# Categorizing People by Their Preference for Religious Styles: Four Types Derived from Evaluation of Faith Development Interviews

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[Acknowledgements] This article presents an empirical complement to Streib's (2001) model of religious styles that was published in this journal. Now, after our research teams in Bielefeld and Chattanooga were able to conduct and evaluate more than 700 faith development interviews (FDI), which was made possible by generous grants from the German Research Foundation (DFG; Grants STR570/5-3; STR570/15-1; STR570/17-1; STR570/20-1) and from the John Templeton Foundation (Grant#55249), we could move forward to the typological modeling of FDI results of three subsamples. Categorizing People by Their Preference for Religious Styles: Four Types Derived from Evaluation of Faith Development Interviews

## Abstract

This article presents a typology that categorizes people according to their profile of religious styles which concerns, among other things, the sources where they derive validity and stability, when confronted with religious and existential questions or inter-religious challenges. The modeling of this typology is an empirical complement to Streib's model of religious styles which, in turn, is a critical advancement of Fowler's faith development theory. Data are religious style assignments to the answers on the 25 questions in the Faith Development Interview (FDI), which has been administered to 677 participants in the United States and Germany. We present results based on a theory-driven approach to determine a person's religious type by incorporating frequencies of religious style assignments from the evaluation of their FDI. We also explored convergent validity with latent class analysis and a machine-learning algorithm. Results based on three samples converged on four religious types: Substantially Ethnocentric, Predominantly Conventional, Predominantly Individuative-Reflective, and Emerging Dialogical-Xenosophic types. We reported the profiles of the four types with reference to group differences on religious schemata and openness to experience.

## Keywords

religious types, faith development, religious styles, individual difference, typology, religious schema, openness to experience, psychology of religion

How can the psychology of religion account for the contrast between a person, who passionately claims the exclusive validity of their religion and the authoritativeness of their religious prescriptions also for anyone else, another person who, with intellectual humility, is open for encountering the unknown and supports inter-religious dialog, a third person who, based on their own autonomous reflection, attempts to promote rationality, and suggests fair coexistence and tolerance, and a fourth person who is deeply embedded in their religious community and wants to preserve harmony and avoid any conflict? Such differences in religious and inter-religious styles call for an individual difference approach, including special attention to the different sources, where individuals resort to for finding validity and support, when confronted with religious and existential questions or inter-religious challenges. This study, which is based on a mixed-method design triangulating qualitative and quantitative data and analyses, is a contribution to the categorization of individuals' religious styles.

## Account for Individual Differences and Typology Construction in the Study of Religion

In the psychology of religion attention to individual differences and typology construction appears to be lower than in other psychological disciplines, if we compare, for example, the high regard and frequent application of the Five Factor Model (Costa & McCrae, 1985) in personality psychology. Certainly, there is attention to individual differences in regard to religion and typologies have been constructed (for an overview, see Hood, Hill, & Spilka, 2018). A prominent and frequently used typology in the psychology of religion is Allport's (1950; 1966; Allport & Ross, 1967) distinction between two types of religion: intrinsic and extrinsic. The I/E typology is, as Allport (1966, p. 456) says, based on the hypothesis that "the extrinsic religious orientation is … the context of prejudice," while "the intrinsic orientation is the matrix of tolerance." At the basis of Allport's I/E typology

stands his interest (a) in prejudice reduction and thus in distinguishing a version of religion that supports prejudice from a version of religion that promotes tolerance, in combination with (b) the advocacy for and clear delineation of the true and pure (Christian) religion that "is oriented toward a unification of being, takes seriously the commandments of brotherhood, and strives to transcend all self-centered needs" (p. 455). In regard to the latter, Dittes (1971) discerns a kind of prophetic advocacy for the pureness of religion, and, by the way, notes a parallel between Troeltsch's (1912) church/sect typology and Allport's I/E typology in this regard.

The *a priori* identification of the "pure" religion with tolerance and an "impure" type of religion that is contaminated with self-interest and prejudice is problematic as is the focus of Allport's conceptualization and empirical research on Christian religion and his special concern with "church-goers." This may raise some doubt, if his I/E typology, and especially the profile of the *extrinsic* type, is useful for research in other religious cultures. So we may leave the I/E question aside for our discussion here. But we expand on Allport's contrast between a version of religion that supports prejudice and a version of religion that promotes tolerance, which, as Allport (1954, p. 456) has also put it, is the contrast between the religion "of an ethnocentric order" and the religion "of a universalistic order."

Allport's two types are reflected and advanced in other contributions that also work with two binary types of religion such as an authoritarian (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950), fundamentalist (Altemeyer & Hunsberger, 1992), or intratextual (Hood, Hill, & Williamson, 2005) type of religion, on the one hand, and a rather liberal, hermeneutically open, inter-textual, and communication-based type of religion, on the other hand. This contrastive distinction has structured many research projects in the psychology of religion, even if attention has focused rather on the dark, pathogenic side, as the amount of research on religious fundamentalism and authoritarianism demonstrates (for an overview, see Rowatt, Shen, LaBouff, & Gonzalez, 2013; Klein, Lühr, & Streib, 2018). This two-type-typology has structural parallels to the typology presented in this article, but we suggest that further differentiations should be considered, which are inspired by models in developmental psychology and particularly in the model of religious styles (Streib, 2001). *Religious Styles—Building Blocks for a Typology* 

The model of religious styles (Streib, 2001) with its five styles is rooted in Fowler's (1981) model of faith development that includes six *stages of faith*: intuitive-projective faith (Stage 1), mythic-literal faith (Stage 2), synthetic-conventional faith (Stage 3), individuative-reflective faith (Stage 4), conjunctive faith (Stage 5), universalizing faith (Stage 6). All these stages rank on a spiral line (for his spiral figure, see Fowler, 1981, p. 275) like pearls on a necklace through which individuals are supposed to stride progressively and sequentially in an ideal ontogenetic developmental trajectory. Fowler's model shares much of its developmental optimism—including a clear prescriptive intention—with structural-developmental models that emerged in the 1970s and 1980s under the influence of Kohlberg (1981; 1984) and his reading of Piaget.

