



Milieus and Mixed Methods

Describing and Explaining Religion and Secularity in Switzerland

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Abstract In the literature on religion and secularity, scholars often use mono-method strategies, either quantitative or qualitative, in order to identify broad social groups – “milieus” or “social aggregates” and thus gain better understanding of the great diversity of religious beliefs and practices in a given population. This paper identifies different validity problems of such studies and claims that mixed methods may be used in order to better address these problems. By combining representative surveys with semi-standardized interviews, large scale groups (e. g. milieus) can be described and some of their inner workings explained in a more valid way. The article shows the steps of such a mixed methods research strategy, arguing for (a) a common central question in a realist philosophical framework (b) nested qualitative and quantitative samples with relatively large n on the qualitative side, (c) an integrated data collection on the level of items and leading questions, (d) abductive-iterative data analysis, and (e) an addressing of validity issues with the help of mixed methods. Two nested mixed methods studies are used to exemplify these research strategies: one on religion and spirituality in Switzerland and one on the “evangelical milieu” in Switzerland.

Keywords Methods of social research · Mixed methods · Qualitative methods · Quantitative methods · Religion · Spirituality · Secularity · Milieu · Explanation

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Milieus und Mixed Methods

Beschreiben und erklären von Religion und Säkularität in der Schweiz

Zusammenfassung In der Literatur über Religion und Säkularität verwenden Wissenschaftler häufig mono-methodische Strategien, entweder quantitativ oder qualitativ, um große soziale Gruppen, Milieus oder soziale Aggregate, zu identifizieren und so ein besseres Verständnis der großen Vielfalt religiöser Glaubensüberzeugungen und Praktiken in einer bestimmten Population zu erlangen. Dieser Beitrag identifiziert verschiedene Validitätsprobleme solcher Studien und zeigt, dass Mixed Methods solche Probleme besser lösen kann. Indem man repräsentative Surveys und semi-standardisierte Interviews kombiniert, können große soziale Gruppen (z. B. Milieus) mit höherer Validität beschrieben und in ihrer internen Wirkungsweise erklärt werden. Der Artikel zeigt die Schritte einer solchen Mixed-Methods-Forschungsstrategie auf und empfiehlt (a) eine gemeinsame Forschungsfrage in einem durch den philosophischen Realismus informierten Rahmen, (b) ineinander eingebettete quantitative und qualitative Samples mit relativ hoher Fallzahl auf der qualitativen Seite, (c) eine integrierte Datenerhebung auf der Ebene der Items und der qualitativen Leitfragen, (d) abduktiv-iterative Datenanalyse und (e) eine Reflexion auf Validitätsprobleme mit Hilfe von Mixed Methods. Zwei ineinander eingebettete Mixed-Methods-Studien werden verwendet, um diese Forschungsstrategien zu illustrieren: eine zu Religion und Spiritualität in der Schweiz und eine über das „evangelikale Milieu“ in der Schweiz.

Schlüsselwörter Methoden der empirischen Sozialforschung · Mixed Methods · Qualitative Methoden · Quantitative Methoden · Religion · Spiritualität · Säkularität · Milieu · Erklärung

1 Introduction

In the literature on religion and secularity, scholars often use mono-method strategies, either quantitative or qualitative, in order to identify large social groups – “milieus” or “social aggregates” and thus gain better understanding of the great diversity of religious beliefs and practices in a given population.

Milieus can be defined as large social groups of individuals that (a) show similarities concerning their resources and/or culture, (b) have a relatively high level of internal communication, and (c) have a sense of milieu-identity, i. e. of who belongs to the milieu and who does not (Schulze 1990, p. 410). In contrast to *milieus*, *social aggregates* are large social groups of individuals that may be characterized by structural and/or cultural similarities, but that do not have a heightened internal communication and do not have a sense of a milieu-identity (Esser 2000, p. 48). Members of social aggregates do not adapt their beliefs and practices to each other and do not see themselves as a specific group. Thus, social aggregates are a product of the scientific observer who creates it according to certain variables. *Religious milieus* are milieus that are centrally constructed around a religious culture, that is, certain religious practices, beliefs, and identity. There may also be specific structural

similarities among milieu members, but this is not necessarily so. In the literature, we find descriptions of the Catholic milieu (Altermatt 1989) the Islamic-fundamentalist milieu (Riesebrodt 2000), the cultic or holistic milieu (Campbell 1995 (1972); Höllinger and Tripold 2012), or the evangelical milieu (Stolz and Favre 2005). In this paper the focus is on the identification of religious milieus in the sense just defined. Our approach differs from studies that start with *general* milieus, such as those proposed by SINUS (Barth und Flaig 2012) or Schulze (1995), in order to then ask in what ways members of these milieus are religious/secular (Benthaus-Apel 1998; Mdg 2005).

Milieus have been identified using quantitative or qualitative (or historical) methods, but very often by relying on just one single method.

Quantitative studies often use cluster analysis in order to detect religious or secular “types” (that may be milieus or aggregates in our terminology). These types are then given names and interpreted by inspecting structural and cultural attributes. To take just one example, for the general Swiss population, Krüggeler (1993, p. 108 ff) finds five types (called “exclusive Christians”, “generally religious Christians”, “new-religious”, “religious humanists”, and “humanists without religion”), while Campiche (2004, p. 115 ff.) finds *five other types* of rather different size and partly quite different descriptions (called “exclusive Christians”, “generally religious Christians”, “the lukewarm”, “non-Christian believers”, “non-believers”). Such empirical typologies have serious problems:

1. It is not clear if these types represent milieus or aggregates, that is, if real social groups with their own identity or if only aggregates are captured. This is a *problem of the ontological status of the types*.
2. If milieus are intended, it is not clear if the items used capture the important differences between the milieus. As a matter of fact, the types found are often rather difficult to envision and they can only be described with the items at hand (that often seem rather arbitrary). This is an *identification problem*.
3. It does not become clear which individual and collective practices create the milieu on a daily basis. This is a *black box problem*.

Alternatively, quantitative studies have just used the religion/confession variable in order to compare different religions and denominations, assuming that the individuals thus classified can also be seen as social milieus. Again, this is highly questionable, since self-identified members of a certain religion can be so for various reasons.

Qualitative studies often use a small number of cases with some kind of purposive sampling or theoretical sampling in order to create “saturated” empirical typologies or theories (e. g. Strauss and Corbin 1998, p. 205 ff.). For example, in an interesting study on distanced Christians, Portmann and Plüss (2011) use a sampling plan to sample members of a Rotary club, the socialist party, a shooting club, and a network of ecologically oriented craftspeople in the city and region of Basel (Switzerland). They come up with 13 “patterns of interpretation used by distanced church-members” as well as two groups with similar patterns: “pluralists” and “proponents of the traditional”. However, such qualitatively created typologies have their own issues:

1. Qualitative studies often have a *sampling problem*. While it is often said that qualitative sampling should be done purposefully (e. g. for typical cases or maximal contrast cases), the researcher often does not know exactly which cases are typical or present maximal contrasts (Kelle 2007, p. 142).
2. There is a *generalization problem*: it is normally not clear if the found types can be generalized to the larger population. It might be the case that it *seems* that data collection and analysis have reached “saturation”, but *in reality* there are actually other milieus and sub-milieus out there that have not been touched on (Kelle 2007, p. 142).
3. There is a *small-N problem* (Goldthorpe 2000, p. 49 ff.). A small-N problem is encountered when there are many variables and few cases, leading to too few degrees of freedom to be able to determine causal dependencies. As Goldthorpe shows, this problem is just as important for qualitative studies as it is for quantitative ones (insofar as they claim to make causal statements).

