

# Personality and Religion

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## Abstract

Traditionally, religion has been perceived to shape individuals' personality (traits, but also values and social attitudes). I review here recent research describing the associations between personality and general religiosity, as well as modern spirituality, fundamentalism, and intense religious change. Additionally, longitudinal, genetic, and experimental studies help us to clarify the causal processes. Religion shapes, to some extent, personality but, inversely, genetic and environmental influences also affect the personality–religiosity links. Personality interacts with environmental factors to predict religiosity and with religion to predict relevant psychological outcomes.

For centuries, probably thousands of years, and across all human societies, people vary significantly on whether and to what extent they are religious or nonreligious. In other words, there exists important variability in 'religiousness.' Additionally, people differ in the specific ways (motivations, trajectories, cognitive styles, emotional quality) they are religious or irreligious. In other words, there exists important variability in religious forms. Finally, research in the behavioral and social sciences has shown that believers and nonbelievers, and the different subtypes of each, differ in many aspects of their individual and social lives (cognition, emotions, self-concept, interpersonal relations, social behavior, intergroup relations, family, work, economy, and politics). In other words, religiousness seems to have implications for human psychological functioning at the intraindividual, interpersonal, and group levels (Paloutzian and Park, 2013; Saroglou, 2014).

## Personality–Religion Links: Theory

From a personality psychology perspective, it is reasonable to expect that individual differences in religiousness should be followed, to some extent, by personality differences. Religion, that is, beliefs, emotions and rituals, norms, and community, and their related positive or negative attitudes (religiousness), should influence the typical way people think, feel, and behave, that is, their personality. However, given that the basic 'deep' personality traits, also called 'first-level' personality, are mostly stable and enduring, as they are heavily dependent on genetic influences, biology, and temperament, religion's influence on personality can more easily be conceived for characteristics that are at the 'surface' level, also called 'second-' and 'third-level' of personality. These latter characteristics (e.g., social attitudes, identity, self-concept, values, meaning, and ultimate concerns) are more culturally sensitive and malleable and emerge later in life.

However, the opposite causal direction from personality to religiousness is equally if not even more plausible. People with certain basic personality traits, that is, personality predispositions, may be more or less likely to be interested and invest in religious beliefs, practices, and groups, because the latter may either correspond or not to their personality. Unbelievable but true, 'blind' observers are capable of guessing the religiosity of

others based only on photographs of their face (Naumann et al., 2009). This causal direction may be direct, from personality to religiousness, or more complex. For instance, individual differences on both personality and religiousness may result from common underlying factors such as common genetic and environmental influences. Alternatively, religiousness, like social attitudes, value hierarchies, and political orientation, may be one of many other narrow characteristics, cultural adaptations of some broader personality predispositions, the latter importantly interacting with specific contextual and social factors (e.g., salience of religion during socialization or key life events).

Note that most scholars in the area of personality and religion agree that religiousness is a sui generis construct of individual differences that is closer, because of its ideological and moral components, but not reducible to values and social attitudes rather than to personality traits (e.g., Ashton, 2013; but see Piedmont, 1999, for an alternative view of spirituality as a basic personality dimension). Basic personality traits are transsituational, importantly heritable, enduring, and descriptive, whereas religiosity, values, and social attitudes are domain-specific, importantly subject to environmental influences, malleable, and rather normative. Empirical studies confirm stronger associations of religiousness with value hierarchies and relevant social attitudes than with personality traits (Roccas et al., 2002; Saroglou and Muñoz-García, 2008).

## Research Trends

The study of the personality characteristics of believers, nonbelievers, and their different subtypes has been constant for many decades in the research at the intersection of personality psychology and psychology of religion. That research has often relied on self-reported measures for both personality and religiousness and has been carried out predominantly among Westerners of Christian tradition. Nevertheless, that research has included most of the different theories and models of personality of the last 50 years.

Since the late 90s, research on religion and personality has intensified. This research has increasingly used the five-factor model (FFM) of personality whose strengths, among others, are a structure with relative cultural universality and the capacity to

encompass and integrate into five major dimensions most of the personality traits that were identified in previous personality models. Moreover, recent research has started to investigate religion and personality in non-Christian and non-Western contexts. It has also used meta-analytic techniques, measures of personality other than self-reports (peer-ratings, behavioral measures, or text content analysis), and research designs beyond the simple collection of cross-sectional correlational data (longitudinal studies, laboratory experiments, and multilevel analyses of international data).

