

Reforming Reformists?

The impact of societal
religiosity on the
religious divide in
gender conservatism

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Abstract

In most of the Western world, the once dominant doctrines of Christianity are slowly losing their authority. However, despite this general process of institutional secularisation, many citizens in European countries still consider religion to play an important role in their lives. While the direct effects of individual religiosity on a whole array of attitudes and behaviours have been long established, the contextual effects are less clear. This thesis aims to further develop understanding of the interplay between societal and individual religiosity by investigating their effects on gender attitudes, and the moderating effect that societal religiosity has on the association between individual religiosity and gender attitudes. On the basis of the moral communities thesis, self-determination theory, and cultural threat theory, several mutually exclusive predictions are formulated and tested. Drawing on data from 40 European countries collected for the European Values Survey waves 3, 4 and 5, multilevel regression analysis was conducted to show that while societal religiosity positively affects the traditional gender attitudes of all individuals, the effect is the strongest for the least religious individuals. This implies that when societal religiosity is the lowest, the attitudinal gap between religious and secular individuals is the largest. Combined with recent developments in the political landscape of western countries, this finding, alongside with similar findings in the field, has some important implications for the development of human rights.

Keywords: gender attitudes, individual religiosity, multilevel modelling, religious context.

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Introduction

It has by now become commonplace that traditional, institutionalised religion no longer holds the sway over the daily lives of European citizens as it did in the past (Swatos & Olson, 2000; Bruce, 2002). While many Europeans still identify as religious, they often hardly attend church, and the number of religious individuals is on the decline (Inglehart & Norris, 2004; Hervieu-Léger, 2013). Following this development, the concept of secularisation has gained considerable scholarly attention, which has, in turn, fuelled much debate. While the very process of secularisation and the nature of this process have been questioned in the past, by now most scholars appear to agree that, in Europe at least, an undeniable process of (institutional) secularisation, is going on, despite a clear surge in religious activity in post-communist states after the fall of the Soviet Union (Berger, 1999; Inglehart & Norris, 2004; Sarkissian, 2010). Consequently, much attention has more recently been paid to the effects that secularisation has on society, with scholars finding that a wide array of social and political attitudes can be related to secularisation (Campbell, 2006; Achterberg, et al., 2009; Adamczyk & Pitt, 2009; Ben-Num Bloom, Arikian & Sommer, 2014; Stavrova & Siegers, 2014; Storm, 2015; Jaime-Castillo, et al., 2016; Simpson & Rios, 2019; Thijs, et al., 2019).

With regard to the effect that secularisation, or in other words, a decline in societal religiosity, has on individuals, two main strains of literature can be distinguished. The first proposition argues that secularisation inherently erodes religiosity, and therefore reduces religious attitudes across the population as a whole. Particularly relevant here is the moral communities thesis, first introduced by Émile Durkheim and later further developed by Stark, Doyle and Kent (1980) and Stark, Kent and Doyle (1982), in the context of crime and deviant behaviour. The thesis argues that religious context moderates the relationship between individual religiosity and religious attitudes and behaviours (Welch, Tittle & Petee, 1991). According to the moral communities thesis, religious individuals in a secular context should hold on to their religious attitudes less rigidly, as the effects of socialisation through interaction with the social environment, social pressure, and an overall less religious culture could restrain their convictions (Ruiter & De Graaf, 2006; Lim & MacGregor, 2012; Jaime-Castillo, et al., 2016).

On the other hand, it has also been argued that secularisation is likely to increase the attitudinal and behavioural distance between the religious and the non-religious. Whereas in religious societies individual religiosity is more or less predetermined, in secular societies individuals mostly decide for themselves, which indicates that religious individuals in secular societies are intrinsically motivated and are thus likely to attach high value to their religious

values (Stavrova & Siegers, 2014). This finding is corroborated by studies such as Finke and Adamczyk (2008) and Adamczyk and Pitt (2009) which show that individual religiosity can be associated with traditional moral attitudes, and that this association grows stronger as secularisation develops. Expecting an even stronger counter response and drawing on cultural threat theory, some scholars have also argued that secularisation might even trigger reinforced religious attitudes among religious individuals (Bruce, 2002; Campbell, 2006; Achterberg, et al., 2009).

One topic that has long been associated with religion is that of gender roles. Most major religions are in favour of traditional gender roles, in which the male is the breadwinner of the family, while the female takes care of housekeeping and raising children (Woodhead, 2008). Therefore, more religious individuals can logically be expected to be more supportive of traditional gender roles (Diehl, 2009; Adamczyk, 2013). Here too, secularisation can be argued to have two different, contradicting effects. On the one hand, it could be that in more secular countries, the religious are less rigid in their convictions (Thijs, et al., 2019). On the other hand, in more secular societies, the association between religion and traditional gender attitudes might become more salient, indicating that while the gender attitudes of the non-religious might become less traditional at a rather rapid pace, the same cannot be said of the attitudes of religious individuals (Ingelhart & Baker, 2000; Adamczyk, 2013). Finally, the attitudinal change might also be more or less the same for both the religious and the non-religious, indicating that secularisation equally affects the population as a whole rather than affecting different groups differently (Bolzendahl & Brooks, 2005).

These contradicting implications call for further investigation into the influence of secularisation on gender attitudes. Therefore, I set out to discover *how societal religiosity shapes the congruence between the attitudes on gender roles of religious and non-religious individuals*. An answer to this question will allow for further empirical clarification with regard to the effect of secularisation on religious individuals and their gender attitudes in particular, which as of yet remains contested. Polarisation of the attitudes that different societal groups hold has a whole battery of implications for the political domain, particularly when the attitudes of these different groups are represented in the political sphere (Lipset & Rokkan, 1967). Therefore, it is relevant to gain insight in how the attitudes of different groups are shaped. In what follows, I will discuss the existing literature with regard to the effect of societal religiosity and the process of secularisation on religious attitudes and argue for convergence, divergence and stability in the attitudinal gap between religious and non-religious individuals.

Theoretical Framework & Hypotheses

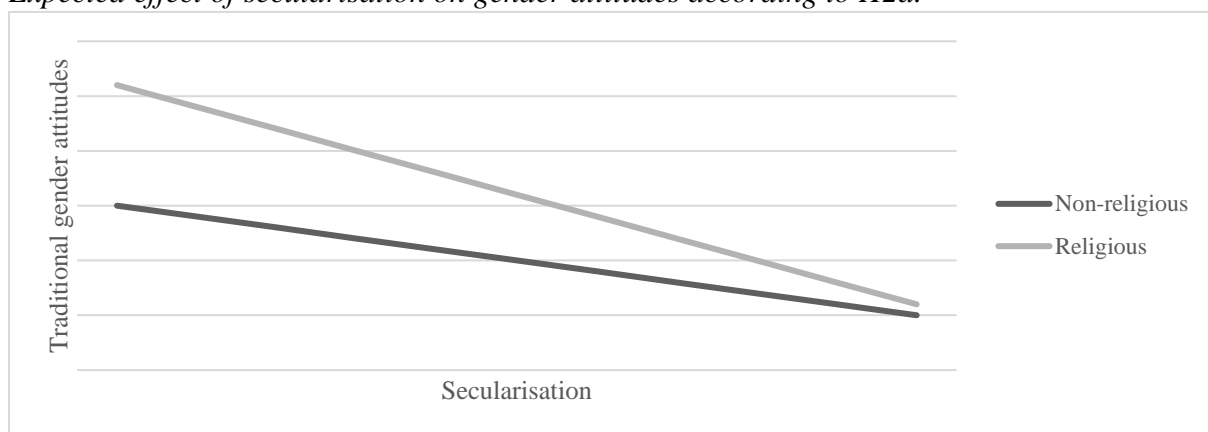
Several different approaches outline the current debate on the effect of secularisation on the attitudes and behaviours of religious and non-religious individuals. Scholars of the contextual effects of religiosity, and the moral communities thesis in particular, argue that aggregated religiosity affects individuals regardless of their own beliefs (Graham & Haidt, 2010; Jaime-Castillo, et al., 2016). The moral communities thesis posits that, firstly, in religious societies, individuals are socialised into religious values by their direct environment, such as their family, peers, and school teachers (Stark, 1996). This can be considered the direct effect of a moral community (Jaime-Castillo, et al., 2016). The religious convictions of these socialising agents are likely to influence the attitudes and behaviours of individuals, both during early stages of life and later on (Thijs, et al., 2019). Additionally, what has been termed the indirect effect of moral communities, in countries with large proportions of religious individuals, religious teachings are likely to be distributed through top-level institutions such as “school curricula, the mass media and the nation’s culture” (Kelley & De Graaf, 1997, pp. 640). Not only are religiously coloured attitudes, such as ideas about gender roles, taught to children by means of both the direct and indirect effects of moral communities, such ideas might also be validated and therefore strengthened in more religious contexts (Storm, 2015). Given that traditional gender attitudes stem, in part at least, from religious convictions, a decline in societal religiosity can logically be argued to foster more egalitarian gender attitudes throughout the population. From this, the first hypothesis can be drawn. *H1: Individual support for traditional gender roles is influenced positively by societal and individual religiosity.*

What none of the above studies have considered, however, is the distinction between the contextual effects of religion and the compositional effects. The studies that have taken contextual religiosity into account, such as Thijs, et al. (2019) and Storm (2015), have measured their effect on the population as a whole while controlling for individual religiosity. However, collective religiosity might moderate the relationship between individual religiosity and gender role attitudes. Based on the assumption that more religious individuals tend to have more conservative gender attitudes, a decline in the contextual effects of religiosity, caused by a decrease in the amount of religious individuals or a decrease in their average religiosity, might have a stronger effect on the attitudes of religious individuals than on those of non-religious individuals. If religious individuals make up only a small part of the population, then these effects are likely to be rendered invisible when measuring the effects on the population as a whole. Furthermore, a decline in societal religiosity also implies that the salience of communal religious teachings declines, shifting the task of interpreting religious doctrines from the public

to the private sphere. This might lead to less rigid religious attitudes, particularly as the larger proportion of non-religious individuals might provide an incentive for religious individuals to abate their convictions (Liefbroer & Rijken, 2019). The implication here is that the attitudinal differences between religious and non-religious individuals decline as a result of secularisation, leading to the second hypothesis. *H2a: Societal religiosity affects support for traditional gender attitudes across the whole population, but the effect is more pronounced for religious individuals.* Based on the assumption that non-religious individuals initially have less religiously coloured attitudes, this hypothesis implies that, as a result of secularisation, the attitudes of religious and non-religious individuals converge. Figure 1 visualises this effect.

Figure 1

Expected effect of secularisation on gender attitudes according to H2a.

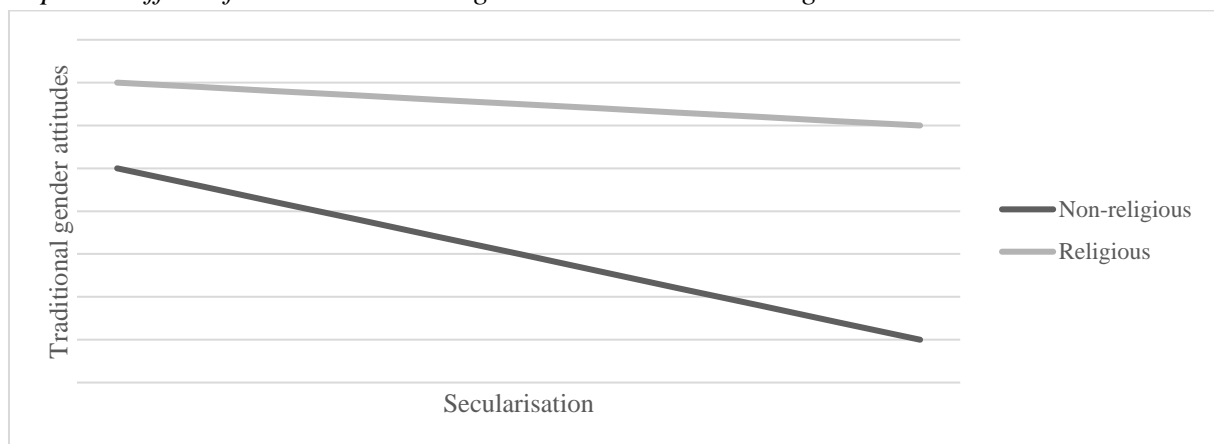


On the other hand, however, there is also good reason to expect the opposite, namely that secularisation erodes traditional gender attitudes particularly among the non-religious. According to self-determination theory, in a secular society, the religious part of the population is likely to attach much value to their religious beliefs and practices, as they must be intrinsically motivated to hold on to their beliefs in a secular environment (Stavrova & Siegers, 2014). In religious societies, such attitudes are self-evident and therefore not associated with individual religiosity. In the sense that a societal norm reduces the effect of individual beliefs or attitudes, this is in line with the finding that individual religiosity is associated with religious attitudes which are not legally bounded, such as attitudes on adultery, while there is no clear association between individual religiosity and illegal acts such as burglary (Finke & Adamczyk, 2008). Similarly, Adamczyk and Pitt (2009) find that the relationship between attitudes on homosexuality and individual religiosity grows stronger as collective religiosity declines, indicating that religion plays a more important role for religious individuals in secular societies

than for their counterparts in religious societies. Furthermore, even in secular societies, religious individuals can still be part of a more or less closed religious community (Ruijs, et al., 2016). In other words, while secularisation might occur at the macro level, individuals can still be part of religious communities at the meso level (Fürstenberg, 2012). The moral communities effect can then still persist through both social interactions and institutions such as education and the media. This is not the case for non-religious individuals. While in religious contexts the non-religious are socialised or pressured into religious attitudes, this pressure vanishes with secularisation (Goldberg, 2014). A decline in societal religiosity can therefore be expected to particularly decrease traditional moral attitudes among the non-religious, as their religious attitudes stem from contextual effects rather than individual convictions. This leads to *H2b: Societal religiosity affects support for traditional gender attitudes across the whole population, but the effect is more pronounced for non-religious individuals*. This hypothesis implies a diverging effect of secularisation on the attitudes of religious and non-religious individuals, and is visualised in figure 2.