Different authors have pointed to the fact that these validity threats identified in quantitative and qualitative research seem to be non-overlapping. I use “validity” in the large sense of Maxwell (2005, p. 106) as referring to the “correctness or credibility of a description, conclusion, explanation, interpretation, or other sort of account.” A “validity threat” is then “a way you might be wrong” (ibid.). One of the central ideas of mixed methods is precisely that by using several methods, the validity threats posed by one data set may be addressed by the other data set and vice versa and that the overall validity of results may therefore be enhanced (Johnson and Turner 2003, p. 299; Kelle 2007, p. 227 ff.; Otte 2009, p. 16 f.; Teddlie and Tashakkori 2009, p. 33 ff.).

This paper agrees with this overall claim, and shows it to be valid in one specific instance, namely concerning religious and secular milieus. I argue that, and show how, by combining representative surveys with semi-standardized interviews, large-scale religious and secular groups can be described and some of their inner workings explained in a more valid way.

Combining methods, however, creates its own validity problems that have to be solved to avoid reproducing former validity problems or even creating new ones. The central point here is that the research has to be strongly integrated, so that the different data types can indeed offset the validity problems of the respective other data types.

I claim that an integration of representative surveys and semi-standardized interviews with the goal of describing milieus can be obtained by following *five basic guidelines*:

1. use a common central question in a realist philosophical framework,
2. use nested qualitative and quantitative samples with a relatively large n on the qualitative side,
3. integrate data collection on the level of items and leading questions,
4. use abductive-iterative data analysis, and
5. address validity issues with the help of mixed methods.

I will outline these points theoretically and then exemplify them with two mixed methods studies. The contribution of the paper to the literature thus lies in giving specifics about how to solve the problem of creating more valid descriptions and explanations of religious and secular milieus with the help of one specific type of mixed methods research.

The plan of the article is as follows. Part 2 puts forth the mixed methods research strategies that provide a better solution to the mentioned validity problems. Part 3 shows the design and methodology of the study that we use as our main example (the other study using a very similar methodology). Part 4 gives an example of the creation of a typology of religious and secular milieus and aggregates with mixed methods. Part 5 presents two examples of explanations of enigmatic phenomena with the help of mixed methods. The conclusion summarizes our argument.

2 Capturing milieus with a combination of surveys and (many) semi-structured interviews

2.1 A realist philosophical framework and a technical distinction of quantitative and qualitative methods

While much of the mixed methods literature advises using a pragmatist philosophical framework (Maxcy 2003; Morgan 2007; Tashakkori and Teddlie 1998, p. 20 ff.), I take a *realist philosophical position* (Maxwell 2010; Maxwell and Loomis 2003; Pawson and Tilley 1997). I assume with Brante (2001, p. 172) that

1. there is both a material and a social reality existing independently of our representations or awareness of it (ontological postulate),
2. it is possible to achieve knowledge about this reality (epistemological postulate) and
3. all knowledge is fallible and correctable (methodological postulate).

In my view, such a realist position is useful, since it is compatible with the central mixed methods insight that a combination of different data types (quantitative and qualitative) may enhance the validity of inferences. Fig. 1 shows what is meant by this. We start with the realist assumption of a “reality out there”, where real things happen. We cannot observe this reality directly and we cannot embrace it completely, which is why we necessarily have to resort to some sort of sampling and to (more or less structured) data collection, e. g. interviews, observation, documentary analysis, etc. On the basis of the analysed data, we then make inferences, that is, we draw conclusions about what we think is true about the world. From our realist point of view, this is true for qualitative and quantitative analysis (Goldthorpe 2000, p. 67; King et al. 1994, p. 3 ff.). Inference can be descriptive (point to facts) or explanatory (point to causal mechanisms). As realists, we believe that it is possible to create knowledge about the external world; however, this knowledge is always uncertain. There could always have been biases in the sampling, errors when collecting or analysing the data, faulty assumptions when drawing conclusions, etc. This means that we must always address the question of the quality of (a) the data collection,

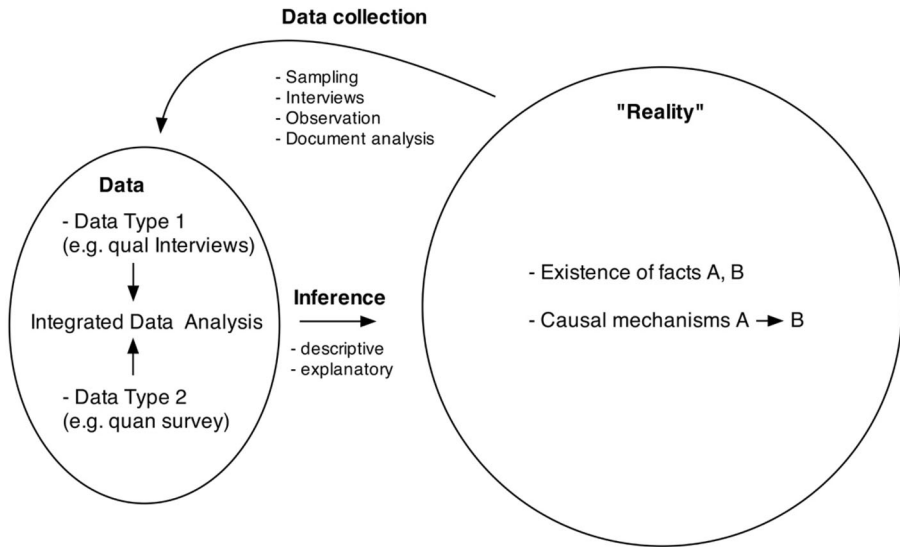


Fig. 1 Data collection, integrated data analysis, and inference to “reality” in a realistic philosophical framework

(b) the resulting data, and (c) our inferences. This inference to an underlying reality should be distinguished from the inference quantitative researchers mean when they make inferences from the sample to the population in a survey (Kelle 2007, p. 246).

Mixed methods are used precisely because they promise to lead to better inferences about facts and causal mechanisms. In our case, this means that we believe that there are real (although socially constructed) milieus out there, and that using two or more data types will allow us to better capture them. Just as the proverbial blind men touching an object that seems to be a spear to one, a snake to another, a wall to a third and a tree to a fourth, will understand that the object is an elephant only if they combine and integrate their findings, so will we be able to grasp what we are dealing with in our research only if we focus on our milieus with different methods and data.