Streib (2001) has criticized and advanced Fowler's model by replacing "stages of faith" with "religious styles"—which is not oppositional to Fowler, since Fowler himself used to talk occasionally about "styles." Abandoning the terminology of "stages" however frees the description of religiosity from the assumption of a stage-wise, mono-directional, and irreversible development, while retaining the core of Fowler's typology is possible. The labels of the religious styles that are suggested by Streib (2001) are supposed to put more emphasis on the inter-personal relation and thus slightly differ from Fowler's labels for faith stages: subjective (Style 1), instrumental-reciprocal or 'do-ut-des' (Style 2), mutual (Style 3), individuative-systemic (Style 4), and dialogical (Style 5) styles.

However, Streib's (2001) model of religious styles left out Fowler's Stage 6 of "universalizing faith." This is based on the assumption that a psychologically plausible model of religious styles does not need, and should not be based on, theological propositions such as the metaphor of the Kingdom of God, which Fowler (1981) himself, as he admits, could not resist using when describing his Stage 6. Instead, we think that dialogue, as already captured in Style 5, marks the epitome that we may expect and hope for our fragmented world. Further, for our model and the analyses presented in this article, we dropped Style 1, which Fowler has characterized as "intuitive-projective faith" and Streib as "subjective religious style," because this style is very rare in adult samples and thus very marginal in our data. Therefore, we conclude that Styles 2 through Style 5 will suffice and stand out as building blocks of a typology with adult samples. The following four styles are considered:

- a) Style 2 (instrumental-reciprocal). This style is characterized by an authoritative and exclusive regime of religious texts and teachings that are understood mythic-literally and regarded absolute. Assumptions about justice in relation to the divine world reflect a system of punishment and reward.
- b) Style 3 (mutual), which is characterized by the, rather implicit, consent to conventions of one's group or life-world. In-group harmony and mutuality have higher priority than explicitly dealing with questions and arguing validity claims. Out-group recognition can be considered as long as no conflict is perceived.
- c) Style 4 (individuative-systemic), which is distinctively characterized by critical and autonomous reflection that is the basis for deciding religious validity claims. In case of conflicting validity claims, models of tolerance are considered.
- d) Style 5 (dialogical), which is distinctively characterized by universal religious pragmatics based on intellectual humility, and is thus open for dialog, learning from the other, and for

the creativity and wisdom that emerges from encountering the strange—which is exactly the meaning of 'xenosophia.'<sup>1</sup>

The four religious styles present a hierarchical order, and, in regard to the assumption of a hierarchy, there is general agreement with Fowler's model of stages of faith. The hierarchical order of the religious styles however is plausible especially on philosophical-ethical and phenomenological grounds: dialog is ethically higher than mere individuative reflection and tolerance (Streib, 2018). Reflection and tolerance are, in turn, ethically higher than mere conventionalism. And all of the above are ethically higher than ethnocentric attitudes and mythic-literal understanding.

## From Religious Styles to Religious Types

Why are we moving from styles to types? There is, first of all, a methodological reason. As suggested in the *Coding Manual* up to its latest edition (Streib & Keller, 2018), faith development interview (FDI) evaluation proceeds by the interpretative assignment of one of the five religious styles to the answers to the 25 questions that were presented in the FDI. When entered into a quantitative data set, these style assignments (codings) result in 25 categorical variables with integers of 1 to 5 (for Style1 to Style5). The challenge consists in deciding on a final total FDI score that is based upon the 25 single codings, which cannot

<sup>&</sup>lt;sup>1</sup> The Ancient Greek word *xenos* means *stranger* or *foreigner*, and *sophia* means *wisdom*. Thus, 'xenosophia' means the wisdom that might emerge from the encounter with the strange and the wisdom of adequately responding to the strange. While we are probably the first to introduce this term in the psychology of religion and in empirical research, we are not the first to use it. As noted by Streib (2018), we have been inspired by Waldenfels' (2011) and Nakamura's (2000) philosophy of the alien. According to these philosophers, the decisive characteristic of 'xenosophia' is a specific kind of *responsivity* that resists hastily putting the strange in a box and making it an *other*. In other words: xenosophia is characterized by *hermeneutic humility*. In this understanding, we regard xenosophia being the opposite to xenophobia.

obtained by simply averaging 25 categorical variables.<sup>2</sup> The final total FDI score can only consist in a type of a typology, and requires methods of categorization.

The necessity of type construction is reinforced by the fact that in one and the same interview, some passages are rated to reflect one style, while other passages reflect another style. The final conclusion for a FDI would be less of a problem, if the majority of codings were on one religious style only. However it is the rule rather than the exception that, in the ratings of one interview, there is a combination of two or more styles. Interview evaluation must recognize this variance and refrain from streamlining it by simply averaging the codings.<sup>3</sup> Instead, it needs to be taken into account that more than one religious style may be available for the individual at one and the same time, while one style may be on the surface as the most preferred and mostly applied religious style.<sup>4</sup> This leads to the conclusion that the *types* may contain a mixture of *styles*, and the pattern of style assignment frequency characterizes the specific type. Religious types categorize individuals according to their combination of religious styles, thereby indicating the individual's predominant or substantial preference for one religious style.

<sup>&</sup>lt;sup>2</sup> In the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> editions of the *Coding Manual* (Moseley, Jarvis, & Fowler, 1986; DeNicola & Fowler, 1993; Fowler, Streib, & Keller, 2004), the instruction is given to simply average all faith stage assignments to the 25 FDI questions into a total FDI score—ignoring the fact that codings are nominal data, which cannot be treated as if they were continuous. Thus, there is the need for avoiding this error and thus for developing an algorithm for a final conclusion in FDI evaluation that still accounts as much as possible for the *variance* of style assignments to the 25 questions.

