ASSESSING THE EFFECTIVENESS OF RELIGIOUS EDUCATION IN HAMBURG AND NORDRHEINWESTPHALIA THROUGH STRUCTURAL MODELLING

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ABSTRACT
Structural modelling maps overall patterns of relationships. This paper looks at differences in students’ attitude structures between two German Länder (regions) with different RE systems; multifaith RE in Hamburg and RE segregated by religion in North-Rhine Westphalia. Where different coherent sets of beliefs, due for example to religious affiliation or RE experience, exist within a national sample, factor analysis, which focuses on sets of responses which differ between groups, should be able to separate them out. RE experience, especially the multifaith RE of Hamburg, had a positive effect on tolerance. Students who considered religion important showed more understanding of other beliefs. Students whose home language was not German were more likely to consider religion important and thus to understand others; but they were also more likely to stress separateness and not to engage in the types of RE which were most effective in promoting tolerance. This exemplifies how structural modelling can uncover complex causal interactions. The effects of different types of RE experience in Germany are consistent with those of similar RE in other countries.

Introduction

This paper uses data from a questionnaire survey (Valk et al. 2009) which was carried out during the REDCo (Religion in Education. A contribution to Dialogue or a Factor of Conflict in Transforming Societies of European Countries?) project as a follow-up to a qualitative study (Knauth et al. 2008). A particular focus of the project was dialogue and interaction between students who had different beliefs; the different systems of religious education (RE) in different countries, especially in those countries where RE is optional or students within a country have very different RE experiences, may be seen as providing a ‘natural experiment’ on the value of RE. There are different approaches to religious education across Europe. Broadly, there are approaches that emphasise religious nurture or the formation of faith, and those that emphasise learning about different religions. Some variants on the latter encourage young people also to reflect on their learning in clarifying their own personal views (sometimes called ‘learning from’ religion(s), while
others concentrate on the informational side of the subject. The German situation is of particular interest because Länder (regions) control education; as these Länder were independent states before they were confederated in the 19th century, there remains strong identification both with the Land and with the German federation. This gives an unusual possibility of making comparisons between education systems in different Länder which are not contaminated by the strong cultural differences between nations (Neill & Schihalajev, in press).

In Germany, RE in public schools is organised through a partnership of state and religious communities. RE is the only school subject which is regulated in the German Grundgesetz, Art. 7. It is a subject to be taught ‘in accordance with the principles of the religious communities’. Until the 1980s it was assumed that this legislation applied only to the Roman Catholic and the Lutheran Churches. Owing an increasingly multi-religious society it became clear that Art. 7 also applies to other religious communities beyond the established churches.

North-Rhine-Westphalia’s policy represents the usual practice in Germany regarding RE in school. RE covers the range of religions but is taught through separate religious instruction for students of different religious affiliations. Religious plurality may be represented in the subject curriculum, but this is only in terms of factual knowledge. This approach is often described as confessional religious instruction, aiming to introduce the students to a given religious tradition. In British terms, this represents a possible outcome if ‘schools with a religious character’ become commoner and more distinctive (as is already the case in Northern Ireland). Hamburg, unusually, has an integrated model of religious education in school aiming at the integration or cooperation of different religions following a concept of tolerance as mutual recognition of the other. Religious plurality is actively fostered and learning from different religions in a dialogic, experience-centred manner is a curricular goal. In many ways this system is reminiscent of the English system, where RE is expected to promote community cohesion (DCSF 2010).

Though Josza et al. (2009), like other contributors to Valk et al. (2009) had already carried out a detailed univariate and bivariate analysis, it was clear, from these analyses, respondents’ comments and the comparisons made with the qualitative analysis, that respondents tended to answer the questions consistently; this consistency could be related to patterns of attitudes reflecting, especially, the pattern of religious education they had received. This reflects that membership of most faith communities entails conforming to a set of beliefs consistent with other members of that faith community (Henrich & Boyd 2001); where different coherent sets of beliefs (either within a religious tradition such as Christianity, or between religious traditions) exist in a national sample, it should be possible to separate them out by factor analysis, as respondents with different sets of beliefs will give different sets of answers in the questionnaire. In factor analysis the highest loadings on each factor are the questions which are answered most differently by groups of people with different attitudes, such as adherents to different religions, so the labels given to each factor in the Results are based on these questions, which
represent the statistical core of the factor. Questions which everyone answers in the same way do not show up strongly in the factor analysis.

