

Thematic Article

The Different Patterns of Religiosity and Their Relationship with Cloninger's Temperament and Character Model

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Abstract

The aim of our study is to create a more detailed and accurate picture of the complex relationship between personality and religiousness by describing the person's religiousness in a multidimensional way. The sample for study consisted of 240 subjects (161 females, 79 males; mean age: 22,53, SD= 2,98) who attended church at least occasionally. We divided up different types of religiosity by the way in which they are followed: compiling the participants' different critiques based on their responses regarding religious practice, on the data from the Hungarian Shortened Post Critical Belief Scale (Martos et al., 2009), and the Hungarian version of the Age Universal I-E Scale (Kézdy et al., 2018). For the measurement of personality based on the Cloninger's psychobiological theory, we used the Shortened Hungarian Cloninger Temperament and Character Inventory (TCI 56) (Paksi et al., 2009). K-means clustering and one-way ANOVA-s were used to explore and compare the patterns. The results of the study show that in terms of personality traits, there are significant differences between the different types of religiousness. Therefore, interpreting and analyzing piety and personality as a complex system could help to understand religious practice and education in a more differentiated way.

Keywords: Cloninger's psychobiological model; intrinsic-extrinsic religious orientation; Post Critical Belief Scale; religious attitudes

Introduction

The aim and relevance of this current study

Researches concerning religiousness have given ambiguous results, because they examined adherence in general (Horváth-Szabó, 2003). The goal of this study is to, according to Cloninger's model (Cloninger, 1994), examine the different dimensions of devoutness, and its connection with different parts of personality, character (that is influenced by the social propositional learning) and temperament (that is the biologically determined part of the personality).

The different dimensions and development of religiousness

Allport and Ross (1967) determined two dimensions of religiosity, calling them "intrinsic" and "extrinsic orientation" toward religion. People having extrinsic orientation focus only on the customs of religion, but the internalization of its values is not present in their life. People having intrinsic religious orientation live their religious lives with internalized values (Allport & Ross, 1967). Extrinsic orientation was later found to house two different forms of adherence (Maltby, 2002), "personal orientation" and "social orientation". With intrinsic,

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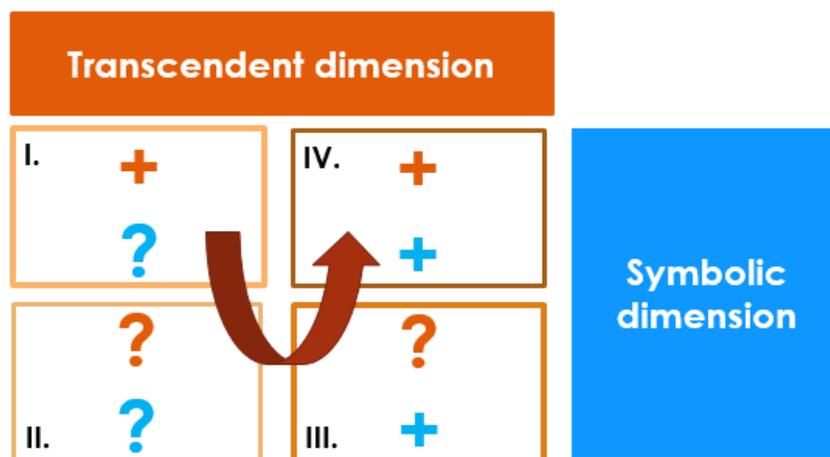
the religious development according to the Allport and Ross (1967) model can be detected by the internalization of the values of religion or lack of it (Martos & Kézdy, 2007). To sum it up, extrinsic orientation is equal to immature piety and intrinsic equal to mature religiosity (Kézdy, Urbán & Martos, 2018).

The Allport and Ross (1967) extrinsic and intrinsic religiosity orientation model has been widely criticized because it has only two dimensions of religiousness, the extrinsic is the bad and the intrinsic is the good one (Martos & Kézdy, 2007). As a result, several researchers have modified and improved this model to have a more precise description of the background of religious motivations (Martos & Kézdy, 2007).