Figure 2

Expected effect of secularisation on gender attitudes according to H2b.



Finally, the gap between religious and non-religious individuals in secular contexts might re-emphasise the cultural differences between the two groups. Taking a different approach on the same side of the debate and following social identity theory and group threat theory, there are also scholars who have argued that religious individuals in secularised environments are likely to feel threatened by the decline of moral values and the cultural authority of their religion. The increased differences between religious and non-religious groups could lead to negative out-group attitudes and increased salience of opposing values, which are reinforced and become a stronger predictor for individuals' behaviour with regard to, for

instance, voting or the role of religion in society (Key, 1949; Bruce, 2002; Campbell, 2006; Achterberg, et al., 2009). These effects can be expected to be stronger for religious individuals, and particularly those who are part of a tightly-knit (orthodox) religious community, as these individuals lend a considerable part of their identity from their religion and religious activities. Such individuals are therefore more likely to perceive their culture as being threatened, and to respond by distancing themselves from the threat or acting against it (Campbell, 2006; Simpson & Rios, 2019). The increased salience of religious identity under circumstances of cultural threat is likely to be particularly relevant for individuals that are highly committed to their religion or involved in their religious community, highlighting the relevance of religious denomination, commitment and involvement (Wright & Young, 2017). These approaches all emphasise the diverging effect that secularisation has on the attitudes of religious and non-religious individuals, and lead to *H3: A decline in societal religiosity erodes support for traditional gender roles only among non-religious individuals, and increases it for (more orthodox) religious individuals*. Figure 3 visualises this potential effect, while figure 4 illustrates the conceptualised relations as proposed by the different hypotheses. In this conceptual model, the boxes below the horizontal dotted line represent individual-level variables, while the box above that line represents the context-level independent variable. The arrows drawn from the independent variables represent direct and moderation effects, while the oval, dotted boxes above refer to the theoretical ideas behind the associations. As elaborated above, in all cases it can be expected that individual and societal religiosity have a positive direct effect on traditional gender attitudes (H1), and the same goes for religious commitment. Additionally, it is hypothesised that societal religiosity might either negatively (H2a) or positively (H2b) moderate the effect of individual religiosity. Finally, H3 posits that societal religiosity might moderate the association between religious commitment and traditional gender attitudes.

Figure 3

Expected effect of secularisation on gender attitudes according to H3.

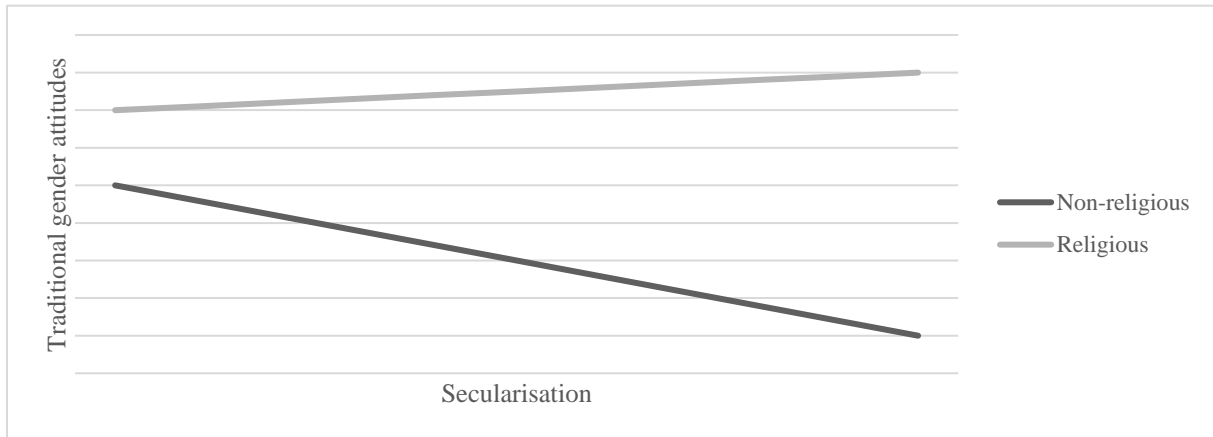
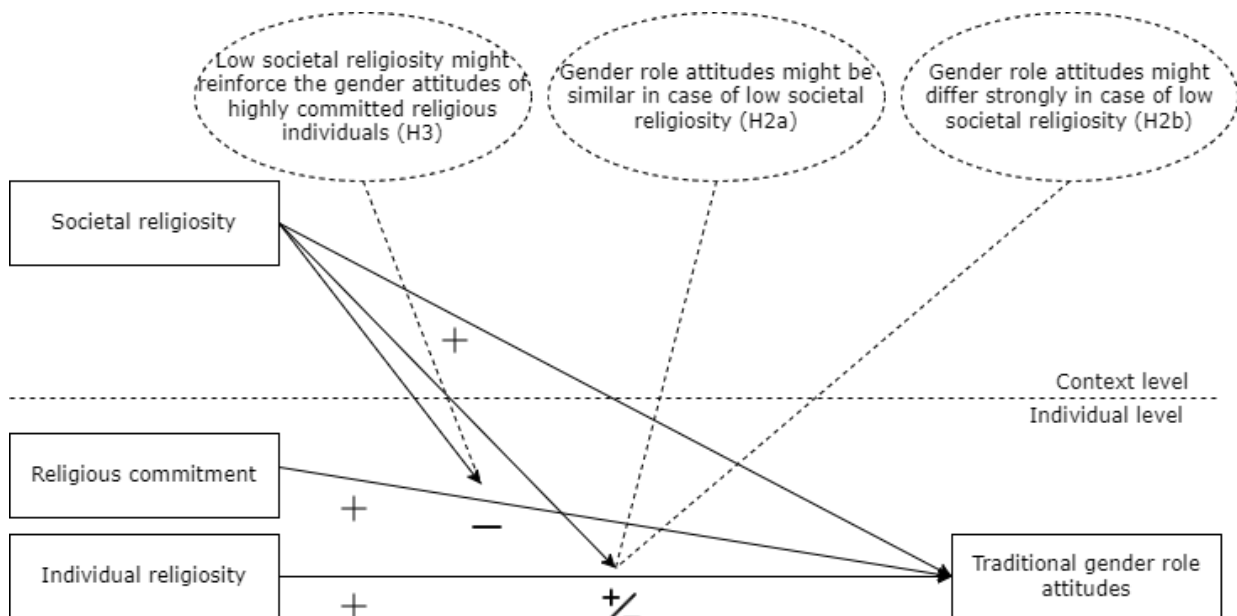


Figure 4

Conceptual model illustrating the hypothesised relationships between societal religiosity, individual religiosity, religious commitment and gender role attitudes.



Methodology

Data and variables

To analyse the hypothesised associations between individual religiosity, collective religiosity and gender role attitudes, data from the third, fourth and fifth wave of the European Values Study (EVS) will be employed. Over the course of 30 years, data was collected from 223,099 respondents across 49 countries on various values, behaviours and attitudes (European Values Study, 2021).

For the purpose of this study, a substantial part of the dataset is excluded from analysis. First of all, countries outside of Europe (United States and Canada) were removed. Secondly, all countries where Christianity is not the dominant religion were excluded as well. In order to determine which countries to exclude from the analysis for this purpose, first all non-religious respondents were excluded from the dataset, after which the proportions of religious membership were analysed. Albania, Azerbaijan, Bosnia-Herzegovina, Northern Cyprus, Turkey and Kosovo were removed as in all of these countries less than half (often a very small minority) of the population were part of any Christian denomination. The only debatable case is Bosnia-Herzegovina, where in wave 4 a small majority of respondents indicated to belong to a Christian denomination, while in wave 5 a majority indicated to belong to Islam. Nevertheless, historically, the region of Bosnia-Herzegovina is more Islamic- than Christian-oriented, and ethnic Bosniaks are highly overrepresented in the Muslim population, while Bosnian Croats and Bosnian Serbs make up most of the Christian population (U.S. DOS, 2016) In all other countries, the proportion of Christians was at least 3 times as large (but usually much more) as other religions combined during all waves, with the exception of (North) Macedonia, where in wave 5 the Christian population was 2.34 times as large as that of the other religions combined.

Furthermore, only non-religious individuals and religious individuals who are part of the dominant religion, Christianity, were included in the main analysis. There are three reasons for excluding members of other religions, all of which appeal to the different theoretical perspectives employed for the formulation of the hypotheses. First of all, the moral communities thesis implies that institutional characteristics can affect individuals regardless of their own religiosity. While, admittedly, socialisation effects might occur on the meso level for members of religions that are less prevalent in Europe, their values are not woven into the fabric of society as is the case for those of the religion that has been dominant in the region for centuries: Christianity. Consequently, the impact of societal religiosity can be expected to be much smaller (negligible) for religious minority groups than for Christians. Secondly, members of minor religions are unlikely to feel that the cultural authority of their religion is threatened

by European secularisation, simply due to the fact that their religion never had an authoritative status in Europe. Thirdly, non-religious individuals attach more value to the idea of pluralism than religious individuals (Develles & Loveless, 2022). Therefore, decreases in societal religiosity are actually likely to increase religious tolerance and thus improve the position of members of religious minority groups, rather than threaten it (Ribberink, Achterberg & Houtman, 2013).

With regard to the dependent variable, gender role attitudes, the EVS offers various relevant survey items. Unfortunately, due to changes in the survey between different waves, not all relevant items could be included in the analysis. Originally, a scale variable was to be constructed on the basis of 5 items. However, 3 of these were only part of wave 5 for all countries except Sweden, where 2 of the items were also included in wave 3. Therefore, the amount of items in the scale (Y_1) was reduced to two. Both were presented as statements with which respondents could indicate to agree to a certain extent, as measured on a 4-point scale ranging from agree strongly (1) to disagree strongly (4). The scores were recoded so that a higher value represents a more traditional stance on gender roles. The statements included in the main analysis are: *pre-school child suffers with working mother* and *women want a home and children*. Because the scale consists of only 2 items, the internal reliability can be best assessed using the Spearman-Brown coefficient (Eisinga, Grotenhuis & Pelzer, 2014). This yielded an internal reliability statistic of 0.609, whereas the initial scale variable, which consisted of 5 items (the additional 3 being *men make better political leaders than women do*; *university is more important for a boy than for a girl*; and *men make better business executives than women do*), yielded a Cronbach's Alpha of 0.802. Factor analysis indicated that all items can be loaded onto one dimension, according to both the Kaiser- and Cattell-criteria. This one dimension explains 71.87% of the variation in case of the 2-item scale, and 56.38% of the 5-item scale. To improve the robustness of the results, analyses were also carried out using the 5-item scale, which required 4 answered items in order to yield a valid mean score.