<sup>&</sup>lt;sup>3</sup> On a conceptual level, this variety of styles in one interview calls the presupposition into question that an individual could only operate on the basis of one stage or style, a presupposition (labeled "structural whole") that had been established by Kohlberg and colleagues (1983) and explicitly agreed to by Fowler (2001). <sup>4</sup> This is visualized, with reference to Loevinger's (1976) milestone model, in a figure by Streib, 2001, p. 150.

Generally speaking, typologies are categorization systems that put individuals into a finite number of boxes. This may appear to be reductionist. However, to categorize is simply natural to the human mind and can serve as heuristic that helps to understand our participants. Of course, there is richer information embedded in the continuous variables, but religious types, if robust and generalizable, can make a strong theoretical model for understanding religiosity. The issue is not directly an empirical claim that is true or false, but a heuristic that allows us to capture the utility of seeing things this way. The justification will be how useful it is to put religiosity in types.

To prevent misunderstanding, we should finally state explicitly that the types that we construct are *not* types of *religiosity*, when religiosity means frequency of religious praxis, strength of belief in, or amount of knowledge about, theological propositions, strength of religious experiences, or degree of observance of moral prescriptions of a religious tradition. Instead, the types are religious types based on religious *styles*, where 'style' refers to *habitus* such as ways of interpreting texts and teachings of a religious tradition (hermeneutical structures), ways of explaining what happens to one and why (structures of world coherence), or ways of meeting the challenge of inter-religious difference (structures of communicative action; structures of in-group-out-group relations).

#### Religious Types in the Conceptual-model-based Approach

For a conceptual-model-based (CMB) approach we suppose that each of the four religious styles (instrumental-reciprocal, mutual, individuative-systemic, dialogical) can and should be the primary characteristic of one type, while other styles have lower frequency. Thus we conceptualize four types: *substantially ethnocentric* (Type 1), *predominantly conventional* (Type 2), *predominantly individuative-reflective* (Type 3), and *emerging dialogical-xenosophic* (Type 4). Type membership is clearly indicated, when one religious style has proportionally highest frequency. When there is equal frequency of two styles, the

developmentally higher type should be assigned to account for the developmental achievement. To counterbalance the relatively low frequencies of the instrumental-reciprocal style (Style 2) and the dialogical style (Style 5), lower thresholds are established, because interview interpretation indicates that, even if ratings for Style 2 and Style 5 do not have proportionally highest frequency, but more than four ratings, this can be taken as indication that the interviewee has substantial inclination to use Style 2 or Style 5 respectively.

Based on these considerations, we establish the following algorithm: Out of the 25 rating variables, if frequency of Style 2 rating is equal to or more than 5 (20%), the type is decided as Type 1 (*substantially ethnocentric*); if frequency of Style 5 rating is equal to or more than 5 (20%), the type is decided as Type 4 (*emerging dialogical-xenosophic*); else, the type is Type 2 (*predominantly conventional*) if frequency of style 3 rating is greater than that of style 4 rating, or Type 3 (*predominantly individuative-reflective*) if frequency of style 4 rating is greater than that of style 3 rating. A specific rule is set in place to break the ties introduced by an identical frequency of Style 3 and Style 4 ratings, and/or both Style 2 and Style 5 ratings exceed 20%. For these situations, the case should be associated with the "higher" type defined by the style rating frequencies.

With this algorithm we have defined a CMB frame that allows assigning a type to all FDIs in our data. Results of type assignment with the CMB algorithm will be presented first in the following section. In a next step we then present results from a data-driven method of assigning types to the FDIs using Latent Class Analysis (LCA) and a machine-learning approach (GLMNET) that were used to test the assumption that LCA and GLMNET converge with the CMB approach. Finally, we present results from ANOVAs based on the questionnaire data for profiling the four religious types that were re-constructed using the CMB algorithm. In the following section we detail our assumptions.

## Assumptions for Profiling the Religious Types

The most important scale for profiling the four religious types is the Religious Schema Scale (RSS, Streib, Hood, & Klein, 2010). The RSS was conceptualized on the basis of the religious styles model and is supposed to measure three religious schemata: *truth of texts and teachings (ttt), fairness, tolerance and rational choice (ftr)* and *xenosophia/interreligious dialog (xenos)*.<sup>5</sup> Even though we emphasized that the RSS is not simply a scale to quantitatively measure Fowler's stages of faith or Streib's religious styles, the RSS subscales are presumed to specifically relate to the stages of faith/religious styles. From analyses in the Spirituality Study about the relation between the religious schemata and Fowler's stages of faith, Streib, Wollert and Keller (2016, p. 389) concluded that "it is not the ratings on the single RSS subscales, but their combination which identifies the faith stages resp. religious styles." The results in the Spirituality Study (Streib, et al., 2016, Fig. 24.2 and Table 24.2, p. 388-389) suggest that …

- a) proportionally highest scores on the RSS subscale *ttt*, together with proportionally lowest scores on the RSS subscale *xenos*, and proportionally lowest scores on the RSS subscale *ftr* characterize Fowler's Stage 2—and presumably profile the Substantially Ethnocentric Type (Type1) constructed in this study;
- b) Stage 3 (Fowler) and thus presumably the Predominantly Conventional Type (Type 2) has a the least pronounced and least coherent profile in the RSS subscales;
- c) proportionally lowest scores on *ttt* is the characteristic of Fowler's Stage 4—and thus presumably profiles the Predominantly Individuative-reflective Type (Type 3);

<sup>&</sup>lt;sup>5</sup> For more details, see the section on measures below.

d) finally, proportionally highest agreement with *xenos* is the characteristic of Fowler's
Stage 5—and thus presumably profiles the Emerging Dialogical-xenosophic Type (Type 4).