The Post Critical Belief Scale (Martos, Kézdy, Robu, Urbán & Horváth-Szabó, 2009) measures the critical thinking toward religion (Urbán, 2012 cited by Helfaer, 1972). Researchers also found that this critical thinking can be connected to identity crises (Puffer et al., 2008 cited by Urbán, 2012). The Post Critical Belief Scale was based on the works of Wulff, (1991, 1997 cited by Horváth-Szabó, 2003) Fowler (1981 cited by Horváth-Szabó, 2003) and Ricoeur (n.d. cited by Horváth-Szabó, 2003). The scale included aspects of religious development beside modern hermeneutics (Martos et al., 2009).

The scale has two independent dimensions (Picture 1.). The vertical one defines inclusion or exclusion of transcendent and the horizontal one is the symbolic or word by word interpretation of biblical themes (Martos et al., 2009). The transcendent dimension is about how much existence of God and authenticity of Bible is accepted or denied. The symbolic dimension describes the value of abstract interpretation of biblical and religious concepts (Martos et al., 2009).

Figure 1. The Post Critical Belief Scale dimensions



The Post Critical Belief Scale is also suitable for measuring the development of belief by using these for subscales based on the Fowler theory (n.d. cited by Horváth-Szabó, 2003): orthodoxy, external critics, relativism, second naivety (Martos et al., 2009).

Cloninger's psychobiological model

Cloninger (1994) in his psychobiological model divided the personality into two different entities: character and temperament, based on their neurobiological background (Cloninger, 1994).

The temperament is a modest inherited stable part of the personality that summarizes the whole set of automatic answers given to stimuli arising from emotional effects (Rózsa, Kállai, Osváth & Bánki M., 2005). Novelty seeking is modulated by dopamine, harm avoidance is regulated by serotonin and reward depending is influenced by noradrenalin (Rózsa et al., 2005). Persistence is independent from the other temperament factors, because it has a general effect on the personality as a whole (Rózsa et al., 2004).

The factors of character develop by social, propositional learning, in which life experience has an important role (Cloninger, 1994; Rózsa et al., 2005). By Cloninger's self-concept the character develops by these three factors (Cloninger, 1993, cited by Rózsa et al., 2005): self-directedness, cooperativeness and self-transcendence.

The development of character according to religiousness and the mature, immature personality

At first, self-directedness develops from three factors, the inaugural step being when a person accepts himself/ herself, and is capable to control himself/ herself to achieve his/ her goals (Szabó, Szántó, Susánszky & Martos, 2016). According to Klanjšek, Vazsonyi and Trejos-Castillo (2012) study among adolescents, intrinsic piety correlates to higher self-control relative to the extrinsic one.

Secondly, in the development of character, which can be measured by the cooperativeness factor, the person defines himself/ herself as part of humanity and society (Cloninger, 1993, cited by Rózsa et al., 2005), so one cooperates with others. In terms of religiousness and cooperation, persons who have prayed more are significantly more cooperative than those who visit the church regularly or simply feel, their faith has great importance in their lives (Brennan & London, 2001).

In the third step, the person defines himself/ herself as part of the universe, which can be sensed through transcendent experience (Rózsa et al., 2005). In the research of Worthington et al (2003 cited by Mcculough & Willoughby, 2009), correlation between self-transcendence and religiousness was found.

When carrying out various acts of kindness, persons get to know themselves better, and the activity of the anterior and medial prefrontal cortex increases (Diener & Biswas-Diener, 2008, cited by Cloninger, Zohar, & Cloninger, 2010). As a result, scores of self-directedness, cooperativeness and self-transcendent factors will be higher (Cloninger, 2004; Gusnard, Akbudak, Shulman & Raichle, 2001; Koechlin, Corrado, Pietrini & Grafman, 2000; Limb & Braun, 2008; Moll, Krueger, Zahn, Pardini, de Oliveira-Souza & Grafman, 2006 cited by Cloninger, Zohar & Cloninger, 2010). In case kind actions are perceived as a practical manifestation of religiousness, there is a correlation not only with self-transcendent factors but with all three factors of character.

Cloninger also separated mature and immature personalities. The maturity of personality is reflected in an at least average score not only of self-directedness, but also of cooperativeness (Rózsa et al., 2005).

The fundamental differences between mature and immature personalities manifest themselves in processes like mechanism of defense used in intrapsychic conflicts (Rózsa et al., 2004). Mature people are integrated, can control themselves in order to reach their goals, and are also capable of cooperating and helping since they perceive themselves as an active part of society (Cloninger, n.d. cited by Rózsa et al., 2005).