### Personality–Religion Links: Empirical Evidence

After a short presentation of the FFM and two alternative modern models of similar structure (taxonomy of many traits under a few broad dimensions) that have been used in recent research on personality and religion, a synthesis of the main findings will be presented.

#### Major Personality Models and Traits

According to the FFM of personality, people differ from each other by being predisposed to typically think, feel, and behave (1) prosocially or egoistically when interacting interpersonally with others (agreeableness); (2) energetically or not in everyday life and when in group (extraversion); (3) orderly and methodically or without self-control when dealing with thoughts, feelings, and goals (conscientiousness); (4) stressfully or with emotional stability when facing challenges from the external and the internal world (neuroticism); and (5) openly and flexibly or conservatively in front of ideas and experiences marked by novelty, variety, and complexity (openness to experience).

Each of these five broad personality factors encompasses many distinct, lower-level, and thus narrower personality traits (facets) that typically point to two more specific tendencies within each factor. Agreeableness includes prosocial, other-oriented tendencies and social politeness; conscientiousness includes prohibitive and proactive tendencies; neuroticism combines emotional volatility and emotional withdrawal; extraversion points to energy but also to assertiveness; and, finally, openness to experience combines intellectual and strictly experiential openness. Some traditional personality traits are disseminated through their subcomponents into more than one factor within the FFM. For instance, the classic trait of impulsivity has its different components under three FFM factors. Other traits (e.g., humorousness or sexiness) are not necessarily captured by the FFM.

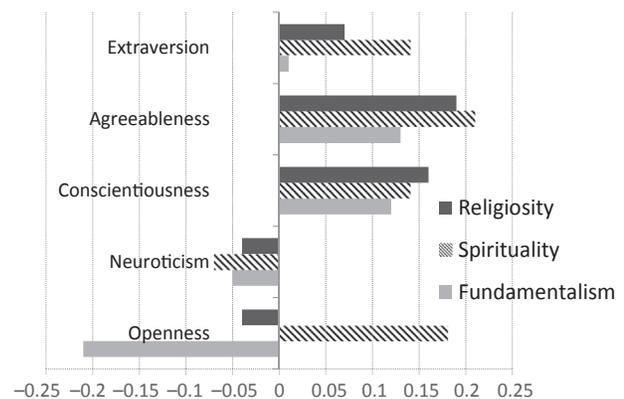
Older than the FFM, but still in use, the three-dimensional personality model of Eysenck includes extraversion and neuroticism, but also psychoticism. The latter is a global dimension that combines the low poles of agreeableness and conscientiousness and also includes impulsivity. However, while the two FFM factors point to the prosocial personality, psychoticism is a broader dimension indicating an antisocial and aggressive personality. Furthermore, HEXACO (Ashton, 2013), a newer personality model than the FFM, maintains the five dimensions overall (with minor changes in subcomponents between some factors),

but adds a cross-culturally important sixth factor, that is, honesty/humility.

### Personality Traits and Religiosity: Main Links

The vast majority of the more than 100 studies of the last 15–20 years have been carried out among Western believers and nonbelievers of Christian (Protestant and Catholic) tradition, but an increasing number of studies in Muslim, Jewish, and Buddhist religious and cultural contexts seem to extend the main lines of findings to non-Christian and non-Western contexts (see for two meta-analyses: Lodi-Smith and Roberts, 2007; Saroglou, 2010).

Indeed, rather consistently across the many studies, religiosity (intrinsic religiosity, global positive religious attitudes, religious beliefs and practice) first reflects prosocial tendencies when interacting with others: it is related to high agreeableness, usually to most of its facets except often modesty, and social warmth, a facet belonging – though marginally – to the extraversion factor. Second, religiosity implies high orderliness, methodicalness, and a tendency for self-control: it is associated with high conscientiousness, in its both inhibitive and proactive aspects, and low impulsivity, a trait whose subcomponents are located under three factors of the FFM and under psychoticism in the Eysenck's model. Third, religiosity is related to the single facet of (low) openness to values (ideological/moral conservatism) but not necessarily to the other components of the openness to experience factor (Saroglou, 2010; see Figure 1 for the mean effect sizes). In line with the above, across the many dozens of studies that have used Eysenck's model, religiousness is typically associated with low psychoticism, the dimension of antisocial personality defined by coldness and distance in interpersonal relationships and high impulsivity (Francis and Penny, 2014; Lodi-Smith and Roberts, 2007). Finally, also in line with the above, studies on religion and the HEXACO personality traits confirm that religiosity also reflects honesty/humility, a factor