From a realist point of view, quantitative and qualitative methods should not be distinguished on epistemological, but on technical grounds. In this perspective,

quantitative and qualitative research are simply denotations of different ways of conducting social investigations and which may be conceived of as being appropriate to different kinds of research question (...) (Bryman 1988, p. 5).

According to this position, some of the most important differences are that qualitative research uses relatively small samples, (mostly) text, only a nominal level of measurement and relatively unstructured instruments, while quantitative research uses relatively large samples, (mostly) numbers, all kinds of levels of measurement (from nominal to metric), and relatively structured instruments. Often, these and other distinctions are to be seen not as implying either/or choices, but continua. Researchers can design their instruments as more or less structured; they can vary their

sample size, etc. Furthermore, all of the specific methods (questionnaires, interviews, focus groups, observation) can be used with more qualitative, more quantitative, or a mix of quantitative and qualitative elements (Johnson and Turner 2003, p. 297 ff.).

2.2 A common central question and method-specific sub-questions

The type of research advocated in this paper uses one common central research question that is addressed with all data types employed (Maxwell 2005; Maxwell and Loomis 2003). This follows logically from what has been said before: If the central goal of mixed methods is to obtain more valid answers to a question, we must use the same overall question for all methods. A strong integration of the research design around one central question is especially important in the case of mixed methods research, because experience shows that in many mixed methods research projects, the quantitative and the qualitative parts seem to answer different research questions and cannot really be integrated (Bryman 2008, p. 99).

While the overall question has to be common, it is often useful to formulate sub-questions that are geared to the specific methods. If our question is, “Is there a real elephant in the room and if so, might he be dangerous?” then different sub-questions might be: “What is the size and weight of this elephant” (quantitative methods) and “Does the elephant attack humans” (qualitative methods). The answers to both sub-questions will help to answer the central question we want to address.

This does *not* mean that “quantitative” and “qualitative” research in general have their own specific way of asking research questions as is assumed in the mainstream literature. For example, Creswell (1998, p. 17) proposes that qualitative research asks “how” or “what”, while quantitative research asks “why”. Maxwell (2005, p. 74) thinks that qualitative research uses “process-questions” while quantitative research uses “variance-questions”. Onwuegbuzie and Leech (2006, p. 480 ff.) think that quantitative research questions are “specific”, while qualitative research questions are “open-ended”. All of this is wrong, if it is meant to be generally true. Quantitative methods can very well be used to answer questions about the “how” or the “what” of a social object, investigate processes and be open-ended; conversely, qualitative methods can be used for “why” questions, variance-questions and specific questions. For example, Festinger et al. (1964) used a *qualitative* study to explain *why* a UFO group would react with proselytism to the fact that the world (unfortunately for them) did not perish. Conversely, Schulze (1995) used mostly *quantitative* data to show *what* different milieus one could distinguish in Germany and *how* they constructed their milieu-worlds.

2.3 Nested sampling

If the elimination of validity threats is the central rationale of the mixed methods study, one of the primary concerns of the researcher has to be that the different data sets actually investigate the same “thing”. If we revert to our image of the blind men and the elephant: Do these men all touch the same elephant, or do they touch different elephants or even animals of completely different species such as a rhinoceros or a hippopotamus? Remarkably, the mixed methods literature – even in the specific

articles on sampling – almost never discusses this important point (e. g. Collins 2010; Kemper et al. 2003). An exception is Bergman (2011, p. 273). In order to address this problem, the research type advanced here uses *nested qualitative and quantitative samples* (Onwuegbuzie and Collins 2007, p. 292 f.). The idea is that the qualitative sample is a nested subsample (or can be regarded as such) of the quantitative sample and that it captures the relevant heterogeneity of the phenomenon with respect to the research question (Kelle and Kluge 2010, p. 41 ff.). In order to guarantee this, I recommend to use a relatively large qualitative sample and to employ a qualitative sampling plan.

A *relatively large qualitative sample* is useful because it allows us to

1. distinguish and compare more subgroups and variable-code-combinations inside the qualitative sample and between the qualitative and quantitative sample;
2. clearly distinguish between typical elements of the groups and sub-groups and idiosyncratic elements.

A *qualitative sampling plan* is advantageous because it helps us to capture relevant heterogeneity in the data if knowledge about such heterogeneity exists already at the outset of the study (Kelle and Kluge 2010, p. 50 f.).

2.4 Integrated data collection on the level of items and leading questions

Concerning data collection, it is a good idea to *integrate* it as far as possible in a way that data obtained with one method may be linked in analysis to data obtained with the other method. One way of doing this is to make sure that the items in the questionnaire and the leading questions and probes in the topic guide are *matched*. Thus, for each theme of interest there exist various closed (quantitative) indicators on the one hand, and at least one open central question and various (qualitative) probes on the other hand. In this way, we make sure that when analysing the data, we will be better able to

1. understand how our items were understood and if they were understood differently in different subgroups;
2. see if the qualitative material shows important attributes and mechanisms of the milieus that are not captured by the quantitative items;
3. judge if the quantitative items correctly identify the central mechanisms of the milieu at hand;
4. we will also be better able to see, if certain qualitative findings can be generalized.

2.5 Abductive-iterative data analysis

Integration of data analysis in concurrent mixed methods research can take place in basically two forms. Either the quantitative and qualitative data are each separately analysed in order to then seek meta-inferences. A *meta-inference* can be defined as a

conclusion generated through an integration of the inferences that have been obtained from the results of the qualitative and quantitative strands of a mixed methods study (Teddle and Tashakkori 2009, p. 152).

Alternatively, data analysis may be done in an abductive-iterative way (Peirce (2006) Reichertz (2010)), switching several times from quantitative to qualitative and vice versa, thus creating meta-inferences as one goes along (Stolz 2016, p. 17 f.). Wherever possible, I recommend using the latter method, since it allows to capitalize much more on the strengths of mixed methods. *Abductive-iterative mixed methods data analysis* starts with the assumption that the same reality has created the different data sets. Therefore, what you find in one data set can and should show up in the other one. By analysing one data set, one will therefore often find new hypotheses, new questions to ask that one can use to analyse the other data set and vice versa. In this way, one can switch iteratively from one data set to the other and back in order to get an ever finer-grained view of the phenomenon at hand. This way of analysing data may be called “abductive” in the sense that the analysis of one data sets leads in a creative way to new questions, hypotheses and explanations that can then be brought to the analysis of the second data set and vice.

Abductive-iterative mixed methods data analysis can be compared with the work of *detectives*. Just as a detective “solves a crime by looking at clues and suspects and piecing together a convincing explanation, based on fine-grained evidence that bears on potential suspects’ means, motives, and opportunity to have committed the crime in question” (Bennett 2010, p. 207), integrating mixed methods data analysis attempts to answer its research question by continually looking out for clues, new elements in the data, but equally for new hypotheses that would explain the different elements in a consistent manner.