The factors were then integrated into a structural model. Structural modelling offers particular benefits in providing an overall pattern of relationships which can be compared with the project qualitative data (Knauth et al. 2008); the program fits an overall significance level for the model overall, rather than looking at individual elements. Modelling also allows the effect of specific influences to be assessed after controlling for the effects of other influences, and, as discussed below in the Results, multiplying the correlations through a chain of influences gives the effect of indirect influences.

The structural model used depends on the researchers’ conceptualisation of the situation; a possible alternative model to that used in this paper is considered in the Discussion. The model here was derived from a factor analysis of the questionnaire designed to elicit students’ conceptual structure of attitudes related to religious education and its effects on their views. The conceptualisation used in this paper, as in Neill & Schihalajev (in press) is that, the development of moral, including religious, values depends on innate predispositions to influence (Neill 2007); unless young children are responsive to the moral pressure of socialising adults, they cannot be socialised into the morals of the society. Toddlers who suffer damage to the prefrontal areas of the brain can grow up to be amoral and uncontrollable (Damasio 2003). As Damasio points out, though normal judgements in adulthood continue to rely on the same brain areas, they involve balancing large amounts of culturally acquired knowledge, which progressively leads to emergent changes in brain structure corresponding to individuals’ attitudes (Elman et al. 1996).

As we are dealing with adolescents’ attitudes, some responses need to be seen as outcomes, even though they may have been causes of behaviour at an earlier stage. For example even though the friends children go round with may have had a causal influence on respondents’ religious views, when they answer the questionnaire their report of whom they go round with is likely to be influenced by their religious commitment. In the context of the questionnaire, students’ self-concept of their religious commitment was seen as the central influence on their responses. As mentioned above, membership of a religious group entails having a consistent set of beliefs, and individual students’ conception of how religious (or non-religious) they are would therefore be expected to lead them to give an internally consistent set of answers; the model aims to show how these internally consistent attitudes vary between students and to relate them to the external influences on which data is available.

As the questionnaire included 108 answers to questions about how respondents behaved, the first step was to use factor analysis to reduce these outcomes to a manageable number of factors, which reflect the limited number of consistent attitudes respondents used across a range of questions. In order to compute new factor variables corresponding to these attitudes, questions loading at or above .400 on each factor were averaged to create the new variable; negatively loaded questions (for example about antipathy to
religion) were summed and subtracted from the summed score for the positive questions (for example about commitment to religion) since antipathy indicates low commitment. These new factor variables and the hypothesized influences on the outcomes are then correlated to provide guidance on a suitable structure for the structural model.

In formulating a structural model of attitudes we need to distinguish between:

- ‘Ultimate’ influences (e.g. gender, language spoken at home (as defined below) and model of RE) – students have little control over these in most cases. *Language spoken at home* was divided into three groups according to the language/s spoken in their homes: only German; German and another language; only another language. Language spoken was taken as an indicator of integration into German society. *For model of RE* students’ experience was categorised into four ranks:
  - Multifaith RE, as practised in Hamburg;
  - Single-faith RE, as practised in North-Rhine Westphalia;
  - No RE in Hamburg (these respondents were expected to be influenced by the multifaith experience of their peers);
  - No RE in North-Rhine Westphalia (also expected to be influenced by the single-faith experience of their peers).

- ‘Intermediate’ influences (religious commitment, measured by a question on how important respondents felt religion was to them) – these can be seen as dispositions, arising from the influence of the ultimate causes, which underlie all the proximate outcomes: for example a religious fundamentalist or a militant atheist will tend to give a consistent set of answers to all questions about the representation of religion in school, but the fundamentalism or atheism, though a free choice at secondary-school age, may itself have been influenced by ultimate causes at a younger age which were outside the individual’s control at that age (Neill 2007).

- ‘Proximate’ outcomes (e.g. attitudes) – these are views on how religions are dealt with in school, but also, as mentioned above, on aspects such as friendship and whether the respondents believed that there is a God, some spirit or life force, or no spirit or life force.

The ‘outcome’ questions were grouped in the questionnaire; fuller details are given in Friederici (2009). The groups of questions were:- respondents’ experiences of religion in school (10 questions); their views on what school policy on religions should be (7 questions); outcomes from learning about different religions (6 questions and 5 questions in separate groups); views on different models of religious education in school (6 questions); how often respondents engaged in specific religious practices (6 questions); how important respondents considered sources of information about different religions (7 questions); respondents’ attitudes to quotations of students’ positions about religion (derived from the qualitative study (Knauth et al. 2008)).