Two main individual-level concepts were part of the analysis. First, individual religiosity was taken from the survey item regarding the importance of religion in a respondent's life (X_1). This item was coded on a 4-point scale, ranging from very important (1) to not at all important (4). The variable was recoded so that a higher score reflected more value attached to religion. Second, both the frequency of prayer and attendance at religious services were also included in the survey, which, combined into a scale, can serve as indicator for religious commitment (X_2) (Wright & Young, 2017). Frequency of prayer was measured on a 5-point scale in wave 2, and on a 7-point scale in waves 3, 4 and 5, which results in two different

variables measuring the same behaviour in different waves of the survey. The (standardised) Z-scores were merged into one variable in order to construct the scale. Furthermore, attendance at religious services was measured on an 8-point scale. Therefore, the Z-scores of this variable were used as well in order to construct the religious commitment scale. Because a higher score reflected a lower frequency, the variables were recoded inversely before being converted into Z-scores. Here too, the internal reliability was estimated using the Spearman-Brown coefficient, which yielded a value of 0.789. Again, factor analysis indicated that the items can be loaded onto one dimension, which explains 82.61% of the variance. For robustness purposes, analyses were also conducted with membership of a Christian denomination as a dichotomous variable (X_3). However, this final operationalisation of religiosity can be considered an arguably weak indicator of religiosity, particularly for more recent waves: while large groups individuals still consider themselves to be formally part of a religious denomination, many of them hardly practise their religion and are unlikely to still attach much value to religious norms and values (Wright & Young, 2007).

Additionally, several control variables were included that might distort or obscure the association between the independent variables on religiosity and attitudes on gender roles. Firstly, age was included with the expectation that older individuals are less likely to support progressive gender roles (Thijs, et al. 2019). It should be noted that in wave 5 of the EVS, all respondents aged 82 and above were coded as aged 82 (European Values Study, 2021). Under the assumption that those with a higher age are generally more supportive of traditional gender roles, the threshold of 82 for one wave of the dataset could result in a slight exaggeration of the estimation of the age effect, as older respondents with potentially more traditional attitudes were coded as being younger than they were in reality, and therefore 82-year-olds are estimated to be more supportive of traditional gender roles than they were in reality. As previous research has indicated that gender, education and marital status also influence moral attitudes and might thus distort or obscure the association between X, Z and Y, these are included as control variables as well (Adamczyk, 2013; Liefbroer & Rijken, 2019). Gender was coded so that a score of 0 indicates male and 1 indicates female, where, *ceteris paribus*, females are expected to hold more progressive gender attitudes. Education was measured on an 8-point scale where a higher value indicated a more extensive education, which should predict more progressive gender attitudes. Because education was only included in the EVS as from the third wave, analyses were carried out using only wave 3, 4 and 5. Following Adamczyk and Finke (2008) and Adamczyk (2013), marital status was recoded into a dummy variable where a score of 1 indicated that a respondent was married, while all other possibilities resulted in a score of 0,

with the expectation that married respondents hold less progressive gender attitudes, on average.

On the contextual level, societal religiosity is the independent variable, which has been operationalised as aggregated religiosity in a society. In order to measure collective religiosity (Z_1), X_1 , the importance of religion, was aggregated per country-year. This follows previous studies such as Finke and Adamczyk (2008) and Jaime-Castillo, et al. (2016). To increase robustness, the aggregated level of religious commitment is included as an alternative context-level variable (Z_2), as is the ratio seculars-Christians in a country-year (Z_3), based on membership of a Christian denomination (X_3). The development of aggregated scores on all three of these variables is visualised in appendix B. Note that the graphs in appendix B highlight that societal religiosity is not universally on the decline. Regardless of the operationalisation, societal religiosity is fairly stable in some and even increases in other countries, particularly those in Central and Eastern Europe. This contradiction is likely to be a result of (the fall of) communism, whose regimes strongly opposed religion. From the 1990s onwards, nations in Central and Eastern Europe have seen a revival in religious practice (Sarkissian, 2010). Average education on the country-level was included as a control variable since socialisation in a more highly educated society might increase support for progressive gender attitudes (Thijs, et al., 2019).

Descriptives and statistical assumptions

Before conducting the main analyses, checks were carried out for both multicollinearity and outliers in order to warrant reliability. Using boxplots and histograms, no outliers were found except for one respondent with an exceptionally high yet plausible age (108). This case was not excluded from the analysis. SPSS collinearity tests indicated that no multicollinearity exists between the variables, with all variables attaining a VIF lower than 5 and a tolerance higher than 0.1. Table 1 shows the descriptive statistics of the individual-level variables used in the analysis, while those of the context-level variables are presented in table 2. Finally, the country-year combinations which were included in the analysis can be found in appendix C.

Table 1*Descriptive statistics of all individual-level variables included in the main analysis*

Variables	N	Min.	Max.	Mean	SD
Gender attitudes scale	129,831	1.00	4.00	2.520	0.756
Individual religiosity	143,221	1.00	4.00	2.518	1.041
Religious commitment scale	138,962	-1.18	1.58	-0.001	0.906
Sex	145,310	0.00	1.00	0.554	0.497
Age	144,729	15	108	48.05	17.738
Marital status	144,251	0.00	1.00	0.535	0.499
Education level	121,413	1	8	5.08	1.994

Table 2*Descriptive statistics of all context-level variables.*

Variables	N	Min.	Max.	Mean	SD
Societal religiosity	105	1.699	3.639	2.545	0.469
Proportion of Christians	105	0.189	0.996	0.715	0.194
Societal religious commitment	104	-0.630	1.136	0.028	0.436
Average education	105	3.074	6.638	5.035	0.753

Table 3*Overview of the country-year combinations included in the analysis.*

Country	Wave 3	Wave 4	Wave 5	Country	Wave 3	Wave 4	Wave 5
Austria	x	x	x	Lithuania	x	x	x
Armenia		x	x	Luxembourg	x	x	
Belgium	x	x		Malta	x	x	
Bulgaria	x	x	x	Moldova		x	
Belarus	x	x	x	Montenegro		x	x
Croatia	x	x	x	Netherlands	x	x	x
Cyprus		x		Northern Ireland	x	x	
Czech Republic / Czechia	x	x	x	Norway		x	x
Denmark	x	x	x	Poland	x	x	x
Estonia	x	x	x	Portugal	x	x	x
Finland	x	x	x	Romania	x	x	x
France	x	x	x	Russian Federation	x	x	x
Georgia		x	x	Serbia		x	x
Germany	x	x	x	Slovakia	x	x	x
Great Britain	x	x	x	Slovenia	x	x	x
Greece	x	x		Spain	x	x	x
Hungary	x	x	x	Sweden	x	x	x
Iceland	x	x	x	Switzerland		x	x
Ireland	x	x		Ukraine	x	x	x
Italy	x	x	x	(North) Macedonia		x	x

Analysis

The analysis is conducted on 2-level data, in which individuals are nested in country-years. In order to test the hypotheses, multilevel regression models will be estimated. To test H1, the direct relationship between both the context-level Z (societal religiosity) and individual-level X (religiosity) and Y (traditional gender role attitudes) will be tested. Including all the control variables, the model to be estimated will be:

$$Y_{ij} = \beta_{0j} + \beta_{1j} (\text{individual religiosity}) + \beta_2 (\text{sex}) + \beta_3 (\text{age}) + \beta_4 (\text{marital status}) + \beta_5 (\text{education level}) + e_{ij}$$

Where:

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{societal religiosity}) + \gamma_{02} (\text{average education}) + u_{0j}$$

To test H2, an interaction variable will be added to the model to identify a potential moderation effect of societal religiosity on the relationship between individual religiosity and gender attitudes. Formally, the additional interaction coefficient is written:

$$\beta_{1j} = \gamma_{10} + \gamma_{11} (\text{societal religiosity}) + u_{1j}$$

Finally, to test for H3, religious commitment will also be included in the analysis. It is expected that those who are more committed to their religion are less likely to see their attitudes affected by religiosity on the societal level, and therefore individual religious commitment is treated similarly to individual religiosity. However, because of the high correlation between both variables, the interaction effect from H2 is removed, resulting in the final model of the main analysis:

$$Y_{ij} = \beta_{0j} + \beta_1 (\text{individual religiosity}) + \beta_{2j} (\text{religious commitment}) + \beta_2 (\text{sex}) + \beta_3 (\text{age}) + \beta_4 (\text{marital status}) + \beta_5 (\text{education level}) + e_{ij}$$

Where:

$$\beta_{2j} = \gamma_{20} + \gamma_{21} (\text{societal religiosity}) + u_{2j}$$

Results

Correlations

In table 3, Spearman's rho correlation coefficients of all individual-level variables that are included in the main analysis and robustness checks can be found. The correlations between the context-level variables are presented in tables 4 and 5. The tables largely confirm what was expected. On the societal level (table 4), the proportion of Christians is more strongly associated

with societal religiosity and religious commitment than belonging to a Christian denomination is with their individual-level counterparts (table 5). While the associations between the context-level religiosity variables and average education are in the expected direction, they fail to reach conventional levels of significance. In table 5, the 5-item scale, while correlating strongly with the 2-item scale, is associated more strongly with most variables, which indicates that it is probably better suited to measure gender attitudes. It is only more weakly associated with marital status, which appears to make sense as the two statements included in the 2-item scale both focus on motherhood. Despite moderate correlations with the other two operationalisations of religiosity, belonging to a Christian denomination does not appear to be an equally solid indicator of measuring religiosity, as was expected. Finally, all other associations are in the expected directions: older, male, uneducated and married respondents hold the most traditional gender attitudes.

All in all, the correlations reveal no large surprises: the associations between the different variables are in the expected directions. The control variables all appear to be associated in one way or another to the dependent variable, and despite being less religious on average, both male and more highly educated respondents are generally also more supportive of traditional gender roles. This highlights the importance of including these control variables.

Table 4

Spearman's rho coefficients of all context-level variables included in the main analysis.

	Societal religiosity	Proportion of Christians	Societal religious commitment
Proportion of Christians	0.697* (n = 105)		
Societal religious commitment	0.913* (n = 104)	0.768* (n = 104)	
Average education	-0.069 (n = 105)	-0.181 (n = 105)	-0.188 (n = 104)

* Correlation is significant at the 0.01 level (2-tailed).

Table 5*Spearman's rho coefficients of all individual-level variables included in the main analysis.*

	Gender attitudes 2-item scale	Gender attitudes 5-item scale	Individual religiosity	Belong to Christian denomination	Religious commitment scale	Sex	Age	Marital status dummy
Gender attitudes 5-item scale	0.803* (n = 47,991)							
Individual religiosity	0.223* (n = 156,839)	0.260* (n = 49,034)						
Belong to Christian denomination	0.098* (n = 158,336)	0.106* (n = 49,248)	0.486* (n = 175,608)					
Religious commitment scale	0.220* (n = 151,099)	0.238* (n = 47,478)	0.703* (n = 167,312)	0.572* (n = 168,971)				
Sex	-0.043* (n = 158,999)	-0.115* (n = 49,586)	0.144* (n = 176,320)	0.082* (n = 178,283)	0.191* (n = 169,505)			
Age	0.125* (n = 158,526)	0.141* (n = 49,369)	0.191* (n = 175,689)	0.109* (n = 177,642)	0.169* (n = 168,928)	0.027* (n = 178,480)		
Marital status dummy	0.087* (n = 158,081)	0.056* (n = 49,286)	0.090* (n = 175,300)	0.084* (n = 177,251)	0.092* (n = 168,564)	-0.062* (n = 178,051)	0.194* (n = 177,442)	
Education level	-0.206* (n = 128,882)	-0.169* (n = 49,258)	-0.101* (n = 142,103)	-0.084* (n = 143,351)	-0.098* (n = 137,922)	-0.008* (n = 144,165)	-0.232* (n = 143,641)	0.003 (n = 143,210)

* Correlation is significant at the 0.01 level (2-tailed).

Multilevel regression models

Continuing, the multilevel regression models will be presented. First of all, in order to test whether societal religiosity fosters support for traditional gender roles (H1), a basic model has been estimated to measure the direct effect of individual and societal religiosity on gender attitudes. In order to do so, a multilevel null model has first been constructed, after which the fixed effects have been added. The random effects were included last, as can be seen in the third column in table 5.

The coefficients of all control variables are significant and in the expected direction: women are, on average, less supportive of traditional gender roles, and the same goes for the higher educated, while older and married respondents tend to be more supportive of traditional gender roles. With regard to the first hypothesis, table 6 shows that both societal and individual religiosity positively affect citizens' support for traditional gender roles. Hypothesis 1 can therefore be accepted. The model explains 34.2% of the total variance, and the effects of both religiosity variables are fairly strong and easily trump for instance the effect of gender.

In order to test whose gender attitudes are affected the most by the effect of societal religiosity, the religious (H2a) or the secular (H2b), the interaction variable is included in the model, presented in the final column of table 6. The negative interaction coefficient corresponds with support for H2b: in case of low societal religiosity, the effect of individual religiosity should be more pronounced. As H2a and H2b are mutually exclusive, accepting H2b inherently means H2a needs to be rejected. The interaction effect is visualised in figure 5, which confirms that when societal religiosity is higher, the effect of individual religiosity on gender attitudes diminishes.

