges prior to religiosity (Bakan, 1966; Saroglou, 2010) appears most reasonable. After all, personality is more cognitively basic (Abele & Bruckmüller, 2011) and broader than religiosity (Sedikides & Gebauer, 2010). It is evident at an earlier age (McCullough, Enders, Brion, & Jain, 2005) and possesses a stronger genetic basis than does religiosity (Bouchard, 2004).

Our research capitalized on data from an international online-dating site. This opportunity allowed us to examine substantial numbers of cultures and participants, diverse in age,

education, and income. In consequence, however, our sample is restricted to singles searching for a mate. Future research should attempt to replicate our results in samples less restricted in this regard. Further, using data from online-daters raises the question whether self-presentation (Leary & Batts Allen, 2011; Paulhus, 2002) provides an alternative explanation for our results. We are well aware that self-presentation can never be fully ruled out in any self-report study (Paulhus & Trapnell, 2008). Nonetheless, we believe that the present study is not more prone to self-presentation than typical studies on psychology undergraduates. First, our participants completed the questionnaire over the Internet, probably in the privacy of their homes. Second, online-dating at *eDarling* is fully based on receiving partner suggestions. These partner suggestions are based on personality matching (Gebauer, Leary, & Neberich, in press). Purposely misrepresenting one's actual religiosity would lead to unsuitable partner suggestions and online-dating site members are reminded of this while completing the questionnaire. Finally, evidence suggests that religious self-presentation is more self-deceptive, than other-deceptive (Sedikides & Gebauer, 2010), and self-deceptive self-presentation is considered a valid part of the respective construct (Paulhus & Trapnell, 2008).

Irrespective, ours is the first large-scale study on Big Two personality and religiosity. It conceptually replicates and extends previous evidence from religious North America to other religious cultures (Turkey, Poland). Most important, however, our work challenges the universality of the personality-religiosity relation, demonstrating the importance of culture-level religiosity (Gebauer et al., 2012; Sedikides & Gebauer, 2010). We hypothesized that communal individuals are religious conformists, whereas agentic individuals are religious contrarians. We found evidence for this pattern across 11 religiously diverse cultures. In this sense, the pattern appears culturally universal.

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Bios

Jochen E. Gebauer is an assistant professor of personality psychology at the Humboldt-Universität zu Berlin, Germany.

Delroy L. Paulhus is a full-time professor of personality psychology at the University of British Columbia, Canada.

Wiebke Neberich works in the Research & Communication division of the Affinitas GmbH, Germany.