**Figure 1** Mean effect sizes (weighted mean correlation coefficients), depicted in bars, of the associations of personality factors with religiosity, spirituality, and fundamentalism. Adapted from Saroglou, V., 2010. Religiousness as a cultural adaptation of basic traits: a five factor model perspective. *Personality and Social Psychology Review* 14, 108–125.

that is partly a blend of agreeableness and conscientiousness (Ashton, 2013).

The above findings indicate that a major underlying tendency of a religious personality is stability, in terms of both social harmony and internal self-control. Indeed, agreeableness and conscientiousness are known to constitute a higher-order factor denoting personal and interpersonal stability. Beyond these personality traits, religiosity is unrelated overall to the core aspects of extraversion (energy), neuroticism (negative emotionality), and experiential and intellectual openness. In other words, religiosity is overall orthogonal with respect to the traits that constitute the second higher-order factor of personality denoting plasticity and growth. These three personality traits are connected with religiosity only in some contexts, for some people, and for specific forms of religiousness (see a later section).

### Robustness and Implications of the Links

Beyond occasional exceptions of studies with null findings, more than a hundred studies to date suggest that the above personality 'profile' of religious people may imply some universality. This profile is present in a large number of countries from different continents, across the major religions, different age groups, both genders, and seemingly various cohorts from the last 70 years. More importantly, ratings by peers (parents, teachers, siblings, colleagues, and 'blind' observers), behavioral studies (see a next section), text content analyses, and studies that have controlled for social desirability confirm that although the latter may inflate the size of the associations, the religious personality 'profile' is not a simple artifact of social desirability (Saroglou, 2010).

### Personality Differences beyond Traits

Moreover, studies that measure second- and third-level personality constructs (e.g., values, social attitudes, identity), which are known to adapt the basic personality traits of the first level (the big five factors) in specific life domains, typically confirm the above main lines of findings. Religious people typically tend to attribute (1) high importance to values denoting conservation (tradition and conformity) instead of openness to change (self-direction); (2) high value to self-transcendence in relationships with proximal others (benevolence, compassion, honesty, but not necessarily universalism); and (3) low importance to values that oppose self-restraint and self-control (hedonism, and to some extent, stimulation) (Saroglou, 2014). Similarly, religious adolescents and young adults prefer identity styles/statuses that emphasize engagement, possibly but not necessarily after exploration, that is, achievement or foreclosure (Saroglou, 2012, for review). Along the same line, studies have shown moderate links of general religiosity (and strong links of fundamentalism) with conservatism (political, ideological, and moral, but not necessarily economic) and authoritarianism (Paloutzian and Park, 2013; Saroglou, 2014), but overall no relation with social dominance (e.g., Hirsh et al., 2013). These social attitudes are known to reflect low openness to experience, but whereas authoritarianism and conservatism additionally relate to high conscientiousness, social dominance additionally reflects low agreeableness.

### Cognitive Preferences

The personality characteristics of religiosity tend to translate into specific patterns and preferences in cognition, emotions, and behavior. For instance, studies among nonbelievers and believers socialized as Catholics and Protestants in Europe and the United States show a typical association between religiosity and, more strongly, fundamentalism, with the epistemic need for closure, and in particular with order and predictability – not necessarily closed-mindedness or an urgency to make decisions (e.g., Brandt and Reyna, 2010). This means that, although religiosity does not necessarily reflect simplistic thinking or dogmatism in beliefs and an indifference to opposite beliefs, it is marked by the need for order and structure in the inner world and thus the need for answers, as opposed to keeping existential and other questions open. Similarly, several studies across different countries and religions confirm that religious people tend to endorse just-world beliefs (like 'everybody gets what s/he deserves') and are prone to system justification.