Table 6
Multilevel regression models for hypotheses 1 and 2.

Parameter	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.546***	0.049	2.502***	0.272	2.422***	0.306	2.356***	0.305
Individual religiosity			0.087***	0.002	0.083***	0.007	0.182***	0.033
Societal religiosity			0.241*	0.081	0.321***	0.093	0.345***	0.093
Sex			-0.120***	0.004	-0.119***	0.004	-0.119***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001

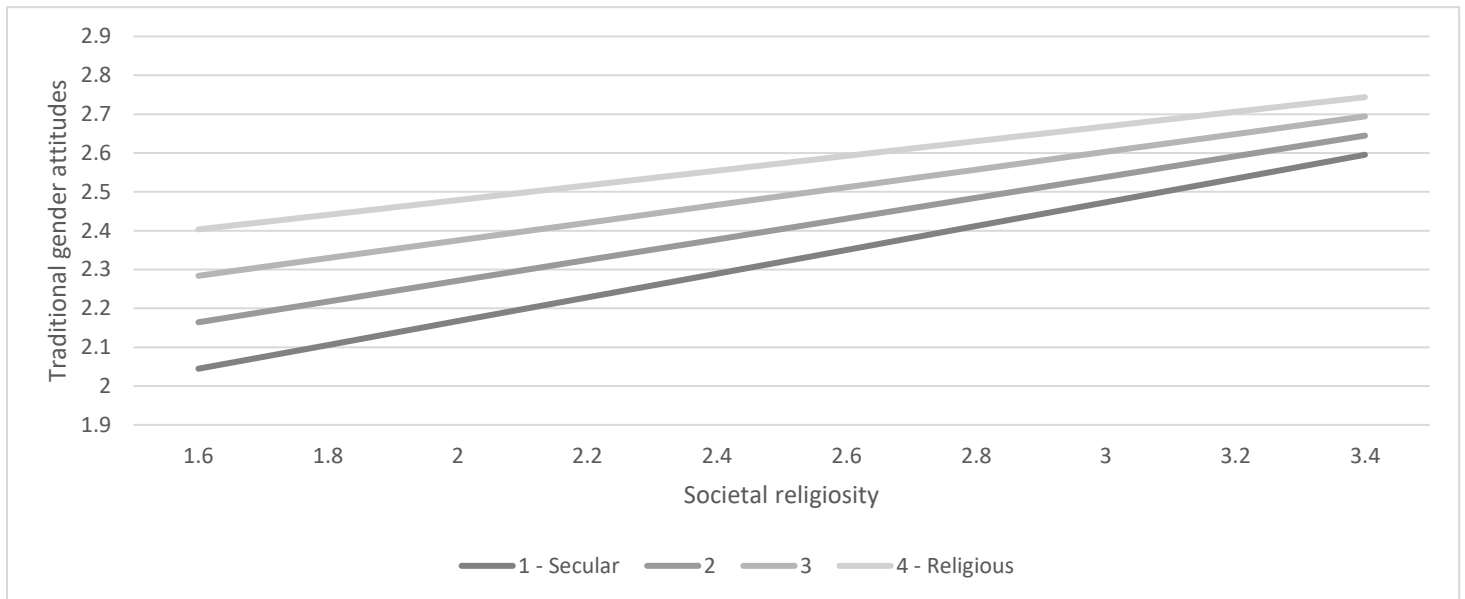
Marital status	0.023***	0.004	0.021***	0.004	0.021***	0.004
Education	-0.062***	0.001	-0.062***	0.001	-0.062***	0.001
Average education	-0.127***	0.029	-0.148***	0.031	-0.147***	0.031
Societal * Individual religiosity					-0.039*	0.013

	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.451***	0.002	0.414***	0.002	0.412***	0.002	0.412***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.020***	0.004	0.020***	0.004	0.020***	0.004
Individual religiosity level 1 variance					0.001***	<0.001	0.001***	<0.001
Intercept level 2 variance (country)	0.083***	0.022	0.077***	0.020	0.113***	0.029	0.112***	0.029
Individual religiosity level 2 variance					0.001***	<0.001	0.001***	<0.001

* $p < 0.05$. *** $p < 0.001$.

Figure 5

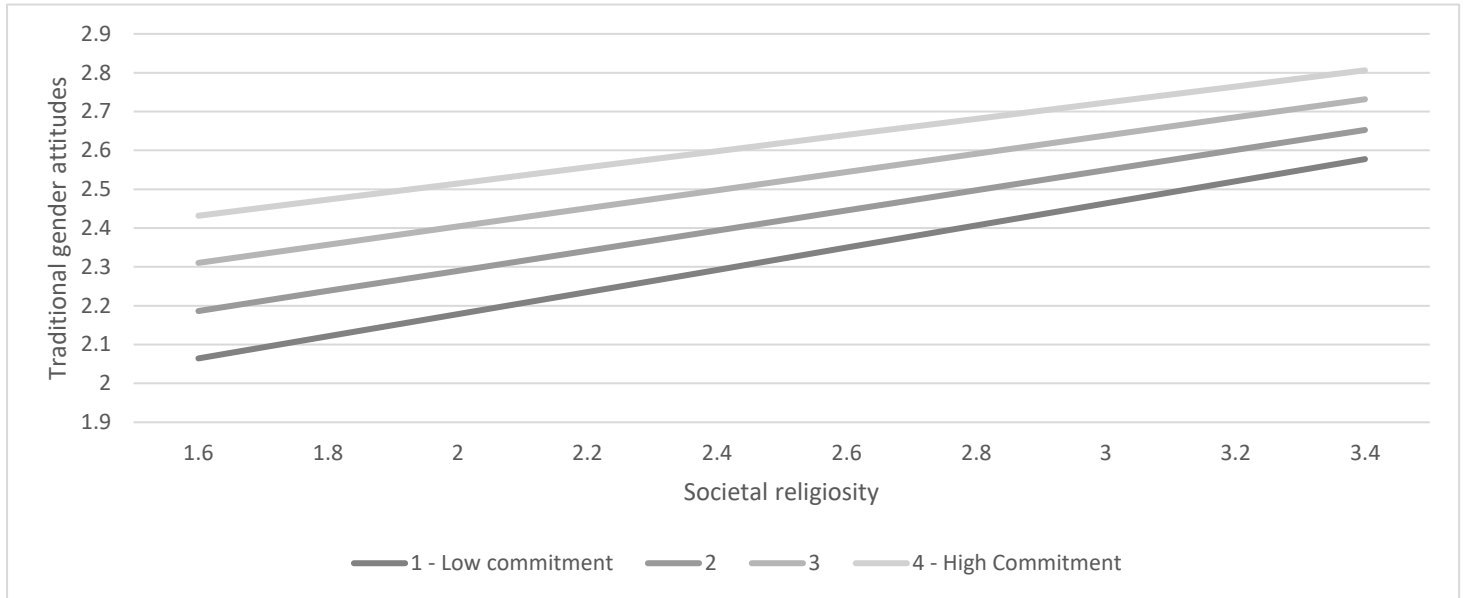
Graph visualising the interaction effect of societal religiosity on individual religiosity and gender attitudes



The final hypothesis posits that lower levels of societal religiosity might predict stronger traditional gender attitudes among more orthodox religious individuals. To discover whether more orthodox religious individuals do indeed respond differently to different levels of societal religiosity, a model in which religious commitment is included has been estimated, which can be found in table 7 and is visualised in figure 6. The conclusions that can be drawn from this part of the analysis are similar to those above. The negative coefficient of the interaction variable once again implies that when societal religiosity is higher (lower), the effect of individual religious commitment on support for traditional gender attitudes is less (more) pronounced. Relevant for this part of the analysis is that this also implies that the gender attitudes of more religiously committed individuals are less sensitive to different levels of societal religiosity, once again in line with hypothesis 2b. However, regardless of how committed an individual might be, the interaction coefficient is not strong enough to ever change the direction of the coefficient of Z, which means that whenever societal religiosity is low, the population as a whole is likely to have relatively progressive gender attitudes, although the effects is less strong among the more religious (or religiously committed). As a consequence, hypothesis 3 needs to be rejected.

Figure 6

Graph visualising the interaction effect of societal religiosity on religious commitment and gender attitudes.

**Table 7**

Multilevel regression models for hypothesis 3.

Parameter	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.545***	0.050	2.607***	0.271	2.596***	0.299	2.614***	0.299
Individual religiosity			0.056***	0.003	0.054***	0.006	0.054***	0.006
Societal religiosity			0.226*	0.081	0.266*	0.091	0.259*	0.091
Religious commitment			0.061***	0.003	0.058***	0.006	0.146***	0.032
Sex			-0.130***	0.004	-0.128***	0.004	-0.128***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001
Marital status			0.021***	0.004	0.018***	0.004	0.018***	0.004
Education			-0.062***	0.001	-0.062***	0.001	-0.062***	0.001
Average education			-0.122***	0.029	-0.138***	0.031	-0.138***	0.031

Societal religiosity * Commitment								-0.034*	0.012
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	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.412***	0.002	0.409***	0.002	0.409***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.020***	0.004	0.020***	0.004	0.020***	0.004
Individual religiosity level 1 variance					<0.001***	<0.001	<0.001***	<0.001
Commitment level 1 variance					0.001*	<0.001	0.001***	<0.001
Intercept level 2 variance (country)	0.086***	0.022	0.076***	0.020	0.104*	0.027	0.104***	0.027
Individual religiosity level 2 variance					0.001***	<0.001	0.001***	<0.001
Commitment level 2 variance					0.001***	<0.001	0.001***	<0.001

* $p < 0.05$. *** $p < 0.001$.

Robustness checks

Because of the multitude of possible operationalisations of both individual and societal religiosity, and the varying availability of specific variables in the dataset, robustness checks have been carried out to verify the results of the main analysis. Firstly, the analysis was repeated with the 5-item scale dependent variable. Because of the limited availability of the additional scale items, this analysis is limited to wave 5 of the EVS, which reduces the valid n to 45,449 on the individual level and to 32 on the country level. Because the analysis was now carried out on only one wave of data, the random effect of waves has been removed, which reduces the amount of levels in the models to two: individuals nested in countries. While the 2 of the 3 additional items were part of EVS wave 3 in Sweden, this wave has been removed from analysis to prevent the results from

being biased towards results from Sweden specifically. The results from these analyses are not reported due to word limitations, but are available upon request from the author. In the first model, the interaction variable no longer reaches significance at the 0.001 level, but does at the 0.05 level ($p = 0.013$). The repetition of the model used to test H3 is very similar, except for the fact that here, the interaction variable fails to reach conventional levels of significance ($p = 0.114$).

Carrying on, more robustness checks were conducted with different operationalisations of both individual and societal religiosity. With the purpose of increasing confidence in the reliability and validity of the results, analyses with all possible combinations of individual and societal religiosity were carried out. In addition to the main analysis these robustness checks consist of: 1) importance of religion (X_1) and societal religious commitment (Z_2); 2) importance of religion (X_1) and the proportion of Christians (Z_3); 3) belong to Christian denomination (X_3) and societal religiosity (Z_1); 4) belong to Christian denomination (X_3) and societal religious commitment (Z_2); and 5) belong to Christian denomination (X_3) and proportion of Christians (Z_3). The results from these final analyses are presented in appendix D. A summary of the results of the robustness checks compared to the main analysis can be found in table 8, where *yes* means that the corresponding coefficients were significant and in the expected direction, and *no* means that the corresponding coefficient(s) did not reach statistical significance. No real surprises are found here: the results of all analyses are largely the same. However, in the fourth and fifth tests of H2 (tables A8 and A10), which contained the weakest indicators of individual and societal religiosity, the interaction between X and Z did not reach statistical significance.

Table 8
Overview of the results of the main analysis and robustness checks.