Taken together, we assume that the RSS subscales, when their *combination* is considered, clearly differentiate between the four religious types. Further, we assume that, in the order of the Types 1 through 4, the RSS subscales *ttt* and *xenos* exhibit diverging lines. If this assumption is supported, we may take this as an empirical confirmation of the hierarchical ranking of the religious types.<sup>6</sup>

Another scale with potential for profiling the religious types is the NEO-FFI factor *openness to experience*. Increasing *openness* relates to the increasing reflection and complexity and the widening of the social horizon in religious development, as assumed in both Fowler's and Streib's models. As previous research documents, not all five factors of personality relate to religiosity with equal strength, and this relation depends on what is understood by 'religiosity.' According to Saroglou's (2002; 2010) meta-analysis of research in personality and religion including 71 studies from 19 countries and a total of more than 20,000 participants, *agreeableness* and *conscientiousness* are reliably related to general religiosity, but not the other three factors of personality. But when screened in a typological differentiation, namely discerning (a) 'religiosity' in general, (b) 'spirituality/mature faith' and (c) 'religious fundamentalism,' the picture changes: high *openness to experience* "predicted modern and reflective forms of religiousness such as spirituality," while low *openness to experience* "emerged as a personality trait associated with strong forms of religiousness such as fundamentalism" (Saroglou, 2010, p. 115). Thus we suppose that, in contrast to the Predominantly Conventional and Substantially Ethnocentric types, we will

<sup>&</sup>lt;sup>6</sup> Note that hierarchical ranking of the four types does not imply linear developmental progression.

find higher scores on *openness to experience* in the Predominantly Individuative-reflective and especially in the Emerging Dialogical-xenosophic Types, because these types represent the more mature and reflective versions. We thus assume an increasing agreement with *openness to experience* that is related to the hierarchical order of the types.

## Method

#### **Participants**

The data base for the empirical estimation of the religious types consists of all cases with faith development interviews that were conducted in Germany and the US in three completed research projects: in the Study on Deconversion (Streib, Hood, Keller, Csöff, & Silver, 2009), the Study on the Semantics and Psychology of Spirituality (Streib & Hood, 2016), and the recently completed first phase of the Longitudinal Study on Religious Development (2017 Sample). Because of the considerable time difference between these research projects, we analyze the three FDI samples separately. Part of the 2017 Sample are the re-interviewees with the FDI. Demographics for the four samples are presented in Table 1.

Basic demographics include information about age, gender and cultural capital, which is a combination of school education and vocational training degrees and has been modeled according to the International Standard Classification of Education (ISCED; Unesco, 2006) with a comparative classification for U.S.A. and Germany and thus allows comparison with OECD statistics (OECD, 2011a). In the Spirituality Sample and the 2017 Sample, we assessed the per-capita-income; the questionnaire asked for number of household members with and without income and for family income in order to allow for comparison with OECD (2011b) statistics on per-capita income in the U.S.A. and Germany.

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Insert Table 1 about here

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#### Measures

The FDI is a semi-structured interview that may last between 30 minutes to 2 hours. The interview format (for wording of interview questions asked in these FDIs and for evaluation prescription, see Fowler, et al., 2004) consists of 25 questions (including associated follow-up questions) that address *life review* (Sample question: "Reflecting on your life, identify its major chapters"), *relationships* ("Focusing now on the present, how would you describe your parents and your current relationship to them?"), *present values and commitments* ("Are there any beliefs, values, or commitments that seem important to your life right now?") and finally *religion and world view* ("If people disagree about a religious issue, how can such religious conflicts be resolved?"). Evaluation of the FDI is an interpretative process of identifying, in the responses to the respective FDI question, the structural pattern as described in detail in the *Coding Manual*; this evaluation concludes with the assignment of one of the styles (in Fowler's terms: faith stages) to the respective interacts in the FDI transcript. After entering evaluation results into the quantitative data base, we have 25 variables with integers for the style assignments.

*Openness to experience* (together with personality traits *neuroticism, extraversion, agreeableness* and *conscientiousness*) was assessed in all samples with the *NEO Five Factor Inventory* (NEO-FFI, Costa & McCrae, 1985) in the English version of the questionnaires; for the German versions, the translation by Borkenau and Ostendorf (1993) was used. We used a 5-point rating scale ranging from 1 = "strongly disagree" to 5 = "strongly agree." Means and reliabilities are presented in Table 2.

The *Religious Schema Scale* (RSS, Streib, et al., 2010) was included also in all three samples. This scale consists of three subscales measuring three religious schemata: The

schema that features an exclusivist and authoritative understanding of one's own sacred texts is assessed by the subscale *truth of texts and teachings (ttt)* (sample item: "What the texts and stories of my religion tell me is absolutely true and must not be changed"). For the assessment of the opposite notion, the appreciation of difference, of the other, and of dialog, the subscale *xenosophia/inter-religious dialog (xenos)* was constructed (sample item: "We need to look beyond the denominational and religious differences to find the ultimate reality"). The third subscale, *fairness, tolerance and rational choice (ftr)*, shares with *xenos* the opposition to *ttt*, but has its own profile of an "objectifying" and supposedly "neutral" approach focusing on justice and fairness (sample item: "It is important to understand others through a sympathetic understanding of their culture and religion"). Items were rated on five-point scales. For means and reliabilities, see Table 2.

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Insert Table 2 about here

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## Analytic Procedures

For the identification of the four religious types, we have used our conceptual-modelbased (CMB) algorithm as detailed above and translated into an SPSS syntax. Convergent validity of the construction of the four types was explored using two other, data-driven methods: Latent Class Analysis (LCA) specified as Latent Transition Analysis (LTA) (Nylund, 2007; Collins & Lanza, 2010; Nussbeck & Eid, 2015) is the clearly data-driven method and was performed with the re-interviewee subsample (N = 87) using Mplus 8.2 (Muthén & Muthén, 2017); special recommendations for stayer-mover models (Muthén & Muthén, 2018) have been considered).<sup>7</sup>

<sup>7</sup> A parallel of the LCA/LTA approach is the modeling of personality types (for example, by Asendorpf,
 Borkenau, Ostendorf, & van Aken, 2001; Gerlach, Farb, Revelle, & Nunes Amaral, 2018), where ratings on the

Another data-driven approach that we used is a machine-learning based algorithm: Generalized Linear Model via penalized maximum likelihood (GLMNET, Friedman, Hastie, & Tibshirani, 2010), for which the first author identified 20 exemplary FDI ratings, 5 FDIs for each possible type, in the Deconversion and the Spirituality samples, as labels to generate coefficients associated with rating data in predicting the final types. For the GLMNET algorithm and predictive modeling procedures of model training and testing we used the caret (Kuhn, 2008) and glmnet (Friedman, Hastie, & Tibshirani, 2010) packages in R.