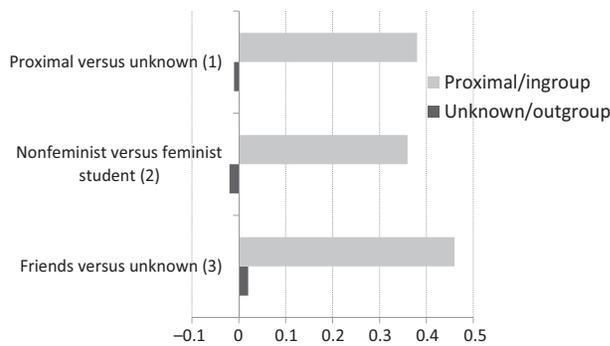
### Stereotypes and Meta-Stereotypes

Believers and nonbelievers hold reciprocal stereotypes (what ones think about others) and meta-stereotypes (what ones believe others think about them) in line with the findings on the religion-personality links. High versus low prosociality and conservatism, as well as low versus high hedonism seem to be associated with believers versus nonbelievers, respectively.

One may thus suspect that peer-validation and indirect, though proximal constructs, paper-and-pencil validation of religious self-reported personality tendencies may still suffer from various bias such as stereotypes ('s/he is religious, so s/he must be prosocial'), impression management ('I am religious, so I am prosocial'), or spurious accuracy (peers of religious targets, especially if selected by the latter, may just conform to stereotypes when evaluating the target) (see Galen, 2012). However, existing studies provide behavioral confirmation of the religious personality, at least to some extent and within some contexts.

### Behavioral Implications

When results are significant, studies confirm that, under specific conditions (e.g., no conflicting principles, no threat of values) and with some limitations (in targets, motivations, and cost), religious people of various religious traditions tend to behave prosocially, showing for instance, nonaggression, generosity, reciprocity, and assistance (Saroglou, 2013). Religious people also tend to show many conscientiousness-related and control of impulsivity-related behaviors, like low tobacco and drug use, sexual infidelity, and crime, and high educational achievement as well as the capacity to delay gratification (McCullough and Carter, 2013). Moreover, an analysis of the European Social Survey data showed that people who chose fields of study and corresponding jobs involving care for others (teaching, education, personal care services, and medical/health services) had the highest mean scores on religiosity. The fields of study where mean religiosity was the lowest were engineering, sciences, mathematics, and computing, domains independent from prosocial concerns. Finally, religious people do not appreciate disparaging jokes regarding vulnerable targets (disabled people) and jokes that transgress social conventions (death- and disgust-related jokes) and also tend to inhibit spontaneous



**Figure 2** Correlation coefficients, depicted in bars, between religiosity and willingness to help proximal/ingroup versus unknown/outgroup targets in three studies: respectively, proximal versus unknown (1), nonfeminist versus feminist (2), and friends versus unknown people (3). Adapted from (1): Saroglou, et al., 2005. Prosocial behavior and religion: new evidence based on projective measures and peer ratings. *Journal for the Scientific Study of Religion* (Study 2); (2) and (3): Blogowska, Saroglou, 2011. Religious fundamentalism and limited prosociality as a function of the target. *Journal for the Scientific Study of Religion* (Studies 1 and 2).

creation of humor as a response to hypothetical hassles (Saroglou, 2014, for review). These behaviors clearly reflect high agreeableness and/or conscientiousness.

Note that the mean effect sizes of the associations of religiosity with personality traits and related attitudinal and behavioral outcomes are typically small, most often within the range of 0.15–0.25. Nevertheless, when focusing on many subtler personality traits/facets (instead of the broad personality factors), the explained variance of religiosity may increase up to 15–25% (Kandler and Riemann, 2013; Paunonen, 1998); and when adding values to personality traits, the explained variance may reach 17–45% (Roccas et al., 2002; Saroglou and Muñoz-García, 2008). Finally, as far as the behavioral implications of religious personality are concerned, note that it is the interaction between individual differences and situational factors that predict behavior better than either of these factors alone. For instance, across several studies, the religiosity-helping association ranges between 0.22 and 0.45 when the target is proximal or an ingroup member, but is around zero when the target is unknown or perceived to threaten religious values (see Figure 2).