Analysis	Vars used Individual / Context	Direct effect individual level	Direct effect context level	Interaction H2	Interaction H3
Main analysis Tables 5/6	Individual religiosity / Societal religiosity	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.05$	<i>Yes</i> $p < 0.05$
Check with 5-item scale Not published	Individual religiosity / Societal religiosity	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.05$	<i>No</i> $p < 0.114$
Check 1 Tables A4/A5	Individual religiosity / Societal religious commitment	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.05$	<i>Yes</i> $p < 0.05$
Check 2 Tables A6/A7	Individual religiosity / Proportion of Christians	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.05$	<i>Yes</i> $p < 0.05$
Check 3 Tables A8/A9	Belong to Christian denomination / Societal religiosity	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.05$	<i>Yes</i> $p < 0.05$

Check 4 Tables A10/A11	Belong to Christian denomination / Societal Religious Commitment	<i>Yes</i> $p < 0.001$	<i>Yes</i> $p < 0.001$	<i>No</i> $p = 0.221$	<i>Yes</i> $p < 0.05$
Check 5 Tables A12/A13	Belong to Christian denomination / Proportion of Christians	<i>Yes</i> $p < 0.05$	<i>Yes</i> $p < 0.05$	<i>No</i> $p = 0.557$	<i>Yes</i> $p < 0.05$

Conclusion & discussion

The goal of this thesis was to further unravel the interplay between religiosity on the individual and contextual level. Specifically, by conducting multilevel regression analysis on data drawn from EVS wave 3, 4 and 5, my aim was to uncover whether changes (decreases) in societal religiosity would either widen or narrow the gap between the gender attitudes of religious and secular individuals.

First of all, the results confirm that, in line with the moral communities thesis, a decrease in societal religiosity (secularisation) should foster more progressive gender attitudes among the population as a whole (Stark, 1996; Kelley & De Graaf, 1997). While dissecting the exact mechanisms that propel the moral communities effect is beyond the scope of this thesis, the above analysis has clearly shown that individuals' gender attitudes are affected fairly strongly by the extent to which their society is religious. Regardless of its operationalisation, a direct and positive effect of societal religiosity on respondents' traditional gender attitudes could be established. This confirmation was a first condition that had to be met before being able to move on to the initial aim of this thesis.

Having established this association, the next step was to discover whether the effect of societal religiosity is equal, or at least similar for respondents regardless of their own religiosity. The hypotheses proposed that increases in societal religiosity should affect religious individuals more (H2a), less (H2b) or even in a different direction (H3) than their secular counterparts. Confirming H2b and in line with Stavrova and Siegers (2014), Finke and Adamczyk (2008) and Adamczyk and Pitt (2009), the results mostly indicate that religious individuals are less susceptible to changes in contextual religiosity, and that in secular societies, individual religiosity becomes a more important predictor for traditional gender attitudes. In religious societies, so it seems, traditional gender attitudes are the norm and therefore hardly depend on individual religiosity. From this perspective, gender attitudes appear to fit in the category of moral attitudes, similar to adultery and abortion (Finke & Adamczyk, 2009; Adamczyk & Pitt, 2009).

While the interaction effects were not statistically significant in all of the robustness checks, this does not necessarily reduce confidence in the results. In those models where no interaction effect could be established, context-level n was either very low or the individual-level

independent variable was operationalised as belonging to a Christian denomination. This variable, particularly on the individual, and to a lesser extent on the context level (proportion of Christians), can be theoretically argued to be the weakest operationalisation of religiosity of the three used here (Wright & Young, 2007), an idea which is corroborated both by the weak correlation between the variable and the other two operationalisations and by the fact that the model in which this operationalisation was used on both levels was by far the weakest model (table A10).

Firstly, the findings match with the idea that secular individuals are more supportive of pluralism than religious individuals (Devellenes & Loveless, 2022), as even in the most secular societies included in this study, religious individuals clearly do not feel compelled to drastically alter their attitudes. Furthermore, this finding also offers further support for the moral communities thesis. While the data offer no empirical evidence in favour of any specific mechanism, the fact that the gender attitudes of religious individuals are less sensitive to changes in societal religiosity has two implications. The first implication is that even when a society becomes less religious, the meso effects of moral communities remain salient. Religious individuals are likely to be surrounded by relatively religious peers, raised in a religious family and for instance attend religious education (Stark, 1996; Fürstenberg, 2012). Even as society secularises, this limits the pace at which their gender attitudes change along. The second implication is that despite these forces on the meso level, religious decline on the macro level still alters the gender attitudes of religious individuals (Kelley & De Graaf, 1997). Figures 5 and 6 are visual representations of the regression models from the main analysis for an averagely educated, 40-year old, married female respondent in a country with the exact mean average (context-level) education level. Note that the horizontal axes have been inversed in comparison to the graphic visualisation of the expectations in the theoretical framework, and that the reaches of the vertical axes have been limited to improve the interpretability of the graph – the actual difference is less dramatic. Nevertheless, when using individual religiosity (figure 5), the attitudinal gap is more than twice as large in the most secular societies (Czechia 2008, Germany 2008, Sweden 2008) as in the most religious societies (Cyprus 2008, Georgia 2000, Malta 2008). The effect is more modest in case religious commitment is used as the individual variable in the interaction effect (figure 6), but points towards the same conclusion.

The above effect was found in all but two of the analyses: the two in which individual religiosity was operationalised as whether a respondent belonged to a Christian denomination or not. As mentioned previously, there is good reason to consider this final operationalisation as the least reliable indicator of religiosity, and thus the lack of a significant interaction in those models does not necessarily cast doubt on the results. Originally, in order to analyse whether the gender

attitudes of more orthodox religious individuals would be reinforced in case of religious decline (H3), religious commitment was added to the model. In that model, religious commitment replaced individual religiosity in the interaction variable. On the one hand, the fact that the implications of these models are largely the same as those designed for the first two hypotheses means that H3 can be rejected. On the other hand, because the operationalisation of religious commitment can be considered an alternative operationalisation of individual religiosity, the similarity in results can also be perceived as a confirmation of the conclusions drawn about H1 and H2.

Obviously, there are several important limitations to consider when drawing conclusions from the data analysis. First of all, because the study was primarily focused on what would occur in case societal religiosity declines, a longitudinal analysis might be able to provide better insight in the effects of the process of secularisation. However, as is, the EVS dataset that has been used for this study does not properly allow for such an analysis as the required data was only available as from the third wave. Therefore, currently, this analysis is limited to no more than three waves of the EVS over a timespan of less than 20 years, which limits the viability of conducting longitudinal analysis.

Furthermore, and specifically with regard to the cultural threat mechanism of H3, the analysis might simply not have been well-suited for the purpose. As shortly touched upon previously, the theoretical idea behind the cultural threat mechanism requires a relatively large and (in salience) increasing gap between the religious, who consider the cultural authority of their religion to be under pressure, and the secular (Achterberg, et al., 2009). Whether or not this is currently the case in European countries is not part of the analysis. However, the data does indicate that Christianity is not universally on the decline, and still plays a relatively large role in European societies. Additionally, the analysis conducted here made no distinction between different Christian denominations on either the individual or the contextual level, which might be a relevant indicator for religious commitment or the experience of cultural threat (Wright & Young, 2017). Zooming in on specific religious communities and their out-group perception might be a better-suited approach for investigating the cultural threat mechanism, and at this point in time seems another promising avenue for future research. Alternatively, nonlinear analysis might be more suitable for investigating the cultural defence approach, as this theoretically implies the existence of a certain 'turning point' (for instance at the peak of a parabola), at which further decreases in societal religiosity no longer foster more progressive attitudes among the (orthodox) religious.

The fact that in this research, reinforced traditional gender attitudes in response to low levels of societal religiosity could not be identified, does therefore not necessarily signify that the

theoretical implications of the cultural defense mechanism are to be rejected. Culturally progressive attitudes seem to meet increasing resistance, often coinciding with those attitudes that are religiously inspired. In Europe, the rise to power of the PiS and Fidesz parties in Poland and Hungary respectively, can be considered expressions of such resistance (Baczynska, 2021). The overruling of *Roe v. Wade* in the U.S. is another prime example. These and forms of political resistance against the further development of for instance gay and rights and gender equality are widespread, and can be considered part of a wider movement within the conservative far-right, which claims to defend the traditional (and sometimes specifically Christian) family model (Jaffe, 2022; Graff & Korolczuk, 2022). While European right-wing populists and those who voted for them have used and still use support for gay and women's rights as justification for xenophobic attitudes (Duyvendak, 2004; Uitermark, 2010; Poirier, 2017), support for further extension of these rights appears to be either non-existent or waning among these groups, and electorates seem to have again become used to arguably anti-feminist remarks from western politicians such as Thierry Baudet in the Netherlands (Baudet, in Schimmelpenninck, 2017), Matteo Salvini in Italy (Barnes, 2019) and Boris Johnson in the UK (Smith & Bloom, 2021; Phillips, 2022; Sondel-Cedarmas & Berti, 2022). However, this growing political movement is not necessarily particularly religiously coloured, which casts doubt on the idea of looking towards religion alone for understanding why resistance to gender equality is on the rise altogether.

Nevertheless, the analysis does confirm the importance of societal religiosity and how it affects the association between individual religiosity and gender attitudes. This research has shown not only that as societies become less religious, individual religiosity likely becomes a more important predictor for gender attitudes, but also that the attitudinal gap can be expected to increase when such is the case. Given that most scholars appear to agree that institutional secularisation is an ongoing development in Western Europe, it therefore seems likely that polarisation around subjects such as gender attitudes and abortion will increase in the future as a result of moral traditionalism. The recent surge of the authoritarian, reactionary far-right, which is not candidly religious, can be conceived of as opposition towards progressiveness in its own right. Although there might be a clear distinction between moral traditionalists and authoritarianists (De Koster & Van der Waal, 2007), their interests aligning increasingly in the future might be a consequence of the above. Can the success of reactionary political movements such as the PiS in Poland and Fidesz in Hungary, and their ability to limit personal freedom and the rule of law without much resistance from the European Union (Rech, 2018), inspire such sentiments in other European nations, or at least awaken those slumbering? More clear alliances in the political landscape between the two distinguishable reactionary families may become more

likely as the radical-right continues its development into a legitimate political movement, and such allegiances can be expected to not only hamper the expansion of women's rights and gender equality, but also stimulate further polarisation in Western nations.

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Appendix A: Checklist Ethical and Privacy Aspects of Research



INSTRUCTION

This checklist should be completed for every research study that is conducted at the Department of Public Administration and Sociology (DPAS). This checklist should be completed *before* commencing with data collection or approaching participants. Students can complete this checklist with help of their supervisor.

This checklist is a mandatory part of the empirical master's thesis and has to be uploaded along with the research proposal.

The guideline for ethical aspects of research of the Dutch Sociological Association (NSV) can be found on their website (http://www.nsv-sociologie.nl/?page_id=17). If you have doubts about ethical or privacy aspects of your research study, discuss and resolve the matter with your EUR supervisor. If needed and if advised to do so by your supervisor, you can also consult Dr. Jennifer A. Holland, coordinator of the Sociology Master's Thesis program.

PART I: GENERAL INFORMATION

Project title: Reforming Reformists? The impact of secularisation on the religious divide in gender conservatism

Name, email of student: Jasper Bosma, 582235jb@eur.nl

Name, email of supervisor: Jeroen van der Waal, vanderwaal@essb.eur.nl

Start date and duration: 01-02-2022, 5 months

Is the research study conducted within DPAS YES - NO

If 'NO': at or for what institute or organization will the study be conducted?
(e.g. internship organization)

PART II: HUMAN SUBJECTS

1. Does your research involve human participants. YES - ~~NO~~

If 'NO': skip to part V.

If 'YES': does the study involve medical or physical research? ~~YES~~ - NO

Research that falls under the Medical Research Involving Human Subjects Act ([WMO](#)) must first be submitted to [an accredited medical research ethics committee](#) or the Central Committee on Research Involving Human Subjects ([CCMO](#)).

2. Does your research involve field observations without manipulations that will not involve identification of participants. ~~YES~~ - NO

If 'YES': skip to part IV.

3. Research involving completely anonymous data files (secondary data that has been anonymized by someone else). YES - ~~NO~~

If 'YES': skip to part IV.

PART III: PARTICIPANTS

1. Will information about the nature of the study and about what participants can expect during the study be withheld from them? YES - NO
2. Will any of the participants not be asked for verbal or written 'informed consent,' whereby they agree to participate in the study? YES - NO
3. Will information about the possibility to discontinue the participation at any time be withheld from participants? YES - NO
4. Will the study involve actively deceiving the participants?
Note: almost all research studies involve some kind of deception of participants. Try to think about what types of deception are ethical or non-ethical (e.g. purpose of the study is not told, coercion is exerted on participants, giving participants the feeling that they harm other people by making certain decisions, etc.). YES - NO
5. Does the study involve the risk of causing psychological stress or negative emotions beyond those normally encountered by participants? YES - NO
6. Will information be collected about special categories of data, as defined by the GDPR (e.g. racial or ethnic origin, political opinions, religious or philosophical beliefs, trade union membership, genetic data, biometric data for the purpose of uniquely identifying a person, data concerning mental or physical health, data concerning a person's sex life or sexual orientation)? YES - NO
7. Will the study involve the participation of minors (<18 years old) or other groups that cannot give consent? YES - NO
8. Is the health and/or safety of participants at risk during the study? YES - NO
9. Can participants be identified by the study results or can the confidentiality of the participants' identity not be ensured? YES - NO
10. Are there any other possible ethical issues with regard to this study? YES - NO

If you have answered 'YES' to any of the previous questions, please indicate below why this issue is unavoidable in this study.