Research design and Methods

Participants

The current study used convenience sampling. 240 participants (mean age: 22,53, SD= 2.98) were reached/contacted via the internet, in different Christian groups on social media. 79 male (32.9%) and 161 (67.1%) female participants took part in the current research. All the participants attend church with different frequency, 9.5% only on special occasions, 7.1% monthly, 52.5% weekly, 30.8% several times a week. Their different levels of education were the following: 38.8% tertiary education, 60% secondary education, and 1,3% elementary school. The denominational division in our study was: 77.5% Roman Catholic, 10.8% Calvinist, 3.3% Baptist, 1.3% Lutheran, and 7.1% other Christian divisions.

Measures

TCI. The shortened Hungarian version of the Cloninger Temperament and Character Inventory (Cloninger, 1999; Paksi et al., 2009) measures the seven personality traits posited by Cloninger's psychobiological model. This model consists of four temperament scales and three character scales. For each of the 56 items, respondents indicated the extent to which they describe how they usually act or feel on a 5-point scale ranging from 1 (strongly agree) to 5 (strongly disagree). The alpha reliability coefficients for the seven main dimensions were: Novelty-Seeking 0.69, Harm Avoidance 0.67; Reward Dependence 0.66; Persistence 0.77; Self-Directedness 0.75; Cooperativeness 0.69; Self-Transcendence 0.76.

PCBS. The shortened Hungarian version of the Post Critical Belief Scale (PCBS) (Martos et al., 2009) measures the four dimensions of religiousness with 18 items. These dimensions are the following: inclusion or exclusion of transcendence, and literal or symbolic interpretation of biblical themes (Martos et al., 2009). For each of the 18 items, respondents indicated how much they agree with the statements on a 7-point Likert scale ranging from 1 (I do not agree with the statement at all) to 7 (I perfectly agree with the statement). During the computation of the two dimensions of PCBS factors, we used the weighted factors of the average Hungarian

sample which approximate the results of factor analytical processes (Martos et al., 2009). These dimensions are not uncorrelated, although they fit the result of a factor analytical process. In our sample this correlation was relatively high and significant (0.25), but this is also characteristic of other religious samples like ours.

Age Universal I-E Scale. The shortened Hungarian version of the Age Universal Intrinsic-Extrinsic Scale (Kézdy et al., 2018) measured the religiousness with 13 items in three factors: intrinsic orientation toward religion, extrinsic-personal and extrinsic-social orientation toward religion. For each of the 13 items participants could choose from three alternatives in a Likert scale. The choices were: true, untrue, not fully true. The alpha reliability coefficients for the three dimensions were: Intrinsic orientation 0.81; Extrinsic-personal orientation 0.60; Extrinsic-social orientation 0.81.

Church attendance. This was measured with the following selection of six different responses possible: several times a week, once a week, monthly, on special occasions, not at all. By answering “other”, the respondent could write other options as well.

Statistical Analyses

Two types of analyses were carried out. K-means Clustering was used to examine profiles of attitudes toward religion. This method is able to investigate the ways in which multiple variables of religious adherence are configured within individuals (De Fruyt, Mervielde, & Van Leeuwen, 2002). This person-oriented approach is focusing on identifying groups of individuals believing differently (Scholte, van Lieshout, de Wit, & van Aken, 2005). The scores of two scales of PCBS, the three scales of I-E Scales, and the scale of Church attendance were used as the clustering variables.

In the following, analyses of the variance of the Temperament and Character scales scores for the groups found in clustering were carried out.

Hypothesis

It is assumed that different patterns of dimensions of religiosity can be identified in a sample of participants attending church, and these patterns are related to temperament and character (maturity) of personality.

Results

K-means clustering

Five clusters were generated by K-means cluster analysis in the sample of participants attending church at least occasionally. Table 1. shows the means of standardized clustering scales (Age Universal Intrinsic-Extrinsic Scale, Post Critical Belief Scale, and the scale of church attendance) in each cluster. If their values were between -0.5 and +0.5, they were evaluated as “moderated”, if higher than +0.5, as “high”, and if lower than -0.5, as “low”.