### Spirituality, Fundamentalism, and Intense Religious Change

Agreeableness and conscientiousness not only accompany general religiosity, but, as shown in many studies, also characterize – possibly in different strengths – specific religious forms. As shown in Saroglou’s (2010) meta-analysis, modern spirituality, which may be independent from institutionalized religion, and mature (reflective) forms of religiosity, and also religious fundamentalism, are all associated with high scores on the above two personality factors. However, other personality traits importantly characterize these religious forms. Spirituality, an autonomous and nontraditional form of reference to some kind of transcendence, denotes growth/plasticity, that is, high extraversion and, more importantly, openness to

experience. Religious fundamentalists, on the contrary, tend to be aversive to novelty, variety, and complexity: they tend to be low in openness to experience (see Figure 1 for the mean correlations across studies).

Moreover, people differ in the way they are, become, or remain religious, spiritual, or atheist. An extensive body of research attests that people who have been religiously socialized, especially by parents to whom they have a secure attachment, develop secure working models of self and others (Granqvist et al., 2010). Their adult religiosity tends to be marked by positive emotionality, positive God representations, and the use of positive religious coping. On the contrary, people who have experienced ‘dramatic,’ intense conversions and people who have joined marginal small-size religious groups often tend to be characterized by an insecure attachment to parents, insecure adult attachment, a high need for closure, and neuroticism-related traits. They tend to use negative religious coping and have a negative God representation. Finally, atheists and deconverts, or at least some subtypes of them (note that research on personality and specific forms of irreligion is only emerging), tend to be high in openness to experience. Nevertheless, an area still open for future investigation is the extent to which dogmatic believers may resemble or differ from dogmatic, militant atheists.

There is some behavioral validation of the personality characteristics of these specific religious forms. Whereas traditional religiosity typically predicts prosociality toward proximal targets but not necessarily unknown targets and certainly not people perceived to threaten values, spirituality, which combines agreeableness with openness to experience, predicts altruism extended to outgroups, thus being universal. On the contrary, fundamentalism combining low openness with some agreeableness typically predicts outgroup prejudice and derogation, an effect partially explained by authoritarianism and the need for closure, but not by social dominance, a non-empathetic orientation (Saroglou, 2013, for review).

### Age, Gender, and Culture

In his meta-analysis, Saroglou (2010) also investigated the potential moderating role of age, gender, and culture on the religion-personality traits associations. The associations of religiosity with agreeableness and conscientiousness, although consistently present across three age groups (adolescents, young adults, and adults), were stronger among older adults compared to younger adults. One interpretation is that religious personality becomes more ‘personal’ and intrinsic in adulthood, more strongly reflecting prosocial and order-related motives. Moreover, spirituality was more strongly associated with positive emotionality (high extraversion and low neuroticism) in adult samples relative to younger samples, which can be understood in terms of faith maturity: religious doubt reflects less stress and instability in adulthood than in earlier stages of life.

Women’s higher prevalence of religiosity – across religions, especially in beliefs and private practice rather than public practice – may result from gender differences in personality (Francis and Penny, 2014). Women, or individuals of either gender who have a high femininity orientation, are higher in prosociality and orderliness, lower in risk-taking, and higher in

dependability and susceptibility to irrational ideas. Beyond these mean differences on both personality and religiosity, the existing evidence suggests that the associations of religiosity with the big five personality traits are similar for men and women.

Agreeableness and conscientiousness accompanied higher religiosity not only in studies from the United States, Canada, and Europe but also in studies from some other parts of the world – though underrepresented in the meta-analysis. Beyond these similarities, differences in the magnitude of effects were found when comparing the first three cultural zones, all of which have a predominantly Christian tradition. Compared to Europe, in the United States, religiosity reflected higher emotional stability (lower neuroticism), what possibly indicates more positive emotionality of religious expressions in today's American Protestantism compared to Europe, more historically marked by Catholicism's guilt. It also reflected higher agreeableness and no low openness to experience, what could be attributable to a stronger multicultural and multireligious tradition in the United States, comparatively with European countries marked by dominant mono-religious traditions. Finally, evidence from large international data (Gebauer et al., 2014) indicates that the associations of religiosity with agreeableness and conscientiousness (a *communion* orientation) are more pronounced in religious countries (religious people seek to assimilate into the predominant norms of these societies). In more secular societies these associations attenuate, and openness to experience and agency (competence, uniqueness, and ambition) become more important characteristics of religiousness (religious people may seek to be unique from the many secular others). These findings are in line with the idea of a shift, in secular societies, from traditional religiosity to modern spirituality.