What safeguards are taken to relieve possible adverse consequences of these issues (e.g., informing participants about the study afterwards, extra safety regulations, etc.).

Are there any unintended circumstances in the study that can cause harm or have negative (emotional) consequences to the participants? Indicate what possible circumstances this could be.

Please attach your informed consent form in Appendix I, if applicable.

Continue to part IV.

PART IV: SAMPLE

Where will you collect or obtain your data?

Data from the European Values Survey 1981-2017 will be collected from the internet.

Note: indicate for separate data sources.

What is the (anticipated) size of your sample?

56,491, although part of the sample will be removed from the analysis as non-Christian religious individuals will be excluded.

Note: indicate for separate data sources.

What is the size of the population from which you will sample?

The population of Europe in 2017, approximately 745,000,000, although all participants were 18 and over.

Note: indicate for separate data sources.

Continue to part V.

Part V: Data storage and backup

Where and when will you store your data in the short term, after acquisition?

On my personal computer and a backup in the cloud.

Note: indicate for separate data sources, for instance for paper-and pencil test data, and for digital data files.

Who is responsible for the immediate day-to-day management, storage and backup of the data arising from your research?

Myself.

How (frequently) will you back-up your research data for short-term data security?

Every time I make changes I will synchronize my local document with the document on the drive.

In case of collecting personal data how will you anonymize the data?

Note: It is advisable to keep directly identifying personal details separated from the rest of the data. Personal details are then replaced by a key/ code. Only the code is part of the database with data and the list of respondents/research subjects is kept separate.

PART VI: SIGNATURE

Please note that it is your responsibility to follow the ethical guidelines in the conduct of your study. This includes providing information to participants about the study and ensuring confidentiality in storage and use of personal data. Treat participants respectfully, be on time at appointments, call participants when they have signed up for your study and fulfil promises made to participants.

Furthermore, it is your responsibility that data are authentic, of high quality and properly stored. The principle is always that the supervisor (or strictly speaking the Erasmus University Rotterdam) remains owner of the data, and that the student should therefore hand over all data to the supervisor.

Hereby I declare that the study will be conducted in accordance with the ethical guidelines of the Department of Public Administration and Sociology at Erasmus University Rotterdam. I have answered the questions truthfully.

Name student: Jasper Bosma

Name (EUR) supervisor: Jeroen van derWaal

Date: 20-03-2022

Date: 20-03-2022

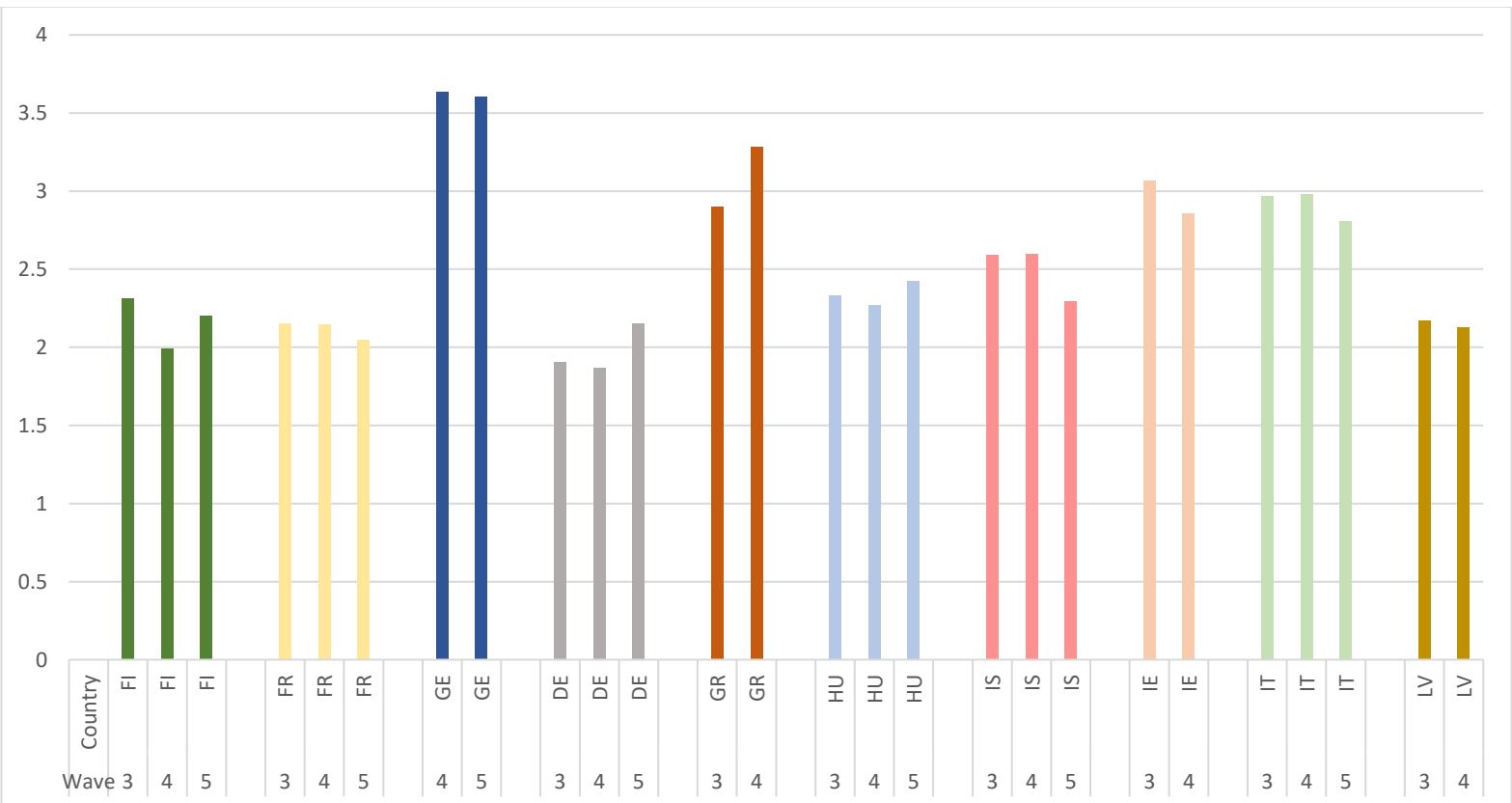
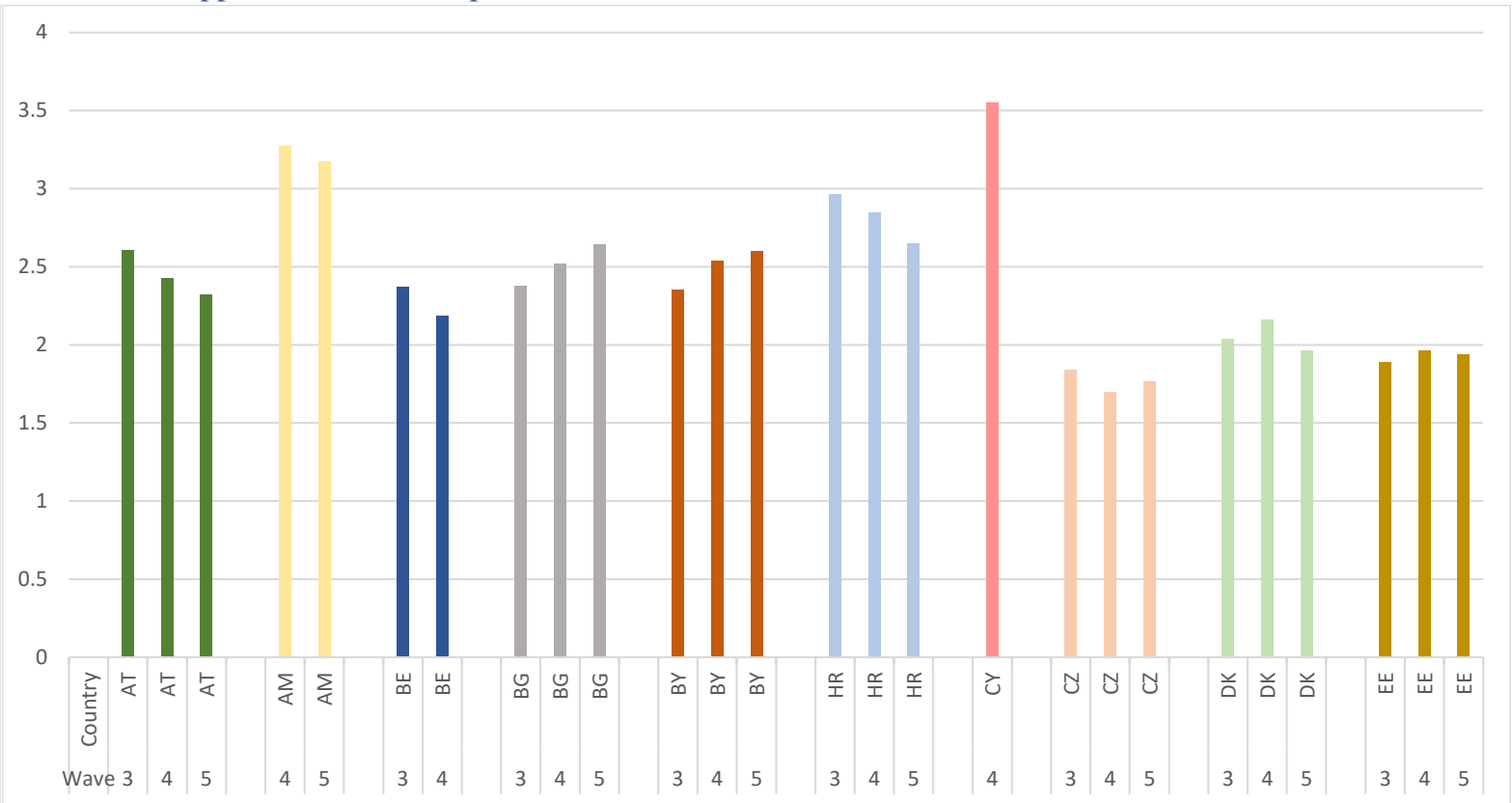