Table 1. K-MEANS clustering: means of standardized scales in the five clusters, and the identification of clusters

	1. Relativism (n=22)	2. External critique (n=20)	3. Extrinsic orientation (n=75)	4. Orthodoxy (n=55)	5. Symbolic interpretation (n=68)
Exclusion vs. Inclusion of Transcendence	-1.09 LOW	-2.02 LOW	.22 MODERATE	.92 HIGH	-.04 MODERATE
Literal vs. Symbolic Interpretation	.95 HIGH	-.50 LOW	-.04 MODERATE	-.91 LOW	.62 HIGH
Intrinsic orientation	-1.35 LOW	-1.88 LOW	.45 MODERATE	.52 HIGH	.07 MODERATE
Extrinsic-personal orientation	.05 MODERATE	-.10 MODERATE	.94 HIGH	-.65 LOW	-.50 LOW
Extrinsic-social orientation	.92 HIGH	-.71 LOW	.61 HIGH	-.28 MODERATE	-.54 LOW
Church attendance	-1.14 LOW	-1.71 LOW	.19 MODERATE	.47 MODERATE	.28 MODERATE

Four of these five clusters correspond to the four attitudinal types of the two-dimensional model created by Wulff and Hutsebaut (Hutsebaut, 1996). Therefore, the identifications of clusters were based on the classification of this model (Fontaine et al., 2003).

Based on the model of Allport (1967), Wulff and Hutsebaut (1996), we suppose that the clusters we have found are similar to the cluster structure of a general population, but partially they have some different meanings, since only people attending church (at least occasionally) were included in our sample.

One-way ANOVA

Seven one-way analysis of variance (ANOVA) were used to determine whether there are any statistically significant differences between the five clusters. Dependent variables were the four temperament and the three character scales of TCI. Our data met the assumptions of ANOVA (independence of observations, normality of dependent variables, homogeneity of variance).

There was a significant effect of religious attitude on novelty seeking for the five clusters [$F(2,235)=10.57$ $p=0.03$ $\eta^2=0.044$]. Post hoc comparisons using the LSD test indicated that the mean score for the external critique attitude ($M=0.50$; $SD=1.04$) was significantly different than the extrinsic orientation ($M=-0.2$; $SD=0.98$) ($p=0.006$), and the orthodoxy attitude ($M=-0.12$; $SD=0.95$) ($p=0.017$).

We have found a significant effect of religious attitude on self-directedness for the five clusters [$F(2,235)=9.88$ $p=0.041$ $\eta^2=0.041$]. Post hoc comparisons using the LSD test indicated that the mean score for the relativism attitude ($M=-0.36$; $SD=1.05$) different from the orthodoxy attitude ($M=0.21$; $SD=0.94$) ($p=0.024$), and the symbolic interpretation $M=0.17$; $SD=0.88$) ($p=0.03$).

We have found a significant effect of religious attitude on self-transcendence for the five clusters [$F(2,235)=16.64$ $p=0.02$ $\eta^2=0.07$]. Post hoc comparisons using the LSD test indicated that the mean score for the extrinsic orientation ($M=0.31$; $SD=0.87$) was significantly different from the external critique attitude ($M=-0.54$; $SD=0.82$) ($p=0.001$), from the relativism attitude ($M=-0.39$; $SD=1.10$) ($p=0.003$), and from the orthodoxy attitude ($M=-0.07$; $SD=0.97$) ($p=0.028$); furthermore, the mean score for the symbolic interpretation ($M=0.01$; $SD=1.07$) was significantly different from the external critique attitude ($M=-0.54$; $SD=0.82$) ($p=0.027$).

Discussion

The connection between the different dimensions of the character according to Cloninger's concept and the different maturity of religiousness reveals, that in the progression of piety the development of character and personality are important. That means that the facilitation of character development plays an important role in religious education.

This character development in the model of Cloninger (Cloninger, 1994) is determined by the environment, socialization and educational factors. First, as the person builds his/ her own autonomy, he/ she learns how to control his/ her own impulses and behavior in order to achieve his/ her goal. Secondly, as a result from constricting and realizing himself/ herself, the autonomic self evolves to be a part of social units:

cooperating with others, feeling empathetic and relating to them. Finally, beyond the experiences of concrete object relations, the self can be seen as a part of wider and even more abstract connections, in unity with nature and the universe, and in a personal relationship with God (Cloninger, 1994). For a person reaching an advanced level of self-transcendence, religious teachings are filled with personal experiences. The development of transcendence is interpreted by Cloninger as a path of character development (Cloninger, 1994; Cloninger, Svrakic & Svrakic, 1997). In this meaning, mature religiosity is connected to the highest levels of character development. Immature religiosity on the other hand may be interpreted as, a person experiencing available religious content being integrated in a less mature stage of character development (Allport, 1967; Hutsebaut, 1996).