### Personality, Religion, and Behavior: Causal Processes

As stated earlier, theoretically, both directions of causality are conceivable: religion and religiousness may shape personality, and personality may contribute to individual differences on religiousness. Alternatively, personality and religiousness may both depend on third, common causes, or personality may interact with situational factors, thus influencing religiousness. Finally, religion and personality may interact to predict social behavior. Below, the empirical evidence for the above pathways will be presented.

### Religious Influences on Personality

There is weak but not dismissible evidence that religiousness longitudinally predicts personality and personality changes and that religious stimulation affects to some extent personality, at least surface-level personality characteristics.

The maintenance of, or increase in, religious involvement among US adolescents was found to longitudinally predict, across late adolescence and emerging adulthood, commitment – but not exploration – in identity status, that is, an increase in foreclosure and a decrease of moratorium and diffusion (Hardy et al., 2011). Religious values of middle

adolescents in Australia predicted an increase in agreeableness and a decrease in psychoticism 2 years later (Huuskes et al., 2013); a similar longitudinal influence of adolescent religiosity on agreeableness in late adulthood was found among US women (Wink et al., 2007).

Moreover, evidence from studies on conversion suggests that conversion has an impact on second- and third-level personality constructs (narrow traits, values, social attitudes, meaning, identity) rather than first-level basic personality traits, which are less changeable and more stable and enduring (Paloutzian and Park, 2013). Finally, a series of laboratory experiments show that implicit or explicit exposure to religious ideas and symbols activates agreeableness- and conscientiousness-related social attitudes, cognitions, and behaviors, such as (ingroup) prosociality, self-control, honesty, submission/conformity (Galen, 2012; Saroglou, 2013, for reviews), and decreased social dominance orientation (Hirsh et al., 2013).

### Personality Influences on Religiousness

Longitudinal studies from the United States, Australia, and Belgium indicate that personality has chronological priority and an impact on religiousness (studies by Heaven, McCullough, Wink, and colleagues cited in Saroglou, 2010; see also Duriez et al., 2008). Across these studies, religiousness in late adolescence, adulthood, and late adulthood was predicted by high conscientiousness or low psychoticism, measured when the participants were children or adolescents. In addition, high versus low agreeableness in adolescence predicted respectively an increase versus decrease of religiousness throughout adulthood; and openness to experience in adolescence predicted spirituality in late adulthood. Finally, high versus low exploration in adolescent identity status later influenced, respectively, the symbolic versus literal way one approaches religious ideas.

Therefore, from a five-factor theory perspective, religiosity can be seen as one of many other characteristic adaptations, that is, later in life, and narrower in focus (like identities, values, social attitudes, and ideologies), contextual, and cultural adaptations of early basic personality predispositions – here a combination of agreeableness with conscientiousness and low impulsivity. Of course, there is no direct, mere transformation of personality traits to religiosity: value hierarchies and specific social attitudes, themselves being characteristic adaptations of basic personality traits, are stronger predictors of religiosity; additional individual differences (see below) may complement personality and value influences on later religiosity; and individual differences do not predict religiosity alone, but in addition to or in interaction with environmental factors, in particular religious socialization.

Indeed, in addition to basic personality traits, values, and social attitudes, religiosity is associated with (1) other personality characteristics that are located beyond the five factors such as honesty, conservatism, low sexiness, and low humorousness (Saroglou, 2014, for review), as well as (2) individual differences, beyond personality, that are more cognitive in nature, such as low intelligence (Zuckerman et al., 2013) and holistic and intuitive rather than analytic thinking (Gervais and Norenzayan, 2012).

More importantly, there is substantial evidence that an important, if not the major, predictor of religiosity is parents' attitudes toward religion. Religious socialization in general (mainly parents' influence, but also broader socialization) importantly undermines future religious attitudes. Finally, negative life events and also some self-transcendent positive experiences play a role in amplifying interest and investment in religion and spirituality (Saroglou, 2014, for review). Consequently, an integrative theoretical model that better identifies the role of personality in religiousness is one that puts personality in interaction with global environmental factors and personal life events (see Figure 3). Siblings' differential trajectories with regard to religion is the typical example attesting the influence of individual differences beyond, or in interaction with, environmental influences such as religious or atheist family socialization.