1 Note that for the purposes of this paper the terms ‘ultimate’, ‘intermediate’ and ‘proximate’ are being used in a different sense to their meaning in Religious Studies or theology.
- 34 questions in four groups); how often respondents spoke to others about religion (6 questions); the attitudes to religion of peers and parents (8 questions); attitudes to proselytism from another student (5 questions); and what practices would help people of different religions to work together in peace (6 questions). These groups represent distinctions which were important to the research team who were drawing up the questionnaire but they may have been less salient to the student respondents and the factor analysis, which was designed to identify respondents' viewpoints, drew together questions which were answered similarly, even if they had originally been in different groups.

Results

The sample for Hamburg was 1099 students in 69 classes from 12 schools; 44% were male, 56% female. 39% Christian, 43% no religion, 14% Muslim, 4% other; 39% migration background. NRW: 573 students from 6 schools; 56% male, 44% female; 54% Christian, 33% no religion, 11% Muslim, 2% other; 31% migration background.

The factor analysis

Factor 1 may be termed integrative because it involves both loadings related to understanding and living peacefully with others, loadings related to understanding other religions, and loadings related to developing the self. All these appear among the highest of the 32 loadings above .400 (there are another two just below .400). Thus the highest loadings (given in order), for ‘to gain a better understanding of current events’, ‘to understand others and live peacefully with them’ and ‘learning about religions at school helps me to understand current events’ represent the first of these elements, understanding and living with others. These are followed by ‘I find religions as a topic important at school’ and ‘I find topics about religions interesting at school’ representing the second element, of understanding; the next two loadings, ‘to develop moral values’ and ‘learning about religions at school helps me to learn about myself’ represent the third element, self-development. These are followed by ‘how important as a source to get information about different religions is school?’ making clear that the factor relates to the experience of RE. If we list the succeeding loadings down to .500 and label them by the element they belong to, it becomes apparent how the three elements contribute to the factor: ‘learning about different religions at school helps us to live together’ (first element); ‘to understand the history of my country and of Europe’ (first); ‘to develop my own point of view’ (third); ‘learning about religions at school helps me to make choices between right and wrong’ (third); ‘talking about religion helps me to understand better what is going on in the world’ (first); ‘learn the importance of religions for dealing with problems in society’ (first); ‘learn to understand what religions teach’ (second); be able to talk and communicate about religious issues’ (second); ‘talking about religions helps to shape my own views’ (third); ‘to learn about my own religion’ (third). The remaining loadings above .400 relate to understanding religions and different views; there are also loadings for the differing sources from which religious knowledge can come, and two negative
loadings for ‘there should be no place for religion in school life’ and ‘there is no need for the subject of Religious Education. All we need to know is covered by other school subjects’ – in other words the students whose answers load onto this factor reject the possibility of eliminating religious education. Overall this factor represents a group who are themselves committed to their own religious development, but who favour religious education especially as a way of promoting understanding and dialogue in society, but also from the point of view of better understanding other religions.

The second factor may be labelled commitment to an active religious life. There are 20 loadings above .400 of which the highest are related to active religious practice – ‘how often do you read sacred texts for yourself?’; how often do you speak to .. [your] family about religion?’; ‘religion determines my whole life’. The remaining loadings are very similar, relating to attending religious events, speaking about religion to religious leaders and to friends, thinking about religion, praying, looking at the internet for religious topics and so on. This factor shares several loadings, in the same direction, with the first factor; these include ‘religion helps me to be a better person’, ‘religion helps me to cope with difficulties’ and how important the family, and the faith community, are as a source of information about different religions. The factor represents an attitude in which religion is central to life, as described by Josza (2008) and Knauth (2008) for many Muslim students.

The third factor may be labelled secular hostility as the twelve loadings above .400 show strong opposition to religion which is seen as a source of problems: ‘…talking about religion only leads to disagreement’; ‘religion is a source of aggressiveness’; ‘without religion the world would be a better place’; ‘I and my friends talk about how stupid religion is and what cruelties are carried out in its name’; ‘disagreement on religious issues leads to conflicts’; ‘people with different strong religious views cannot live together’; ‘religious people are less tolerant towards others’. Where this factor shares loadings with the first two factors the loadings are in the opposite direction; thus ‘religion is nonsense’, ‘for me talking about religious topics is boring’ and ‘religion doesn’t interest me at all – we have more interesting things to talk about’ all load positively on this factor but negatively on the first two factors.

The fourth factor has seven loadings above .400 and may be termed dialogue as it combines contact - ‘if they personally know people from different religions’, ‘if they do something together’ – with respectful knowledge of others’ religions – ‘respecting the religion of others helps to cope with differences’, ‘if they know about others’ religions’ and ‘get an objective knowledge about different religions’. The last is among several responses sharing a positive loading with the integrative factor; there are also lower loadings shared with the commitment factor, but, as might be expected, ‘I don’t like people from other religions and do not want to live together with them’ which has a positive loading on the hostility factor, has a negative loading for this factor.