Our results show that there were significant relationships between religious attitudes and novelty seeking, self-directedness, and self-transcendence, although the effects sizes were low (in case of novelty seeking and self-directedness) or moderate (self-transcendence) (Cohen, 1988). This suggests, of course, that the formation of religious attitudes is influenced by numerous other factors.

According to the result of temperament and its connection with the different patterns of religiosity, novelty seeking temperament was highest in the external critique cluster, and lowest in the extrinsic orientation group. In the case of the external critique cluster the novelty seeking may be in connection with the radical rejection of the traditional religious worldview and practice, that is, the members of this group don't accept even the symbolic validity of religious thinking and regulations, rather turning to new truths, values, and pleasures. In contrast, their social relationships and subjective well-being play very important roles in the practice of religion in the extrinsic orientation attitude. Their religious lifestyle is also characterized by pragmatism and conservatism, partly because of the importance of the religious culture and the norms of the congregation. In case of the orthodoxy cluster, there might be a conflict between the literal interpretation of Scripture (and religious traditions, regulations) and novelty seeking, since in this group the scores of novelty seeking were low.

From the connection of character and the different religiousness self-directedness achieved the highest scores in the orthodoxy cluster. This is a surprising result because other authors stated that orthodoxy is characterized by conservatism, predictability, preference for order, social dominance orientation (Fountain et al., 2003; Duriez, 2003; Duriez & Van Hiel, 2002; Saroglou, 2002). The model of PCBS described by Wulff and Hutsebaut sees orthodoxy as an immature type of piety (Hutsebaut, 1996). Furthermore, the low values of the scale of Literal vs. Symbolic interpretation indicate that members of the orthodoxy cluster may be characterized by less moral competence, perspective taking, empathy, tolerance of ambiguity, open-mindedness, self-transcendence values, and by higher levels of racism, social dominance, authoritarianism (Duriez, 2003; Duriez, 2004; Fontaine et al., 2005). Although our study reveals that self-directedness of those who belong to the orthodoxy group can be considered as a component of their resistance to drifting away from their religious convictions. Another explanation of the result of the relationship between the orthodoxy and self-directedness can be the high intrinsic orientation that was found within the orthodoxy cluster. Thus the motivation to follow religious views and regulations comes from the intrinsic orientation of religiousness. The results of the relationship between intrinsic religiousness and self-control were verified by other studies too (Klanjšek, Vazsonyi, & Trejos-Castillo, 2012).

Those who have an attitude of relativism have other characteristics in interpreting religious texts, regulation, tradition into a current form, and they can keep the spirit of spiritual texts intact and give it meaning in their everyday lives. At the same time, their low scores on the intrinsic orientation scale and the high scores on the extrinsic-social orientation scale may express a kind of uncertainty, which relates to the low values on the self-directedness scale.

The cluster of symbolic interpretation of religiousness is similar to the relativism cluster, but there is an important difference. In the symbolic interpretation cluster, the Scripture and religious traditions play a more important role in shaping the religious life and attitude.

According to the self-transcendence factor, that was the highest in the extrinsic orientation cluster, and lowest in the groups of external critique and relativism. The holistic and pantheistic nature of self-transcendence fits better with the practical and self-healing character of the extrinsic orientation group than with orthodoxy that rejects the non-personal image of God, and with symbolic interpretation that rejects extrinsic religiosity. The members of the external critique and the relativism attitudes accept immanent experiences rather than different forms of transcendence.

According to our study results, there was no connection between religious attitude and cooperativeness, something unexpected as regards the Cloninger personality developing model (Cloninger, 1994). Still, there

were significant relationships between religious attitude, self-directedness, and transcendence from the character factors. It can mean that self-directedness and thus personal goals and the feeling that one is a part of something greater are more important in shaping the different patterns of religiosity than the cooperativeness. The cooperativeness proved to be a more general character factor in religiosity.

Conclusions

These results show us that the connection between personality and religiosity must be researched as a complex system. In future researches the relationship between personality and piety should be measured more punctually with a bigger and more representative sample, using qualitative data as well. Examining the temperament and the matureness of the character with a longitudinal study may show a more definite connection between personal development and the development of religiousness. Furthermore, how the socialization of religiousness is connected with the different kinds of character is also an interesting question.

Conflicts of Interest: The authors declare no conflict of interest.

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