Therefore, people who are agreeable and conscientious, if religiously socialized (family and society's influences), and especially if they had developed a secure attachment to their parents, will tend overall to remain religious because religious ideas, emotions, and norms solidify their prosocial and conscientious tendencies. Religion emphasizes ideals of compassion, social harmony, social cohesion, personal stability, and self-mastery. Even if these people experience religious doubts and no longer believe, for example because of their cognitive and social development, their personality predispositions may prevent them from totally abandoning religion due to their desire to minimize conflict and maintain harmony with their religious families and peers.

Agreeable and conscientious people who are nonreligiously socialized, in principle, would tend to develop attitudes and endorse secular ideologies in favor of secular humanism, social justice, and pro-environmental concerns to express and solidify their personality dispositions and respective values. If however they have experienced insecure attachment to parents or in

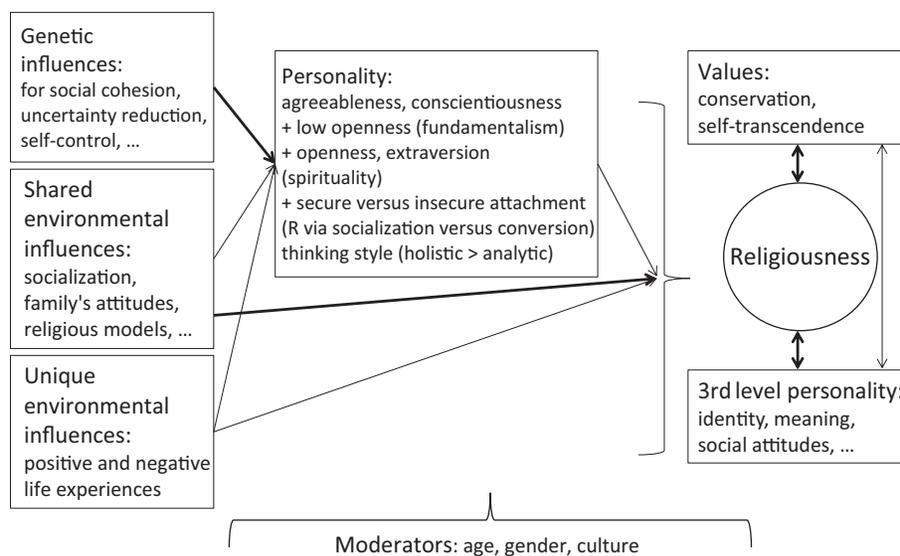
adulthood, or if they are confronted with significant negative life events, their agreeableness and conscientiousness may make them more predisposed than their nonagreeable and nonconscientious peers to be interested and invest in spirituality and religion in order to (re)-establish personal stability, meaning, trust, and faith to their values.

Beyond the above pathways, people who, in addition to agreeableness and conscientiousness, are also characterized by low openness to experience may turn to conservative and fundamentalism religious forms, whereas those with high openness and extraversion, especially in secular countries, will be more in osmosis with modern forms of spirituality.

### Genetic and Environmental Influences on Religiousness

Several genetic studies have confirmed that individual differences in religiosity and specific forms of it, like religious fundamentalism, are due to both environmental (shared and nonshared, i.e., unique) and genetic influences (see also Figure 3). New studies helped to clarify the underlying processes. Genetic influences on religiosity are very small during adolescence; in that age period religiosity is heavily influenced by shared environmental factors, mainly family education and broad religious socialization. However, genetic influences become much more important in early adulthood, probably because young adults gain autonomy from family, allowing more fully for the expression of their genetic predispositions (Button et al., 2011; Koenig et al., 2005, 2008). Across studies, heritability estimates for religiosity range between 2 and 29% in adolescence, but between 27 and 65% in adulthood.