2.6 Addressing validity threats

In order to eliminate validity threats in our mixed methods research, we can ask a series of specific questions throughout the research process:

- *Sampling Problem:* Do the quantitative data help us to create a qualitative sampling plan?
- *Linking Problem:* Are there good reasons to treat our qualitative and quantitative samples as focusing on the same “real” phenomenon? Can we see the qualitative sample as a typical subsample of the quantitative sample?
- *Measurement Problem:* According to the qualitative material, have the quantitative items been understood as meant by the researchers? Does the understanding of the items differ in different subgroups?
- *Identification and Relevance Problem:* Do the quantitative items seem to capture the relevant differences and mechanisms that show up in the qualitative material; are the milieus correctly captured? Does the combined quantitative and qualitative data help us to decide what are characteristic and typical elements of the milieu and what are idiosyncratic elements in the data?

- *Black Box Problem*: Does the qualitative material help to explain any surprising findings in the quantitative material (correlations, differences)?
- *Generalization Problem/Small-N Problem*: Can the quantitative data help us to generalize certain findings or test certain hypotheses derived from the qualitative data?

As Maxwell (2005, p. 105 ff.) well argues, validity cannot be guaranteed with techniques and most discussions of validity enhancing measures in quantitative or qualitative studies are too abstract to be of real value. The above questions will only work if they bring researcher to the often uncomfortable truths of their *specific* and very real ways of possibly being wrong and to *specific* ways they might use mixed methods in order to address these issues.

3 Design and methodology of a study of religious and secular milieus in Switzerland

My main example is a mixed methods study on religion and secular milieus in Switzerland that has been published in Stolz and Könemann et al. (2016). In what follows, I show how this study put the abstract recommendations made above into practice. Below, I will also draw on results from a second mixed methods study specifically on the evangelical milieu in Switzerland (Stolz et al. 2014). I do not present the methodology of this second study separately, as it is rather similar to that of the first study.

3.1 Research question and design

The study on religious and secular milieus used one overall research question, namely: which religious/secular milieus can be identified in Swiss society? What beliefs, practices, and values can be found in these milieus, and how have both the size and the attributes of these milieus changed in the last decades?¹ This overall research question was broken down into aligned pairs of method-specific sub-questions. In Table 1, three examples are given, the first two being descriptive, the third explanatory. In the first example, we tried to get at the meaning and distribution of terms like “Religion”, “Spirituality”, or “God” in different groups. Our two method-specific sub-questions made sure that we created items in the representative survey and leading questions and probes in the semi-structured interviews in order to elicit

¹ We define religiosity as individual beliefs, practices and experiences linked to a or several religion(s). A religion is a cultural system of symbols that permits to solve problems of meaning and contingency by alluding to a higher or transcendent world. We define spirituality as individual beliefs, practices and experiences linked to one or several religion(s), ideologies or therapies if these religion(s), therapies or ideologies promote or include (a) the importance of the individual and his or her quest for meaning, (b) the development of the individual and his faculties, (c) the existence of a higher or transcendent world with which individuals may connect in order to find meaning and self-development. See for other definitions of religiosity and spirituality: Giordan (2007), Höllinger and Tripold (2012, p. 35 f.), Siegers (2014, p. 21 ff.), Streib and Hood (2013).

Table 1 Alignment of method-specific sub-questions (examples)

Dimension	Representative survey	Semi-structured interviews
Meaning and distribution of terms “religion”, “spirituality”, and “God”.	How strongly do individuals (dis-) agree with items concerning “religion”, “spirituality”, “God”, etc.? How are these items correlated? What large groups of people do we find who react differently to these items?	How do people understand the terms “religion”, “spirituality”, and “God”? In what contexts and situations do they use them? What groups of people do we find who understand and evaluate these terms (and what is meant by them) differently?
Self-description of milieus	How strongly do members of different milieus identify as (not) religious vs. (not) spiritual?	How strongly do members of different milieus identify as (not) religious vs. (not) spiritual; what different meanings do members of different milieus assign to the terms “religious”, “spiritual”, “secular”? What other terms and social representations are important in these identity constructions?
Relationship of context-variables and dependent religion-variables	How well can items concerning “religion”, “spirituality”, “God” be explained by independent variables like age, education, or gender?	How is religiosity, spirituality, and belief in “God” linked to different individual contexts (age, education, gender) in the individual life-history?

the information needed. Such method-specific sub-questions are important, since they lead to integrated data collection (see below).

3.2 Survey and semi-structured interviews

The study used a *concurrent mixed method design*, combining a survey with semi-structured interviews.

The *survey* was conducted in 2008/2009 and comprised a total of 1229 randomly sampled face-to-face interviews, supplemented by a questionnaire that respondents could fill out at home and send back after the interview. This latter questionnaire yielded 796 filled-out questionnaires. The survey consisted of an enhanced ISSP (International Social Survey Program) module 2008 for religion.

The *73 semi-structured interviews* were conducted face-to-face using a topic guide by the researchers of our team all over Switzerland. We initially aimed at 70–75 interviews, that is, a sample as large as we could get given our resources. The interviews had an average length of 71 min. The topic guide consisted of an initial question as an “ice-breaker”, 17 leading questions with accompanying possible probes and nine questions about socio-demographic characteristics. At the end of the interview semi-structured interview, all respondents were given a written questionnaire with selected questions from the quantitative questionnaire, asked to complete it and to send it back by mail. The interviews were transcribed according to specified transcription rules.

3.2.1 Population and sampling

The *population* of the study, both for the survey and the semi-structured interviews, consisted of all persons aged 18+ who reside in Switzerland, who are either of Christian religion or without religion, and who speak German, French or Italian.

The *face-to-face survey* (supplemented with a send-back questionnaire) was carried out by M.I.S Trend, under the supervision of FORS. A *random sample* was drawn, *stratified* according to seven major geographical areas (NUTS2) and distributed over 120 sampling points (40 addresses per sampling point). The information base for the extraction was a file provided by the post offices. After excluding the commercial or institutional addresses, a person was selected per household with the method KISH. The *response rate* for the face-to-face survey was 47%, and for the questionnaire, 30%.

The question of how large a *qualitative sample* should be is not settled in the literature and methodological advice is almost never based on evidence (Guest et al. 2006; Collins 2010, p. 362). In my view, given the type of research question I treat here, larger qualitative samples are preferable to smaller ones (Mayring 2007, p. 4). This is, because they allow for more in-depth comparison of different types and subtypes and for mixed analysis using a combination of segment matrices and some type of bivariate statistical analysis (e.g. segment matrices comparing God-codes between respondents of specific age-groups vs. a quan analysis of God-Items according to age). For the *semi-structured interviews*, we sampled with a random-quota procedure according to a qualitative sampling plan (Kelle and Kluge 2010, p. 50). A professional survey institute, LINK, called households randomly selected from the general telephone register in Switzerland, checked whether there was an individual in that household fitting our criteria and quota and asked if a qualitative interview could be organized. We used quotas according to language region, gender, urban/rural area, and age, since former research on religion in Switzerland consistently showed gender, urban/rural, and age to be strong predictors of religiosity; language region was used since language is a central cleavage in Switzerland. Recruitment took place in four phases between October 2007 and March 2009.