The fifth factor has only four loadings above .400, all related to contact – ‘at school I go around with people who have different religious backgrounds’; ‘I
have students in my class who belong to different religions'; 'I have friends who belong to different religions' and after school I go around with people who have different religious backgrounds'. It has only one shared loading, with the commitment factor for how often they spoke to classmates about religion.

The sixth factor can be regarded as separateness as it contains five loadings above .400, for 'students should be excused from taking some classes for religious reasons'; 'student should be able to wear more visible religious symbols at school'; 'religious education should be optional'; 'students can be absent from school during their religious festivals' and 'at school meals, religious food requirements should be taken into account'. Lower loadings shared with the integrative and contact factors are in the opposite direction, confirming the separateness of this group.

**Correlations between the factors**

The shared loadings mentioned above indicate that the factors are interrelated. The integrative factor is very strongly correlated with the commitment factor ($r=.78$) and also the dialogue factor ($r=.55$), but has a very strong negative correlation ($r=-.51$) with the secular hostility factor: it is also less strongly correlated with separateness ($r=.27$; the apparent paradox here is associated with the factors' common association with the importance of religion, as discussed below) and weakly ($r=-.13$) with contact. All these correlations are very highly significant. Commitment shows a very similar pattern of positive correlations with dialogue ($r=.41$), separateness ($r=.28$) and contact ($r=.08$) and a similar negative correlation with secular hostility ($r=-.55$); again all these correlations are highly significant. Dialogue is correlated with contact ($r=.26$) and separateness ($r=.26$) and the latter two are correlated with each other ($r=.17$); these correlations too are all highly significant. As might be expected, secular hostility is negatively correlated to dialogue ($r=-.399$), contact ($r=-.16$) and separateness ($r=-.29$), with these correlations too being highly significant.

Turning to the importance of religion as an intermediate variable, this shows a pattern reflecting the relationships mentioned above between the factors; it is highly correlated with commitment ($r=.75$) and to integrative ($r=.58$), with weaker relationships to dialogue ($r=.29$), separateness ($r=.21$) and contact ($r=.09$) and a strong negative correlation with secular hostility ($r=-.52$). It is also highly correlated with belief in a personal God ($r=.54$). All these correlations are highly significant.

Of the three ultimate variables, language spoken at home is correlated with the importance of religion to respondents ($r=.37$) and their belief in a personal God ($r=.31$). Its pattern of correlations to the factors is similar to that of importance of religion but most correlations are weaker; those to commitment ($r=.38$), separateness ($r=.32$), integrative ($r=.23$), contact ($r=.08$) and dialogue ($r=.09$) are positive; that to secular hostility ($r=-.24$) negative. These correlations are also all highly significant.
Gender shows a somewhat similar pattern, with girls rating the importance of religion higher and being more prone to belief in a personal God. Correspondingly, they give higher ratings to dialogue, integrative, commitment, separateness and contact (note the order of difference, with emphasis on dialogue), and lower ratings to secular hostility. These differences were all highly significant.

Religion in education is not significantly correlated with the importance of religion, belief in a personal God or related to gender. It is highly significantly negatively correlated to language spoken at home (r=-.13), indicating that respondents with an immigrant background are less likely to have experienced RE, especially multifaith RE. It is highly significantly positively related to the integrative factor (r=.07), and negatively correlated with separateness (r=-.14, highly significant) and secular hostility (r=-.05, significant). It is not significantly correlated with commitment, dialogue or contact.

The structural model

In developing the structural model, we start from the point that how important religion is to respondents is the intermediate attitude affecting other beliefs; the model reflects the bivariate correlations in showing very strong positive relationships between the importance of religion and both the commitment factor and belief in a personal God, and also in a very strong negative relationship between the importance of religion and secular hostility.

Of the remaining four factors, integrative, dialogue and contact are intercorrelated and may be seen as different aspects of a general positive attitude to one’s own and other religions; this can be represented by the latent variable of understanding, which is strongly related to commitment. As the diagram shows, this latent variable is especially strongly related to the integrative factor, less strongly to dialogue, and quite weakly to contact. As contact depends largely on the presence of members of other religions as potential associates, it can be expected to be less affected than the other two factors by respondents’ own personal commitment. There is a fairly weak negative relationship between secular hostility and understanding. However it should be noted that the two negative correlations on the path between importance of religion and understanding via secular hostility give a small extra positive correlation to that via the main path via commitment, so the overall correlation between the importance of religion and understanding is 0.66.