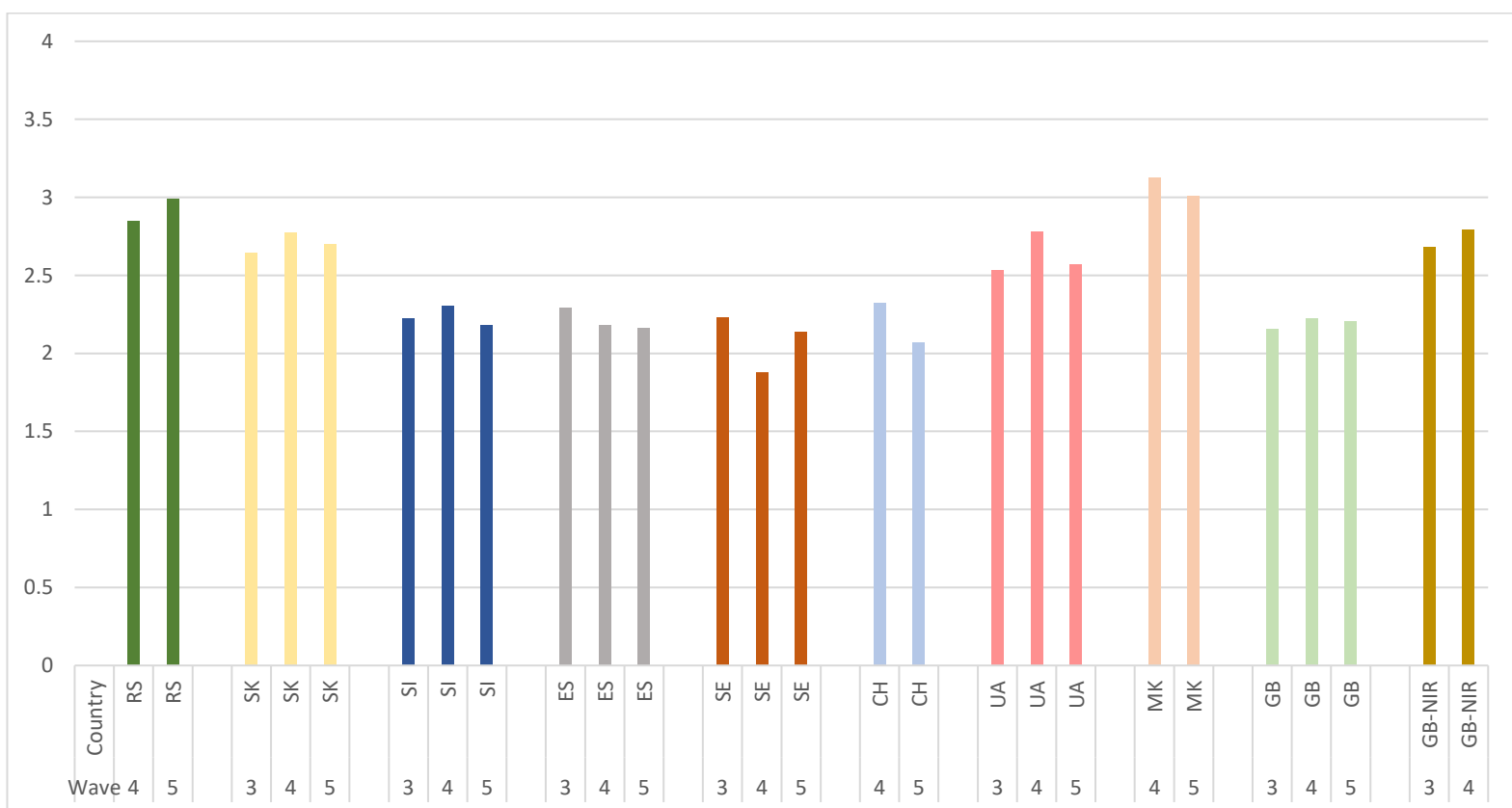
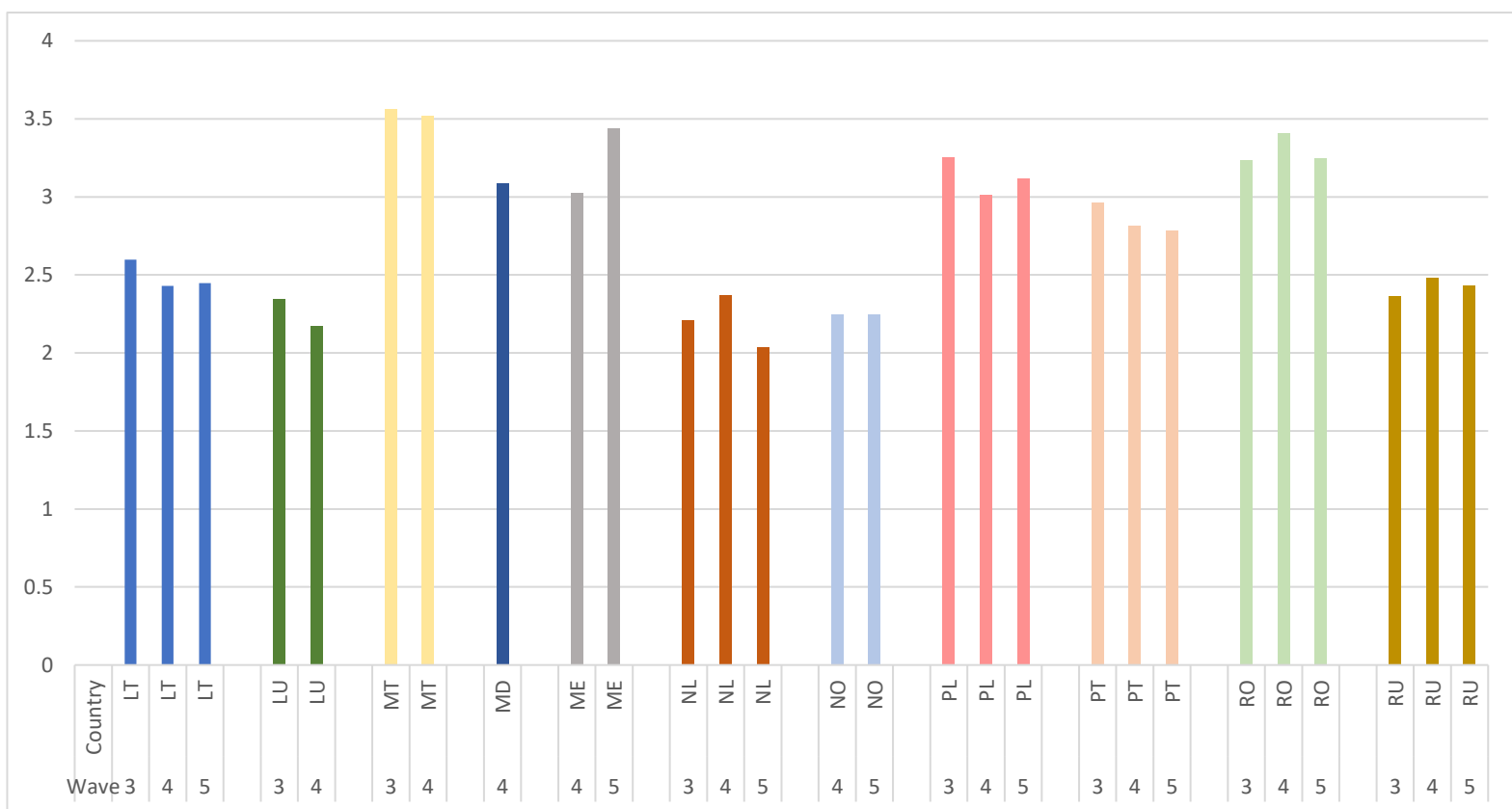
Prof. dr. Jeroen van der
Waal Full Professor of
Sociology of Stratification
Director of Research

Department of Public
Administration & Sociology
Erasmus School of Social
and Behavioural Sciences
Erasmus University
Rotterdam Room T15-45
P.O. Box 1738
3000 DR
Rotterdam The
Netherlands

Appendix B: Development of contextual religiosity

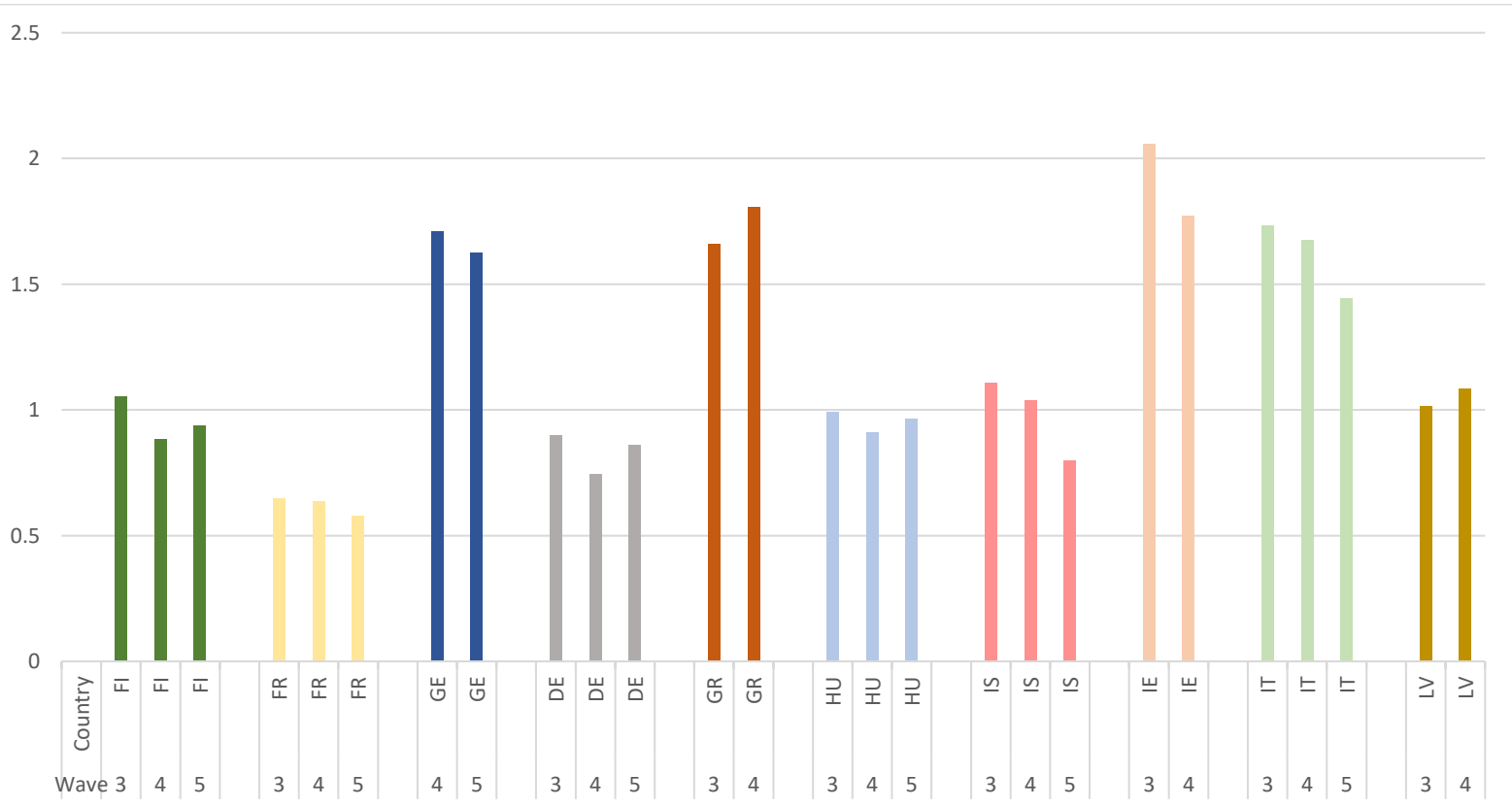
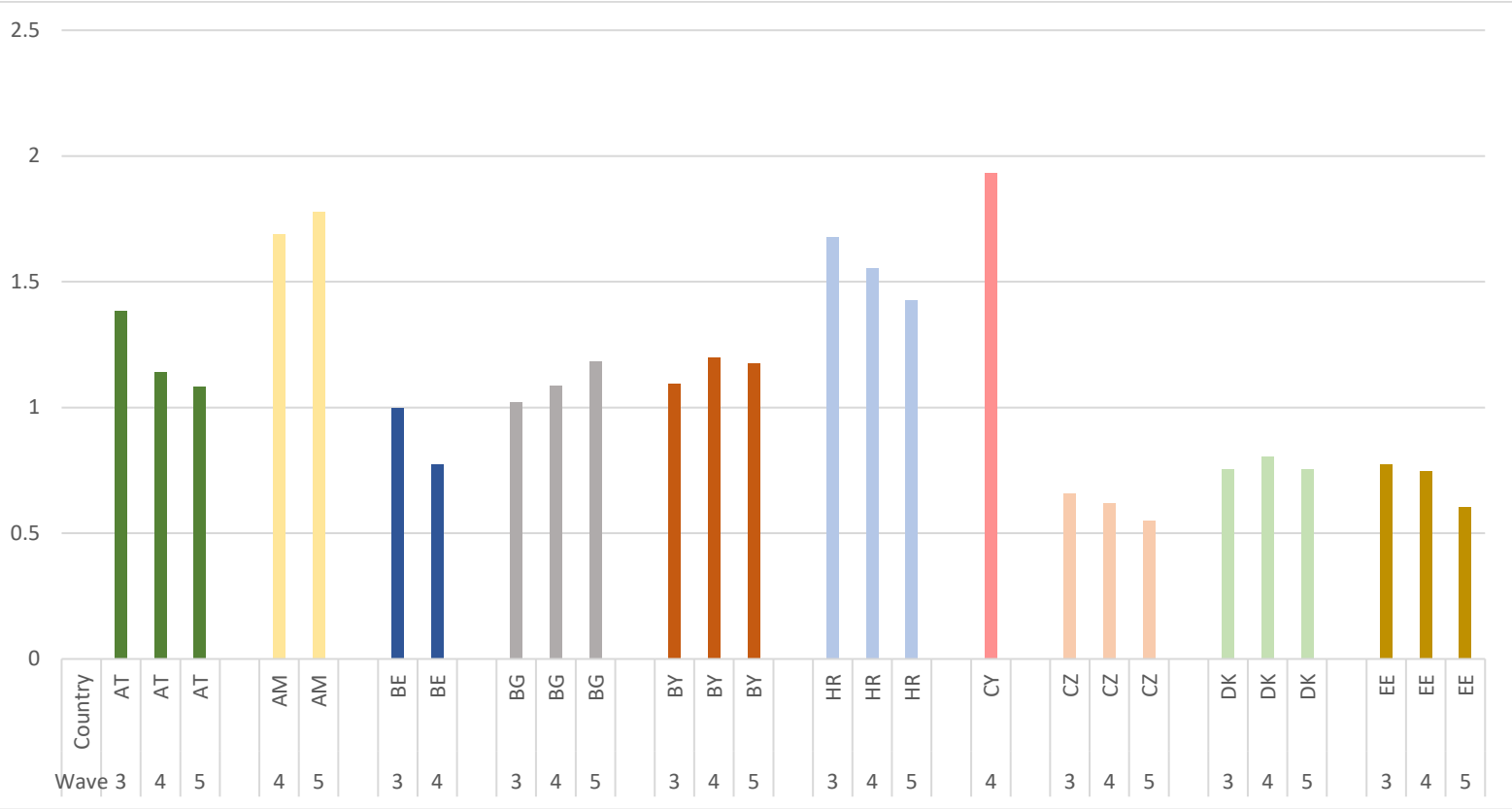
Appendix B1: Development of Z₁