Finally, a series of analyses of variance was run using SPSS 25 in all three samples for estimating the differences in RSS subscales, *openness to experience*, and demographic variables among the four religious types.

## Results

Using the Conceptual Model-Based approach in all three samples, four religious types have been constructed: Substantially Ethnocentric (Type 1), Predominantly Conventional (Type 2), Predominantly Individuative-reflective (Type 3), and Emerging Dialogicalxenosophic (Type 4). The frequencies of the four types in the different samples are presented in Table 3, which demonstrates that the Substantially Ethnocentric Type is more frequent in the Deconversion and Spirituality samples, and the Emerging dialogical xenosophic type is more frequent in the Spirituality Sample.

Insert Table 3 about here

five personality traits—neuroticism (N), extraversion (E), openness to experience (O), agreeableness (A), and conscientiousness (C)—are modeled to yield clusters with distinct patterns of N, E, O, A, and C. These clusters are interpreted as personality types. Of course, our study based on 677 interviews cannot compete with Gerlach and colleagues' 1.5 Million sample, but we note structural parallels in the process of type construction.

Analyses of variance demonstrated that the distribution patterns of the religious styles are significantly (p < .001) distinct between all four religious types in all three samples: between-group differences in the Deconversion Sample range from  $F_{(3,268)} = 225.982$  for Style 2 ratings to  $F_{(3,268)} = 372.878$  for Style 4, in the Spirituality Sample from  $F_{(3,100)} =$ 39.039 for Style 4 ratings to  $F_{(3,100)} = 135.401$  for Style 4, and in the 2017 Sample from  $F_{(3,297)} = 234.100$  for Style 5 ratings to  $F_{(3,297)} = 263.672$  for Style 3 ratings.

The mean percentages of religious styles ratings for the four types across all three samples are presented in Figure 1. For the Predominantly Conventional Type (Figure 1b), the mean rating percentages of the mutual religious style are between 62.6% and 83.8%, and the mean rating percentages of the Individuative-systemic style in the Predominantly Individuative-reflective Type (Figure 1c) are between 63.8% and 75.4%, while ratings for Instrumental-reciprocal and the Dialogical style are marginal. For the Substantially Ethnocentric Type (Figure 1a) rating percentages of the Instrumental-reciprocal style range between 33.7% and 43.3%, thus are substantially large only in this type, and finally for the Emerging Dialogical-xenosophic Type (Figure 1d) rating percentages of the Dialogical Religious Style are between 29.5% and 41.9%. Taken together, Figure 1 shows that the CMB approach resulted in four clearly distinct types with type-specific patterns of style rating percentages that are largely consistent in all three samples.

Insert Figure 1 about here

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Then we post-hoc calculated the migrations of re-interviewees (N = 87) between the two times of interviewing. Based on the conceptual assumption of a hierarchical order between the four types, we distinguish not only stayers and movers, but "movers upward," i.e. interviewees who moved to a "higher" type at Time 2, and "movers downward," i.e.

interviewees who moved to a "lower" type in their second interview. Table 4 presents the results.

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Insert Table 4 about here

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Table 4 shows that there is migration upward *and* downward. The results also indicate for both the Deconversion Sample and the Spirituality Sample a slightly higher number of movers upward, which may indicate that religious style development has slightly progressed between the two times of measurement.

For testing convergent validity with type construction with the CMB approach, LCA/LTA was performed using the re-interviewee subsample (N = 87).<sup>8</sup> While the inspection of adjusted BIC would suggest a higher number of classes, concern with interpretability has motivated our decision for a 4-class model as the optimal solution—which allowed for a more direct comparison with the CMB approach and made the assessment of convergence easier. Results from analysis of variance show that between-group differences estimated by LCA/LTA as purely data-driven analysis are significant (p < .001) and range between  $F_{(3,83)} =$ 61.827 and  $F_{(3,83)} = 112.123$ . For an assessment of convergent validity, we compared the pattern of religious style percentages in the four latent classes in the LCA/LTA approach<sup>9</sup> with results from the CMB approach (Figure 1). It was found that almost all religious style assignment percentages fall within the range of styles assignment percentages estimated with the CMB approach, and that, also in the LCA/LTA results, proportionally highest means of each religious style percentage are distinctively associated with one of the four latent classes. This suggests that the patterns of religious style percentages in both approaches generally

<sup>&</sup>lt;sup>8</sup> The hypothetical model and the Mplus syntax can be found in the Supplemental Material to this article.

<sup>&</sup>lt;sup>9</sup> Presented in Figure S.2 in the Supplementary Material.

converge. However, we also found indications that contradict convergent validity: An inspection of the stayer-mover table that was returned by Mplus reveals that three latent movers actually stayed in the observed data, which raises questions about the correctness of class association. Investigating this further, case-by-case examination of class assignments using the criteria on which the CMB approach was based revealed that the LCA/LTA algorithm produced 6.9% implausible class assignments.

In the GLMNET approach, twenty exemplary FDIs (five for each type) have been selected as training data for estimating the model parameters. Bootstrapped methods were used to select hyperparameters of alpha and lambda in the GLMNET algorithm. Accuracy was used to select the optimal model using the largest value. The final model has hyperparameters of alpha = 0 and lambda = 0.3. The determined algorithm was then applied to all Time1 (Deconversion and Spirituality Sample) and Time2 (2017 Sample) data to make predictions of the type assignments. The plausibility of the predicted type assignments has, again, been checked case-by-case using the CMB criteria. This case-by-case examination revealed that the GLMNET algorithm produced implausible type assignments in 25 of 288 (8.7%) cases, which calls convergent validity of the GLMNET results with the CMB results into question.