3.2.2 Alignment of sampling and data collection

Note that the sampling and data collection decisions that have been described above are using the technique of *aligning* in order to permit an integrated mixed methods data analysis. Aligning (or parallelization) is the practice of combining the sampling and the data collection such that the same object of interest or complementary dimensions of the same object of interest is focused by the different data types (Stolz 2016). To recap:

1. We used the *same population*,
2. comparable *sampling strategies*,
3. *matched operationalization*, that is, for each phenomenon of interest, we devised various closed indicators (quantitative) on the one hand, and at least one open leading question and various probes on the other (qualitative).

Table 2 Comparison of the quantitative and qualitative sample (selection)

	Representative survey (quantitative)		Semi-structured Interviews (qualitative)	
	<i>n</i>	%	<i>n</i>	%
German-speaking Switzerland	778	70	31	43
French-speaking Switzerland	319	29	35	49
Ticino	10	1	6	8
Urban	569	51	36	49
Rural	556	49	37	51
Male	499	44	35	48
Female	626	56	38	52
Below 30	167	15	10	14
31–40	201	18	19	26
41–50	234	21	13	18
51–60	202	18	13	18
61 and above	321	29	18	25
Total	1186	100	73	100

Notes: For this table, in the quantitative sample, we have excluded individuals with Non-Christian religions and weighted the data. In the qualitative sample, we have used all information both from quantitative and qualitative data to create the table. We here identify valid percentages, i. e., we omit the “missings” and “others”

- The participants of the semi-structured interviews additionally filled out selected questions from the survey.

3.2.3 Comparison of the quantitative and qualitative samples.

The fact that interviewees of the semi-structured interviews also filled out selected questions of the survey allowed us to compare both samples (see for a selection of possible comparisons Table 2). Such a comparison allows us to judge the similarities and dissimilarities of our quantitative and qualitative samples with respect to selected variables. Thus, as can be seen in Table 2, in our qualitative sample, French-speaking individuals are (by design) over-represented, while the distributions concerning the variables urban/rural, sex, and age are very similar in the qualitative and quantitative sample. The distribution of the four-fold typology also turns out to be very similar in the quantitative and qualitative sample.

3.2.4 Quantitative, qualitative, and mixed methods data analysis

Quantitative data analysis techniques progressed in a conventional way from univariate to bivariate and multivariate analyses. We relied on standard bivariate and multivariate statistical analysis techniques such as multiple regression, logistic regression, ANOVA, factor analysis, and two-step cluster analysis.

In our *qualitative data analysis*, interviews were *thematically coded*, with different codes being fixed from the beginning by the research question and the main questions

of the topic guide. Other codes emerged inductively during coding. Once the coding scheme was stable, the whole material was coded again according to this final coding scheme. Cases were then systematically compared across themes, leading to various typologies (Kelle and Kluge 2010, p. 56 ff.). Themes were also compared across case variables. e. g. sex, age, urban-rural, our “types” etc. with the help of “segment matrices” (Kuckartz 2014, p. 142).

The *mixed methods data analysis* was performed in an abductive-iterative way, going back and forth between the qualitative and the quantitative data. In this way, the intermediate results of the survey data analysis were used as input for further analysis of the semi-structured interview data and vice versa. This kind of mixed methods analysis comes naturally when two strongly integrated data sets are at hand: When researchers analyse quantitative data, they always have to make assumptions about situations, mechanisms, etc. that cannot be tested by their quantitative data alone – they may then turn to qualitative data in order to find evidence for or against the feasibility of these assumptions. Conversely, when analysing qualitative data, it very often happens that researchers ask themselves if a finding may be generalized – they may then turn to quantitative data in order to try to answer this question. In the three examples that follow, I show how such mixed methods data analysis can be used for descriptive and explanatory purposes.

4 Describing religious and secular milieus and aggregates

Our first example of integrated mixed methods analysis has a *descriptive* goal and consists of the creation of a typology of religious and secular milieus and social aggregates. In the following, I give a simplified account of how the typology was found by abductive-iterative mixed methods analysis.

In a *first phase*, separate analysis of beliefs, practices, values and other domains both in the qualitative and in the quantitative data yielded different typologies for each domain, but also the insight that these typologies were all rather similar and that one overall typology would be feasible. Also, we were surprised, especially from looking at qualitative data, to see how strong secular thought was, that there was clear evidence of an “alternative spirituality milieu”, and that confession (Catholic/Reformed) was not a very important identity marker in the data. Thus, qualitative and quantitative results influenced our decisions about where our analyses were heading.

In a *second phase*, we started experimenting with different two-step cluster analyses for beliefs and practices combined in our quantitative dataset. These attempts resulted generally in three “pure types” that were named the “institutional”, “alternative” and “secular” type, and one or more “unclear” types. The size of the types varied often quite considerably with different methods and setups. Both the dependence of cluster size and number of clusters on the method and the parameters used are general issues with cluster analyses (Burns and Burns 2008; Garson 2014), which mixed methods data analysis can help to resolve: An analysis of individuals belonging to the “unclear” types in the qualitative data convinced us that this was exactly what had been called “fuzzy fidelity” in the literature. We decided to

Table 3 Cluster size in the quantitative and qualitative sample

	Quantitative sample		Qualitative sample	
	<i>n</i>	%	<i>n</i>	%
Institutional	195	18	14	19
Alternative	149	13	12	16
Distanced	640	57	34	47
Secular	130	12	13	18
Total	1114	100	73	100

Notes: We identify here valid percentages, i. e., we omit the “missings” and “others”

merge the unclear types and to call them the “distanced type”. Finally we decided on a solution that (a) used only standardized variables, (b) used only variables that loaded relatively high on the factor analysis that preceded the cluster analysis and (c) placed most qualitative respondents “correctly” (according to our knowledge of the cases). We ran the cluster analysis separately on the quantitative and the qualitative sample. The cluster analysis on the quantitative sample only gave us five clusters: one “institutional” (18%), one “alternative” (14%), one “secular” (12%) and two less easily interpretable that were combined into a “distanced” type (57%). The cluster analysis on the qualitative sample gave a solution with “institutional” (19%), “alternative” (16%), “distanced” (47%) and secular (18%). Table 3 gives the final cluster sizes for the quantitative and qualitative samples. We inspected the “fit” of the typology one respondent by one, asking if the qualitative analysis would also have classified the respondent into the respective type. The (very few) cases that did not seem to “fit” were inspected individually, comparing their qualitative and quantitative answers and trying to explain the differences. Finally, we decided to leave these individuals in the types assigned to them by the cluster analysis. Thus, in this phase, qualitative data were used in order to *interpret* quantitative results as well as to contribute to the *decision* on the final solution of clustering.