A reasonable hypothesis is that the genetic influences on religiosity can be explained through personality influences or that the links between personality and religiosity are due to common genetic influences. This was confirmed in three recent



**Figure 3** Theoretical model describing the genetic and environmental influences on religiosity and the role of personality characteristics: basic traits and other individual differences.

studies. In the first, the relationship between religiousness and antisocial behavior measured among 265 male twin pairs (US) was due to both genetic and shared environmental effects. Altruistic behavior also shared almost all of its genetic influence, but only half of its shared environmental influence, with religiousness (Koenig et al., 2007). In the second study on 993 pairs of twins (US), heritable effects underlying community integration and existential uncertainty strongly overlapped with the heritable influences on religiosity (Lewis and Bates, 2013). In the third study on 394 twin pairs (Germany), the associations between religiosity and personality traits in an older and a younger group (agreeableness and low openness, in both groups; and, additionally, in the younger group, conscientiousness) were entirely attributable to genetic influences in the older group and to genetic influences and shared environmental effects in the younger group (Kandler and Riemann, 2013).

There is also evidence that change in religiosity in late adolescence and young adulthood is mostly genetic in origin, with increased nonshared, unique environmental effects (e.g., personal experiences, significant negative or positive life events); stability is determined by both genes and family (shared) environment (Button et al., 2011; Koenig et al., 2008). Shared environmental effects were found to importantly mediate the parent-offspring correspondence in religiosity, but these decreased with age. On the contrary, the self-peers' (friends and spouse) correspondence on religiosity increased with age and was partly explained by genetic and nonshared environmental effects (Kandler and Riemann, 2013). Finally, there seems to exist a genotype-environment correlation in the personality characteristics of religiosity: parents who are agreeable and less open to values transmit both genetically and environmentally their personality dispositions as well as their religiosity to their offspring (Kandler and Riemann, 2013). Note also that, because of the assortative mating (future spouse-similarity on religiousness), the influence of heritability on offspring religiosity (possibly through personality) may have been underestimated.

### Personality-Religion Interaction as Predicting Psychological Outcomes

A final way in which personality is involved in religion is that personality characteristics may interact with religious ideas, emotions, norms, and identities or with individual religiousness, to predict various psychological outcomes at all levels: intraindividual, interpersonal, and social.

Here are some illustrative examples coming from recent experimental studies (Saroglou, 2014, for review). In a series of four studies, priming religious concepts increased accessibility of submission-related thoughts, submissive behavior to the experimenter requesting retaliation, conformity to informational social influence, and deontological nonempathetic moral choices, but only among people who were high in dispositional submissiveness or authoritarianism. Religious priming was also found to increase prosocial behavior but only among participants with DRD4 (dopamine D4 receptor gene) susceptibility. Similarly, the priming of Buddhist concepts among Westerners decreased implicit ethnic prejudice, but only among participants who highly valued universalism. Finally,

individuals with avoidant attachment style were found to be reluctant to use the compensatory mechanism of God as a safe haven in response to attachment threats.

From a personality psychology perspective, these findings confirm the idea that personality tendencies better predict relevant behavior in contexts and environments (here those involving religious stimulation) that correspond to, and encourage the expression of, such tendencies. From a psychology of religion perspective, these findings underline the fact that religious beliefs, rituals, norms, and groups do not necessarily have universal psychological potential but often seem to be relevant particularly for individuals with specific personality characteristics.

### Conclusion

To conclude, personality is, to some extent and rather at the surface level, shaped by religion. More importantly, a specific pattern of personality dispositions (basic personality traits and corresponding values and social attitudes, as well as specific cognitive styles) influence later attitudes toward, specific forms of, and life span changes relative to, religion. Personality, mostly through genetic influences, in early adulthood 'clarifies' or removes the earlier family effects on religious attitudes, in addition to, and possibly in interaction with, significant life events. Finally, religion's influence on individuals' psychological functioning may also pass through, or interact with, personality characteristics. Search for quality in interpersonal relationships, social harmony and cohesion, and personal order and control, especially in the face of uncertainty, seem to be the key mechanisms beneath the personality-religion links. Motives for growth and plasticity do not seem to be the core business of religious personality, but their strength versus weakness importantly colors various forms and expressions of religion, mainly modern spirituality versus fundamentalism.

*See also:* Agreeableness; Attitudes and Behavior; Authoritarianism; Belief in a Just World; Conscientiousness; Five Factor Model of Personality, Facets of; Gender Differences in Personality and Social Behavior; Honesty and Humility; Openness to Experience; Personality Differences and Development: Genetic and Environmental Contributions; Personality, Trait Models of; Prejudice and Discrimination; Spirituality; Values, Social Psychology of.

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