For profiling the four religious types that were constructed with the CMB approach, a series of analyses of variance was run estimating the differences between the four religious types on the RSS subscales, the NEO-FFI factor *openness to experience*, and some demographic variables in the three samples.<sup>10</sup> We focus here on the most noteworthy and significant differences on *ttt, xenos* and *openness to experience* and present results for all three samples in Figure 2.

<sup>&</sup>lt;sup>10</sup> Detailed results for each sample are presented in three tables in the Supplementary Material.

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Insert Figure 2 about here

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In the Deconversion Sample the between-group differences on the RSS subscale *ttt* are with  $F_{(3,102)} = 10.743$  ( $p \le .001$ ) highest.<sup>11</sup> As Figure 2a shows, *ttt* is with M = 3.86 (SD = 0.93) highest in the Substantially Ethnocentric Type, decreasing to M = 3.45 (SD = 0.92) in the Predominantly Conventional Type and to M = 2.44 (SD = 0.82) in the Predominantly Individuative-reflective Type, then increasing again slightly to M = 2.72 (SD = 0.90) in the Emerging Dialogical-xenosophic Type. Post-hoc analysis suggested significant differences of the Predominantly Individuative-reflective Type to both the Substantially Ethnocentric and the Predominantly Conventional types. Also in the 2017 Sample, *ttt* has significant betweengroups differences ( $F_{(3,240)} = 5.855$ , p = .001), the pattern displays a clear downward line across the types: *ttt* is with M = 3.08 (SD = 1.62) highest in the Substantially Ethnocentric Type, decreasing to M = 2.49 (SD = 1.11) in the Predominantly Conventional Type and to M = 2.01 (SD = 1.04) in the Predominantly Individuative-reflective Type. Post-hoc analysis suggested significant differences between the Predominantly Individuative-reflective Type. Post-hoc analysis are also be the substantial to M = 1.79 (SD = 0.77) for the Emerging Dialogical-xenosophic Type. Post-hoc analysis

The reverse pattern is presented in Figure 2b for *xenos*. In the Deconversion Sample difference are significant ( $F_{(3,102)} = 2.886$ , p = .039) and reflect a clear upward line across the types. *Xenos* is with M = 2.97 (SD = 1.09) lowest in the Substantially Ethnocentric Type, increasing to M = 3.40 (SD = 0.77) in the Predominantly Conventional Type and to M = 3.68 (SD = 0.73) in the Predominantly Individuative-reflective Type, then increasing again to M = 3.68

<sup>&</sup>lt;sup>11</sup> Because the *Religious Schema Scale* items were included in the questionnaire for the second phase of the Deconversion Study, the number of answers to the RSS is only N = 102.

3.88 (SD = 0.82) in the Emerging Dialogical-xenosophic Type. In the Spirituality Sample, differences on *xenos* are also significant ( $F_{(3,100)} = 6.001$ , p = .001) and *xenos* is with M =2.93 (SD = 0.96) lowest in the Substantially Ethnocentric Type, increasing considerably to M= 3.86 (SD = 0.82) in the Predominantly Conventional Type, the Predominantly Individuative-reflective Type has a mean values of M = 3.42 (SD = 0.84), and in the Emerging Dialogical-xenosophic Type a value of M = 3.72 (SD = 0.75) is estimated. Post-hoc analysis suggested significant differences of the Substantially Ethnocentric Type to both the Predominantly Conventional Type and the Emerging Dialogical-xenosophic types.

Results with the openness to experience factor are presented in Figure 2c. In the Deconversion Sample between-group differences on openness to experience are significant  $(F_{(3,222)} = 13.828, p \le .001)$ . Openness to experience shows a clear upward line across the four types: In the Deconversion Sample, *openness to experience* has M = 3.27 (SD = 0.46) in the Substantially Ethnocentric Type, increasing to M = 3.58 (SD = 0.54) in the Predominantly Conventional Type and M = 3.88 (SD = 0.44) in the Predominantly Individuative-reflective Type, then increasing again to M = 3.96 (SD = 0.54) in the Emerging Dialogical-xenosophic Type. Post-hoc analysis suggested significant differences between the Substantially Ethnocentric Type and all three other types. Similar, but less pronounced, also in the 2017 Sample ( $F_{(3,228)} = 4.192$ , p = .007), openness to experience means describe an upward line from M = 3.73 (SD = 0.63) in the Substantially Ethnocentric Type, to M = 3.74 (SD = 0.49) in the Predominantly Conventional Type and M = 3.92 (SD = 0.49) in the Predominantly Individuative-reflective Type, then increasing again to M = 4.09 (SD = 0.42) in the Emerging Dialogical-xenosophic Type. Post-hoc analysis suggested significant differences between the Emerging Dialogical-xenosophic Type and the Predominantly Conventional Type. This indicates that, as expected, the four religious types are related to openness to experience describing a climax in the hierarchy of the four types.

#### Discussion

This study used a conceptual-model based (CMB) approach for the construction of four religious types that are based on the religious styles assignments in FDIs. This approach has the advantage that parameters for type assignment are transparent; thus, the type assignment of single cases can be re-evaluated. Further, the CMB approach allows the differentiation between movers and stayers in a way that is fully transparent: because we apply the same concept-based algorithm to the data from both times of measurement, type differences can be determined post-hoc. Religious styles percentages in each of the four types (Figure 1) demonstrate that we could successfully construct four distinct religious types.

The test of convergent validity using LCA/LTA had mixed results. One the one hand, the LCA/LTA approach demonstrated considerable convergence with the CMB approach as regards the patterns of religious style assignment percentages in the religious types. And this can be understood as confirmation of our type construction using a different, entirely datadriven method. However, the fact that in LCA/LTA movers can stay, while stayers cannot move,<sup>12</sup> and indeed some movers did stay in our analysis, and the outcome from case-by-case examination that 6.9% of class assignments are implausible raises doubt that LCA/LTA is the optimal approach for our data. Finally, the LCA/LTA qualifies only for the relatively small sample of re-interviewees and would require additional analyses for estimating classes for all FDIs in the three samples.