In a *third* phase, we worked theoretically in order to find the best way to logically derive our typology from a limited number of variables and thus to present it in a straightforward way. Again, the qualitative and quantitative results were an important background for this work. We finally decided to present the types in a two-dimensional space, distinguishing institutional religiosity and alternative spirituality.

In a *fourth* phase, based on our qualitative work, we noticed important differences inside the groups and decided to create a second level of subgroups:

1. within the institutional type, people belonging to an Evangelical church were combined into the Evangelical subtype, while all others constituted the subtype of the established;
2. within the alternative type, we distinguished between those who are highly committed with regard to the alternative-spiritual factor (whom we called “esoterics”) and those who are less highly committed (whom we called “sheilaists and alternative customers”);
3. within the secular type, we created two groups through a repeated cluster analysis, one of which we called “opponents of religion”, and the other, “indifferent”;

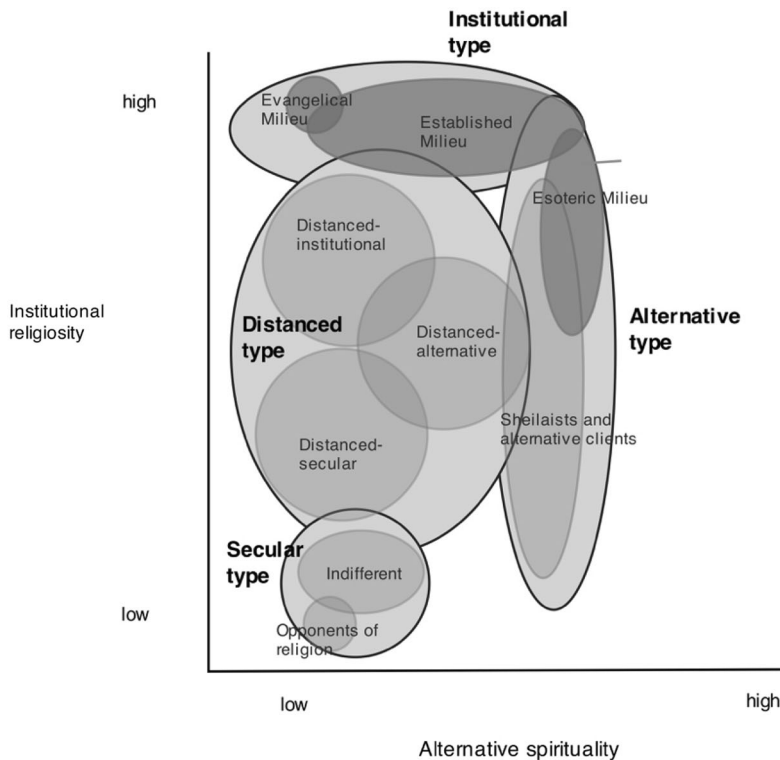


Fig. 2 The twofold typology

4. within the distanced type, we distinguished three subtypes through a repeated cluster analysis: “distanced-institutional”, “distanced-alternative”, “distanced-secular”.

In a *fifth* phase, we put the typology to use by

5. *describing the types and subtypes* (beliefs, practices, social structure, values etc.); at this point, through an analysis of the qualitative data, we became aware of the clear difference between some types that are milieus and others that are social aggregates;
6. *explaining various surprising phenomena apparent in the data*;
7. *putting the typology to use by combining it with other sociological theories* in order to explain reproduction of milieus and secularization.

In what follows, I try to give readers a sense of the resulting typology, using both qualitative and quantitative data. The typology is based on two dimensions, a dimension of institutional religiosity (vertical axis) and a dimension of alternative spirituality (horizontal axis) (see Fig. 2). By “institutional religiosity”, we mean individual religiosity which is connected to the products and teachings of Christian churches. By “alternative spirituality”, we mean individual beliefs, forms of

practice and experiences which are linked to the offers of alternative spirituality entrepreneurs.

Fig. 2 shows that we distinguish four types within the two dimensions: an institutional (18%), an alternative (13%), a distanced (57%), and a secular type (12%). The four types can each be subdivided, giving overall 9 subtypes: evangelical, established, esoteric, sheilaists and alternative customers, distanced-institutional, distanced-alternative, distanced-secular, indifferent, opponents of religion. These subtypes can be seen as either milieus or social aggregates. In this paper, I do not have space to describe the types and subtypes in great detail. Let us instead just look at the institutional and alternative types as examples, in order to show how quantitative and qualitative elements can be used in order to describe these groups.

The *institutional* (18% of our sample) attribute great value to the Christian faith and Christian practice in their own lives. These are core members of the Catholic and Reformed religious communities, as well as the great majority of members of Evangelical churches. The institutional believe in a single, personal and transcendental God. Around 98% believe (quite or completely) that “There is a God, who has revealed himself in Jesus Christ” (Table 4). 63% believe in life after death. The institutional have a pronounced religious practice, which is usually linked to the ideas and products of the churches and their core religious communities. Of those belonging to this type, 72% go to church at least once a month, while 85% pray several times a week or more. Within the type of the institutional, we can distinguish two important subtypes that can both be seen as milieus: the “established” and the “evangelical”. Institutionals are more often found among older people, especially in the group aged 71 and above. They are more often female and with higher probability found in rural areas. A typical example of a member of the institutional type is Nathalie (41, subtype “established”) She is a housewife and mother who feels close to the Catholic Church. As coordinator of the catechesis, she takes part in the organization of mass and is also involved with parents in the religious instruction of their children. She believes not in a punitive God, but in a “God of love” who lives within every person. Nathalie goes regularly to mass, not because of external coercion, but because of an inner need.

A second type consists of the *alternative* (13% of our sample). The people grouped together here have holistic and esoteric beliefs and practices. What can be noticed immediately is that the vocabulary that they use is very different to that used by the institutional type. For example, they speak in terms more of “spirituality” than of “religion”, and, for them, it is less about “belief” than about “experience” and “knowledge”. 52% believe that there is rebirth or reincarnation of the person in different lives. People of this type are interested in the law of karma, contacts with angels and spirits, cosmic energies, chakras, the skills of secret masters, and the healing powers of stones, plants, and of touch or laying on of hands. Among the practices of this type can be found, besides the reading of esoteric literature, techniques of divination (tarot, channelling, palmistry), spiritual healing, breathing and movement techniques (e. g., yoga, meditation), healing techniques that work through the hands (e. g., reiki), and various other techniques and rituals (e. g., nature rituals, hypnosis, female spirituality). The alternative type is strongly female (67%), most often found in the age-group of 41 to 50 (32%) and often living in the agglomera-

Table 4 Selected beliefs of the four types concerning God (in percentages)