The separateness factor has a rather different pattern of relationships with the other factors, being most closely associated with commitment, and has therefore been inserted into the model in relation to commitment, though the correlation is fairly low.

Turning to the independent variables, the correlation for gender indicates girls consider the importance of religion somewhat higher. Respondents whose language spoken at home indicates they have a migration background rate
the *importance of religion* markedly higher, and also gave a somewhat higher rating to *separateness*. However we should also note that if we follow the path via the *importance of religion* and *understanding* to the *integrative* factor, the overall correlation is .20. In other words, the *importance of religion* means that respondents who speak languages other than German at home can also be influenced towards more understanding attitudes to other religions: this reflects the finding that in all REDCO countries the religious tended to be more tolerant than the non-religious (Valk et al. 2009).

The effects of *RE model* are relatively weak; this is to be expected, as the model is assessing variation between individuals, and RE model operates at a group level. In the diagram, *RE model* has been linked to the factors with which it had the strongest relationships in the bivariate correlations. It can be seen to have a positive relationship with the *integrative* factor, and negative relationships with the *secular hostility* and especially the *separateness* factors. In other words, experience of RE, especially the multifaith RE in Hamburg, seems to be having a positive effect in promoting tolerant relationships with students of other religions.

However *RE model* is also negatively related to *language spoken at home* – as mentioned above, students with a migration background are less likely to have benefited from RE. We therefore have a complex picture of how migration background affects students’ *understanding*. On one hand, the *importance of religion* to them is associated with higher *understanding*; on the other, they are less likely to experience an *RE model* which promotes understanding. One of the benefits of multilevel modelling is that it makes it possible to explore the levels of contradiction and complexity which occur in the inter-relation between variables.

**Discussion**

As mentioned in the introduction, the structural model was designed to represent the patterns of variables which might affect students’ views at the time they answer the questionnaire – in other words students’ views about the importance of experiences which have influenced them, such as religious education and their home religious community, are influenced by their overall self-concept as religious or non-religious people. One reason for taking this approach was that data was collected only from the students; we do not have any direct evidence (for example staff questionnaires or documentary analysis of curricula or policies) which allow us to independently make ratings of the influences on students, and are reliant on their reports.

The model suggests that despite the historical and cultural differences, and the influences of differing experiences of religious education, the *importance of religion* and the effects of migration background are broadly similar to those found in a comparison between students in England and Estonia (Neill & Schihalajev in press). In England, as in Germany, *language at home* was strongly related to the *importance of religion* and the latter was strongly related to *understanding* (although the same name was used for this latent factor in both countries, the structure of attitudes underlying it was rather
different, reflecting different national conditions). The influence of migration background was rather different in Estonia, where the group with a migration background were primarily Russians who were Orthodox Christians; but as in Germany there was a relationship between the language at home and attitudes to other religions, in this case respect for them (there being a rather different structure of attitudes between Germany and Estonia). Turning to RE model, this variable could not be used with the English data as the Non-Statutory National Framework (QCA 2004) meant that all the schools studied provided a similar multifaith curriculum; but Estonian students’ experience of RE varies widely, with the great majority experiencing no RE, some only experiencing it at primary level, and some having recent experience of integrated RE. Despite differences in the proportions of students receiving RE in Estonia (a minority) and Germany, where the great majority receive RE, in both countries a more integrative RE model correlated with greater understanding. The size of the RE model effects was also similar in both countries, despite their differences in circumstances, suggesting that where it is possible to compare groups with different RE experiences, the effects of RE in improving relationships across religions are quite consistent.

As has been indicated, the data available in this study come only from students, though they refer to influences at different levels – school policy, Land and Federal influences on the curriculum, and local religious communities which may be influenced by global religious leaders. A current research proposal (Jackson 2010) aims to collect data directly at the different levels of influence, based on Braaten’s (2010) model for cross-national comparisons. This includes supranational, national and subnational (e.g. at Land level) processes; societal (i.e. national), institutional (school), instructional (teacher) and experiential (student) levels of curriculum; and social/national imaginary (the self-representation of a society) and civil enculturation (the informal processes of socialisation). This will allow a differently constructed structural model, with the influences on students and their views articulated with reference to the views of stakeholders at other levels, where it is possible to collect data in a form suitable for inclusion in the model. Because structural modelling is driven by the researcher’s conception of relationships it is possible to explore different conceptions of interrelationships within the same situation – either, as here, to explore internal conceptions of influences on students’ views as perceived by the students themselves, or, as proposed by Jackson (2010) to formulate an externally based multilevel model of influences on students’ views.

References


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Hamburg & North-Rhine Westphalia
Chisquare = 691.400 df = 39 p = .000