The GLMNET algorithm estimated the type for all FDIs. The GLMNET is an improvement of generalized linear models (e.g., logistic regression) with additions of two hyperparameters, alpha and lambda, that penalizes model complexity. Machine learning (e.g.,

<sup>&</sup>lt;sup>12</sup> See paper, "Why movers Stay?" <u>http://www.statmodel.com/download/Why%20Movers%20Stay.pdf</u> at the Mplus website. While it is a plausible explanation that the Mplus model "doesn't specify that movers can't stay," this does not raise confidence that class assignments are trustworthy for all cases.

GLMNET) to make predictions of style assignments is a computation-driven approach. It has the advantage of utilizing the full set of rating variables from which the machine-learning algorithm derives weights for each rating variable to be used for predicting future style assignments. However, like the LCA, it relies completely on covariance structures in the data, and therefore is subjected to biases in data. Because of the imprecision of type assignments we concluded, as with the LCA/LTA approach, that also GLMNET is not the final solution for our purpose. Therefore we conclude that the CMB approach presents the optimal solution for the construction of religious types and thus for the problem of how to calculate the total FDI score.

Analysis of variance has focused on profiling the differences between the four religious types. Here the RSS had a prominent role and deserved special attention because of the conceptually assumed close relation of religious styles and religious schemata. The assumptions noted above are not confirmed point by point however, since *ftr* was throughout insignificant for between-group differences. Nevertheless, the RSS subscales *ttt* and *xenos* revealed their expected role in profiling the differences between the four types. What had been noted as assumptions based on the result in the Spirituality Study (Streib, et al., 2016) is reflected in the results with all three samples in the following way:

- a) the Substantially Ethnocentric Type is characterized by proportionally highest *ttt* and proportionally lowest *xenos*;
- b) the Emerging Dialogical-xenosophic Type is characterized by proportionally highest or, as in the Spirituality Sample, second highest *xenos*, and at least second lowest *ttt*;
- c) the Predominantly Individuative-reflective Type is characterized by proportionally or second lowest *ttt*;

 d) the Predominantly Conventional Type has the least pronounced profile on the RSS subscales in all three samples, but generally falls between the Substantially Ethnocentric and the Predominantly Individuative-reflective types.

Taken together, findings presented by Streib and colleagues (2016) are largely confirmed, with minor exceptions however. And also generally, *ttt* shows a decrease as the types progress from the Substantially Ethnocentric to the Predominantly Conventional and to the Predominantly Individuative-reflective types, while *xenos* (with the exception of the Spirituality Sample) exhibits the reverse pattern and increases with the order and hierarchy of the types. We derive from this at least moderate empirical support for the assumption of an ordinal, hierarchical ranking of the four religious types.

Further, *openness to experience* appears to describe a straight line all the way through from the Substantially Ethnocentric to the Emerging Dialogical-xenosophic Type—and thus substantiates Saroglou's (2010) assumption of a significant relation between the higher religious types and the "modern and reflective forms of religiousness" such as "spirituality/mature faith."

In sum, results demonstrate that the RSS subscales, *ttt* and *xenos*, and the personality factor of *openness to experience* relate to the typology that we have constructed and shed light on their distinct profiles. And in regard to the binary typologies mentioned in the introduction, we conclude that, with higher *ttt* and lower *xenos*, both lower types show the preference for an intra-textual over inter-textual hermeneutics (Hood, et al., 2005) and the preference for an ethnocentric over a pluralist/universal orientation (Allport, 1954).

#### Limitations

Our analyses have limitations that should be noted: The samples include data from different research projects, and the Deconversion and Spirituality samples were collected—and partially oversampled—to answer special questions regarding the psychology

deconversion or the semantics of spirituality. This has resulted in more religious and higher fundamentalist participants in the Deconversion Sample, and an over-representation of highly spiritual participants in the Spirituality Sample; this has to be considered in the interpretation of our results and raises questions that further research should include. Second, as is obvious from the sample descriptions, all three samples have an over-representation of highly educated participants. Thus, education could be a potential factor for difference of the types. We thus note that education deserves special attention in future research with the faith development interview.

Because this is the first report about the construction of the four religious types, we have limited the profiling to the basics and used analyses of difference between the types. There is, of course, much more to explore and uncover (even in our current data, but with more statistical power in larger data sets in the future)—beginning with analyses for cross-cultural differences between Germany and the US, gender differences, effects of religious affiliation or spiritual self-identification. But finally we point to the most severe limitation of this study: We had at hand only a relatively small sample of longitudinal, two-wave data. Thus, there is need for at least three-wave data that would allow for longitudinal analyses, investigating change and development of the four religious types—thus their *re-construction*—over time and identifying causes and consequences of intra-individual differences in diachronic perspective.

#### Conclusion

This study introduced a multi-method approach in research on religious styles based on FDIs. It is the first study to apply typological modeling techniques to a large number of (faith development) interviews, which allows relating the results of type construction to psychometric scales and other quantitative data from questionnaires. We found the CMB approach most appropriate for the construction of four religious types that are based on the religious styles assignments in the FDIs.

The differentiation that Saroglou used in his meta-analysis between (a) general religiosity, (b) 'spirituality/mature faith,' and (c) 'religious fundamentalism' is an example that typological differentiation can be a very productive move forward. But eventually, this contrast needs to be even more differentiated: Mature faith can be more autonomously profiled and focus on reflectiveness and strict rationality, but it can also be open for dialog and xenosophia. And, besides the clear "fundamentalist" orientation that is strict ethnocentric and exclusivist mono-religious, there can be another distinct option of an orientation at conventions and harmonious mutuality.

Thus, we present a typology of four religious types for consideration in the psychology of religion. This construction and characterization of the four religious types could help to carry the model of faith development out of the cognitive-structural niche and more into the focus of discussions in the psychology of religion and the psychology in general. In our view, part of Fowler's legacy that should not be ignored is an individual difference approach to religious styles that we advance here into a typology of religious styles. This may help to overcome false assumptions about religion as it were a monolithic phenomenon.