	Institutional	Alternative	Distanced	Secular	Total
<i>Beliefs</i>					
There is a God, who has revealed himself in Jesus Christ, ^a	98	48	47	7	52
God – for me, is a cosmic energy that influences our lives. ^a	18	51	45	6	35
Do you believe in reincarnation, i. e., that people are always born again into this world? ^a	29	52	32	10	31
I do not believe in God	4	8	5	44	10
There is something like a higher power. ^a	83	82	77	11	71
<i>Practices</i>					
Going to church (once a month or more)	72	6	7	0	24
Frequency of prayer (several times a week or more)	85	34	29	0	36
Herbal remedies ^a	37	70	42	33	44
Reiki/acupressure/massage ^a	25	67	34	31	36
Esoteric books/magazines ^a	9	58	14	10	19
Stones/crystals/lucky charms ^a	9	44	14	4	16
Yoga ^a	8	33	12	12	14
<i>Sociodemography</i>					
<i>Age</i>					
18–30	6	15	15	26	15
31–40	15	19	18	22	18
41–50	22	32	19	15	21
51–60	18	19	18	15	18
61–70	10	9	16	12	14
71+	29	6	14	9	15
<i>Gender</i>					
Male	42	33	45	57	44
Female	58	67	55	43	56
<i>Population of place of residence</i>					
<999	19	5	9	9	10
1000–9999	33	31	44	35	39
10,000–99,999	34	48	31	32	34
100,000+	14	16	17	24	17
<i>n</i>	195	149	640	130	1114

^aPercent agreeing completely or quite

tion of large cities. We can distinguish two subtypes here, too: The esotericists (3%) very frequently use alternative-spiritual practices and see their whole lives immersed in an esoteric-spiritual light. They are part of an esoteric milieu. Another subtype are “sheilaists and alternative customers” (11%). The term “sheilaist” is sometimes used in the sociology of religion to refer to people who assemble their very own religion (after the name of a woman, “Sheila”, who claimed that this was the case for her) (Bellah et al. 1985, p. 221). This subtype is in our view not a “milieu”, but a “social aggregate”, since, although the people grouped together here may share certain common forms of practice and belief, they are not connected with each other in social networks. An example of an alternative is Eliot (42, subtype “esotericist”). Eliot works for an NGO. He grew up within Protestantism, from which he distanced himself at an early age. After a serious life crisis, he came via Zen Buddhism and Tai Chi to Qi Gong, which he currently practises. Eliot has completed various courses and retreats, as well as a whole training course in different alternative-spiritual techniques, and has also taught these techniques in different places for years.

5 Interpreting and explaining enigmatic findings in religious and secular milieus

5.1 Religious-secular self-identification

My second example of abductive-iterative mixed methods analysis is *explanatory* and concerns religious-secular self-identification. In the ISSP data, there is a famous item asking, whether respondents see themselves

1. being committed to a religion and identify as spiritual,
2. being committed to a religion without identifying as spiritual,
3. identifying as spiritual without being committed to a religion, or
4. neither being committed to a religion nor identifying as spiritual.

The exact item wording is “I am committed to a/no religion and do/do not consider myself a spiritual person who is interested in the divine or the supernatural”. This item was not used for the construction of our typology, which is why we can meaningfully analyse just how our types answer this question.

Some of the results, shown in Fig. 3, are as expected. We are not surprised that 69% of individuals in the secular group report being neither committed to a religion nor identifying as spiritual. Likewise, it is in line with our expectations that the option most often chosen by alternatives is “Identifying as spiritual without being committed to a religion”. As the analysis of the qualitative material shows, for alternative individuals, spirituality stands positively for an open and creative contact with higher dimensions of their own self, through which they can develop their own personality. We can also understand why distanced individuals opt mostly for “committed to a religion but not spiritual”. As the qualitative material shows, most of them actually are official members of one of the large churches (Reformed or Roman-Catholic) and interpret this response option as describing their status as a non-practicing member of the church.

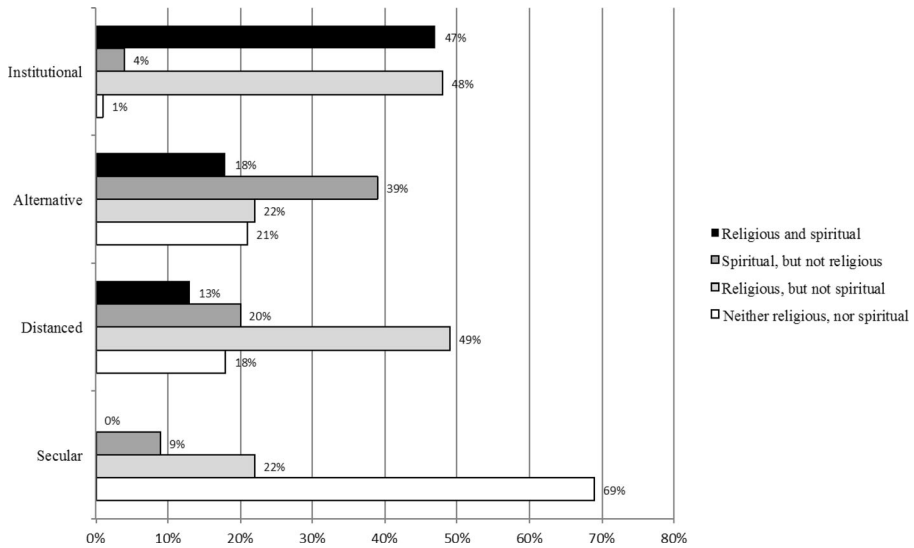


Fig. 3 Being committed to a religion and identifying as spiritual according to type

However, it is more difficult to understand why we find about half the institutionals claiming to be “committed to a religion and spiritual”, while the other half claims to be “committed to a religion, but not spiritual”. Fortunately, again, qualitative material can help us to interpret and explain this finding. In fact, different members of this type interpret “spiritual” in two different ways. On the one hand, we find respondents who interpret “spiritual” positively, as the authentic, individual experience of their own religion. It is these respondents who describe themselves as “committed to a religion and spiritual”, and for them this inner life often appears to be much more important than the institutional side of religion. Nathalie, for example, says:

Being religious, that sounds like a bit of a cliché, like a label. I think that’s how people see me a bit, because I work in the church. I want to be spiritual; I want to be inspired by the spirit. (Nathalie, 41, Roman Catholic)

On the other hand, the institutional type comprises also people who understand “spirituality” negatively and reject it as esoteric, magical and involving contact with spirits. Some members of the free-church subtype even see such practices as dangerous, since they build contact with “dark forces”. Thus Willi (40, Evangelical) sees spirituality as something to do with “stones, and forces from nature and also Yoga” – something he does not approve at all. To sum up this example, we were able to explain our quantitative finding by showing with our qualitative data how items were differently understood between and inside certain groups.

5.2 The conversion age of conservative evangelicals

My third and final example – again explanatory – stems from the mixed methods study on evangelicals in Switzerland. In this study, the conversion experience of different types of evangelicals was analysed. Evangelicals describe conversion normally as an experience in which they come to realize their sins and make a specific decision to become a “Christian”. These conversions are frequently preceded by a times of crisis or doubt and they are almost always accompanied by strong emotions (Stolz et al. 2014, p. 61 ff.). One intriguing finding that researchers stumbled upon but could not really explain can be seen in Fig. 4. The data showed a strange peak for the conversion age of conservative evangelicals. These evangelicals converted with much higher probability at 16 years of age. Additional quantitative analysis, however, did not seem to be able to elucidate this further.

The solution to the riddle became quite quickly apparent once the interviews of Evangelischer Brüderverein (EBV) members concerning their conversions were analysed. We learnt that members of the EBV, one of the main conservative evangelical denominations, are in the habit of sending their offspring, at the age of sixteen, to a special three-week-long camp called “Unterweisungskurs”. At the end of this course, participants are explicitly asked to make the decision to convert. Not surprisingly, many actually convert at this point in time. Nicole says:

Well, when you’re 16 (...), in the EBV you go to a course (“Unterweisungskurs”) (...) Then you go for three weeks, eh, I went to (name of town), that’s a course where boys and girls are separated, eh, we were 19 girls, from all of Switzerland. (...) It was a super time, during this time, many will have their conversion, that is they will take a decision for Jesus, those who haven’t done it before.

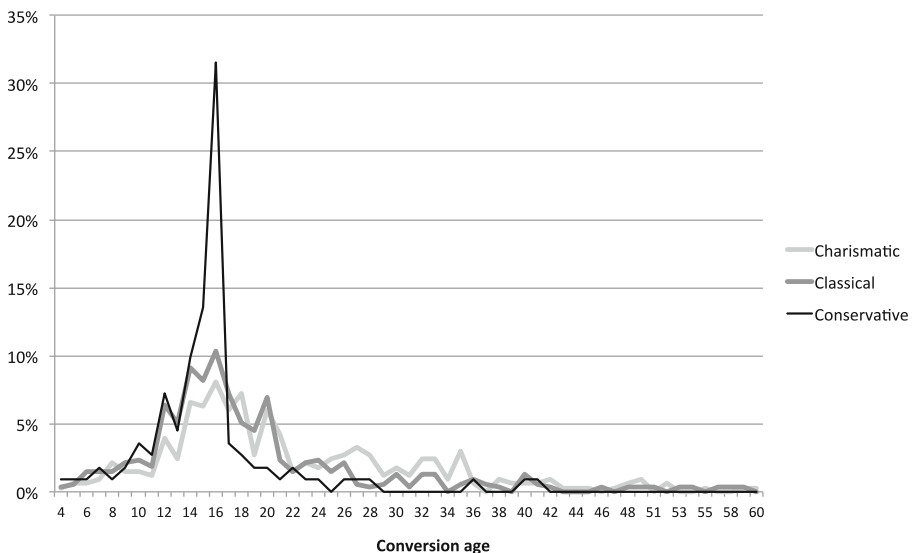


Fig. 4 Being committed to a religion and identifying as spiritual according to type

And Dominik:

Many say that in that course, there is quite a lot of pressure, that you have to have your conversion and that it's the last opportunity. I would say that is wrong (...) before, I hadn't read the Bible very much (...) but there, you were really confronted with the Bible for three weeks and you have really had quite deep insights. And there, I dared to take the step.

We see here that the qualitative data adds local knowledge about the “rules of the game” and causal mechanisms that was not previously available to the researchers. This knowledge enables us to explain the formerly surprising peak in the data for conversions at age 16 for conservatives quite satisfactorily. Note that we could now devise new items for quantitative research that would let us capture this phenomenon also in a more precise quantitative way. We could for example ask “Did you convert at an “EBV-Unterweisungskurs” and could thus have estimated the specific impact of these camps on the conversion age of evangelicals”.

With hindsight, one may ask: Why didn't the researchers already know about the simple fact of EBV “Unterweisungskurs” at the outset of the quantitative study? Shouldn't they have known this? But the fact is that we did not, even though we had worked on Evangelicals for years. This can partly be explained by the fact that the Evangelical field is extremely diverse, making it difficult or even impossible to obtain a comprehensive knowledge of the practices of all the groups. I claim that instances of such lack of potentially important local knowledge are very common in quantitative research, especially where researchers work on areas far removed from their everyday world, and that are internally very diverse and/or subject to rapid social change (Kelle 2007, p. 108). Such errors of interpretation are normally not observed because the researchers do not have the necessary qualitative data at hand.

6 Conclusion

In this paper, I have argued that mixed methods can be a useful tool in order to capture religious and secular milieus. I have made the case for a realist philosophical framework and mixed methods design that sees the main advantage of mixed methods in the higher validity of descriptions and explanations of such milieus. While I have focused on the description and explanation of religious and secular milieus, it is obvious that the methodology presented can be used for all kinds of large groups and milieus.

Instead of summarizing the abstract arguments, let us reconsider the three examples given and show just how mixed methods were able to enhance the validity of our finding.

In the *first example*, mixed methods allowed us to *describe* the Swiss religious landscape by creating a typology of religious and secular milieus and aggregates. Qualitative and quantitative methods were combined in an iterative-abductive way in order to see if one general typology could make sense of all of the data. Using both qualitative and quantitative data gives us a much better sense of what milieus and social aggregates are really “out there”. Finding the same basic patterns in

both data sets makes us more confident that these social groups really exist, if they should be seen as milieus or aggregates, what attributes they have and what social mechanisms create them. Furthermore, our descriptions of the milieus concerning their practices, beliefs, identity etc. are not only based on quantified information such as distributions, means, and correlations, but also on qualitative information by milieu-members themselves. These descriptions and explanations of milieu members are not just anecdotal, but systematically sampled, analysed, and linked to the quantitative information.

The *second example* showed how enigmatic differences between and inside our milieus and types concerning the self-description as spiritual and/or religious could be *explained* by inspecting the qualitative data. We saw how different respondents interpret “religious” and “spiritual” in different ways, leading to the pattern observed in the quantitative data. Thus, in the institutional group, we found two groups, some purporting to be religious and spiritual and others religious without being spiritual – because these two groups understood “spiritual” in different ways. The first group understood it positively as “living ones religion in an interior way”, while the second group understood it negatively as “esoteric”.

In the *third example* we saw that a strange finding in the quantitative data could be *explained* with the help of mixed methods. Quantitative data gave us the explanandum (the peak of the conversion age of conservative evangelicals at age 16); the qualitative data provided us with local knowledge about a *causal mechanism* that produced the statistical phenomenon (a special course that many conservative evangelicals take; where conversion is expected).

Note that in all three examples we assume that there is a social phenomenon “out there”. The problem is how to capture it in its relevant dimensions, how to describe the relevant groups and explain phenomena with the relevant mechanisms. I have shown that mixed methods is a way of doing this in a possibly more valid way. In the picture used above, it is a way for blind men of getting to the unknown reality – the elephant – from different sides.

Acknowledgements I thank Jean-Philippe Antonietti for help with statistical questions and Nina Baur, Udo Kelle and Udo Kuckartz for valuable comments on earlier versions of this paper.

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