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	Deconversion Sample	Spirituality Sample	2017 Sample	Re-interviewee Sample Time 2
Field Work Years	2003-2005	2010-2011	2015-2017	
Ν	272	104	301	87
N <sub>USA</sub>	123	54	89	18
NGermany	149	50	212	69
Gender: % female	50.9%	52.9%	47.3%	44.2%
Mean Age	36.6	43.0	45.8	53.9
Age Range	16-86	18-76	16-66	24-82
Cultural capital (ISCED): % tertiary education and higher	51.9%	62.5%	70.4%	70.5%
Per-capita income (Range)	-	\$44,698 (2,179- 120,208)	\$52,558 (3,250- 140,000)	\$50,458 (3,250- 140,000)
Religious affiliation				
Protestantism	51.4%	28.8%	29.4%	39.5%
Roman Catholic Church	12.7%	6.7%	13.1%	14.0%
Other Christian Church	12.0%	1.0%	-	2.3%
Judaism	0.4%	-	-	-
Islam	1.9%	1.0%	1.4%	1.2%
Hinduism	2.7%	-	1.4%	2.3%
Buddhism	2.7%	5,8%	4.5%	4.7%
Other spiritual group	6.2%	14.4%	3.8%	9.3%
Other religious affiliation	-	-	8.0%	-
None	10.0%	42.3%	38.4%	26.7%
Spiritual/religious self- identification				
More religious than spiritual	22.5%	7.7%	7.9%	13.9%
More spiritual than religious	39.6%	44.2%	40.9%	32.9%
Equally religious and spiritual	28.4%	23.1%	22.9%	27.8%
Neither religious nor spiritual	9.5%	25.0%	24.9%	25.3%

## Table 1. Demographics of the Samples

	Deconversion Sample		Spirituality Sample		2017 Sample	
	M(SD)	α	M (SD)	α	M (SD)	α
<i>Openness to experience</i> (NEO- FFI)	3.62 (0.54)	.73	4.00 (0.46)	.67	3.88 (0.48)	.68
Truth of texts and teachings (RSS)	3.22 (1.01)	.88	2.26 (1.14)	.88	2.19 (1.09)	.88
<i>Fairness, tolerance and rational choice</i> (RSS)	4.11 (0.46)	.65	4.41 (0.44)	.50	4.35 (0.52)	.60
Xenosophia/inter-religious dialog (RSS)	3.44 (0.82)	.80	3.53 (0.90)	.72	3.53 (0.79)	.66

Table 2. Means, Standard Deviations, and Reliabilities for the Scales in the Three Samples

Table 3. Distribution of the Four Types in the Three Samples

	Deconversion Sample	Spirituality Sample	2017 Sample
Substantially ethnocentric	18.0%	21.2%	4.0%
Predominantly conventional	53.3%	34.6%	45.5%
Predominantly individuative-reflective	25.0%	25.0%	43.9%
Emerging dialogical-xenosophic	3.7%	19.2%	6.6%

Table 4. Type Changes of Re-interviewees between the First to the Second FDI

	Re-interviewees from	Re-interviewees from	
	the Deconversion Study	the Spirituality Study	
	Sample	Sample	Total
Mover downward	8 (18.2%)	13 (30.2%)	21 (24.1%)
Stayer	26 (59.1%)	13 (30.2%)	39 (44.8%)
Mover upward	10 (22.7%)	17 (39.5%)	27 (31.0%)
Total	44 (100%)	43 (100%)	87 (100%)

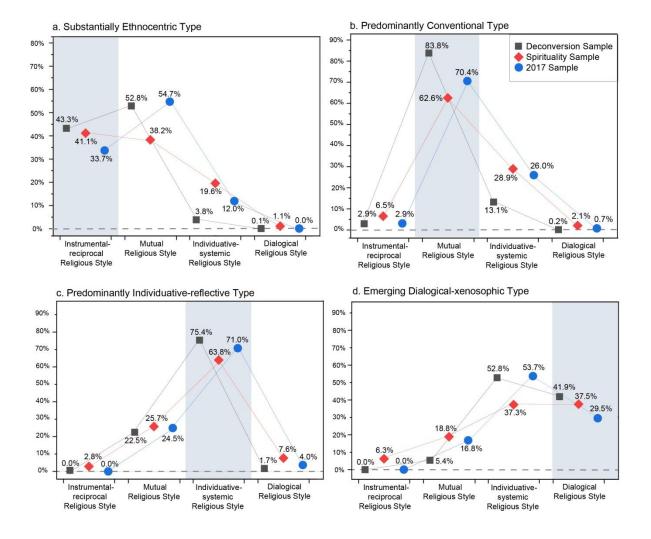


Figure 1. Pattern of Religious Style Rating Percentages in the Four Religious Types

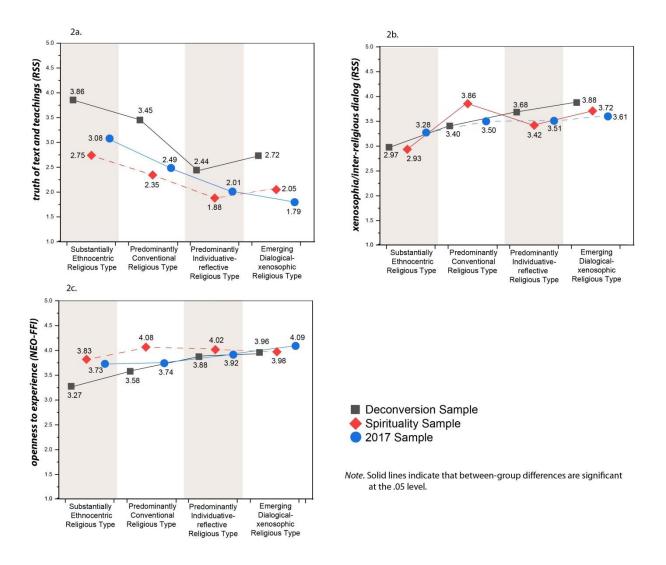


Figure 2. Means of Selected Scales in the Four Religious Types