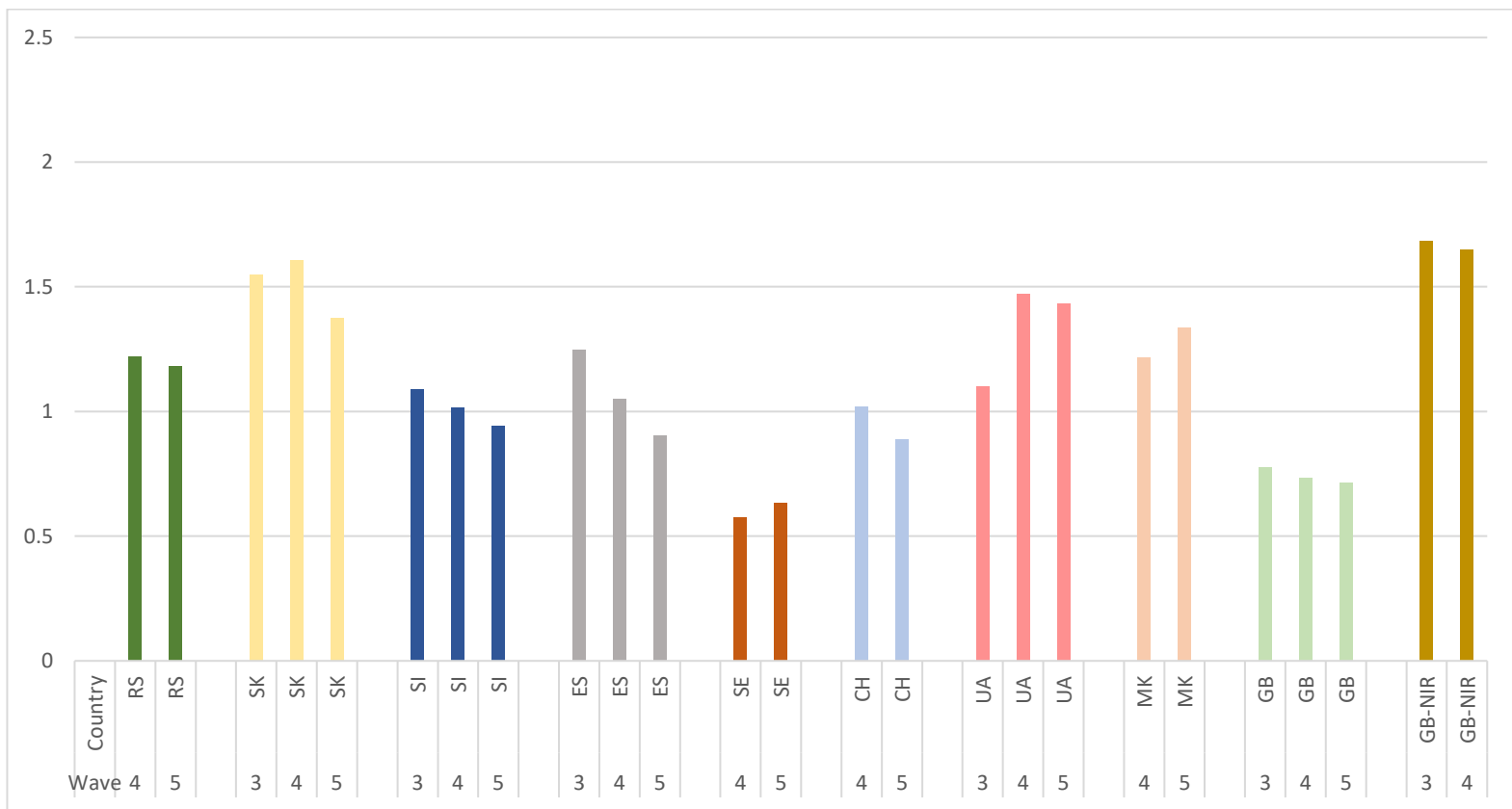
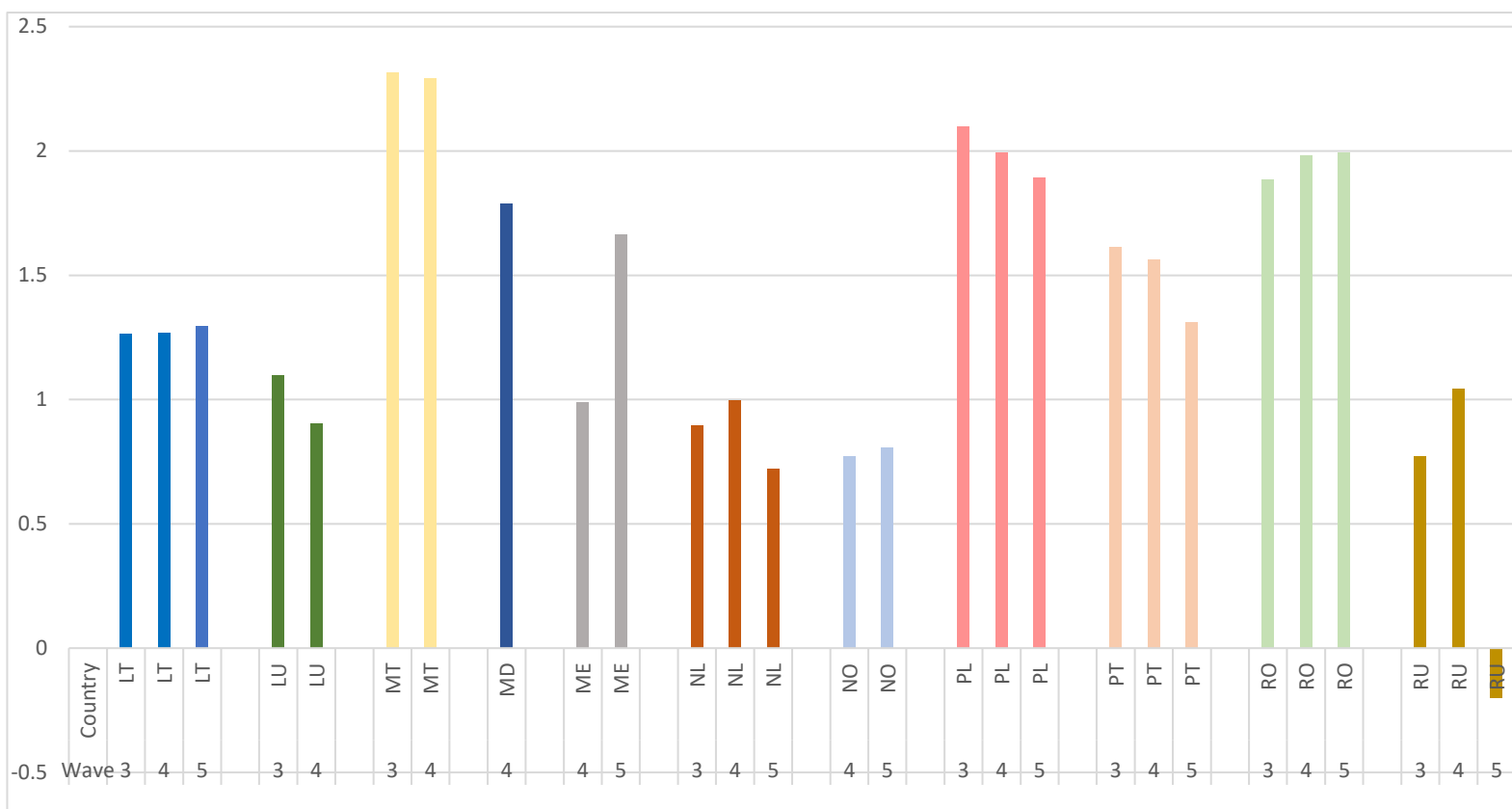




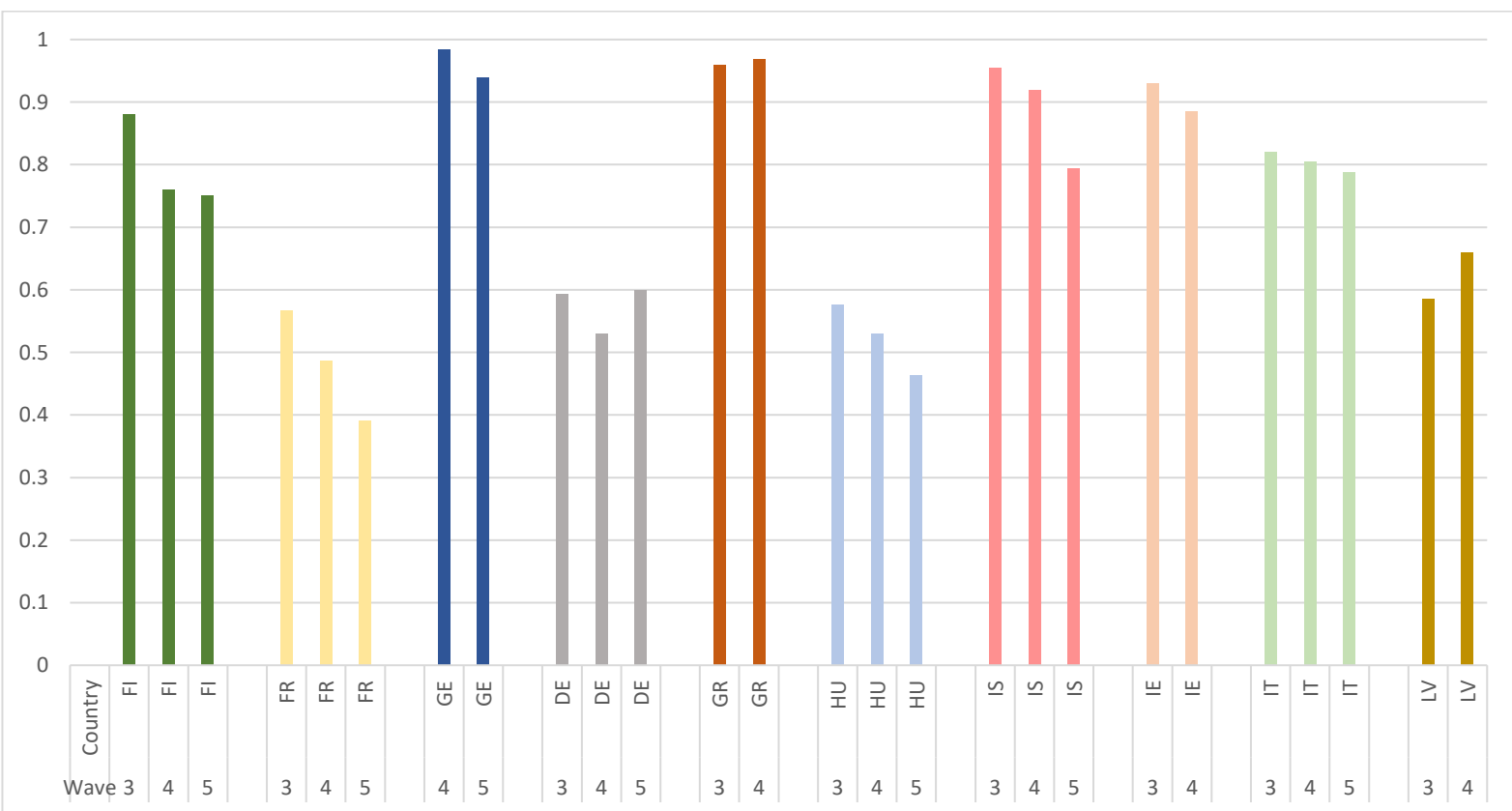
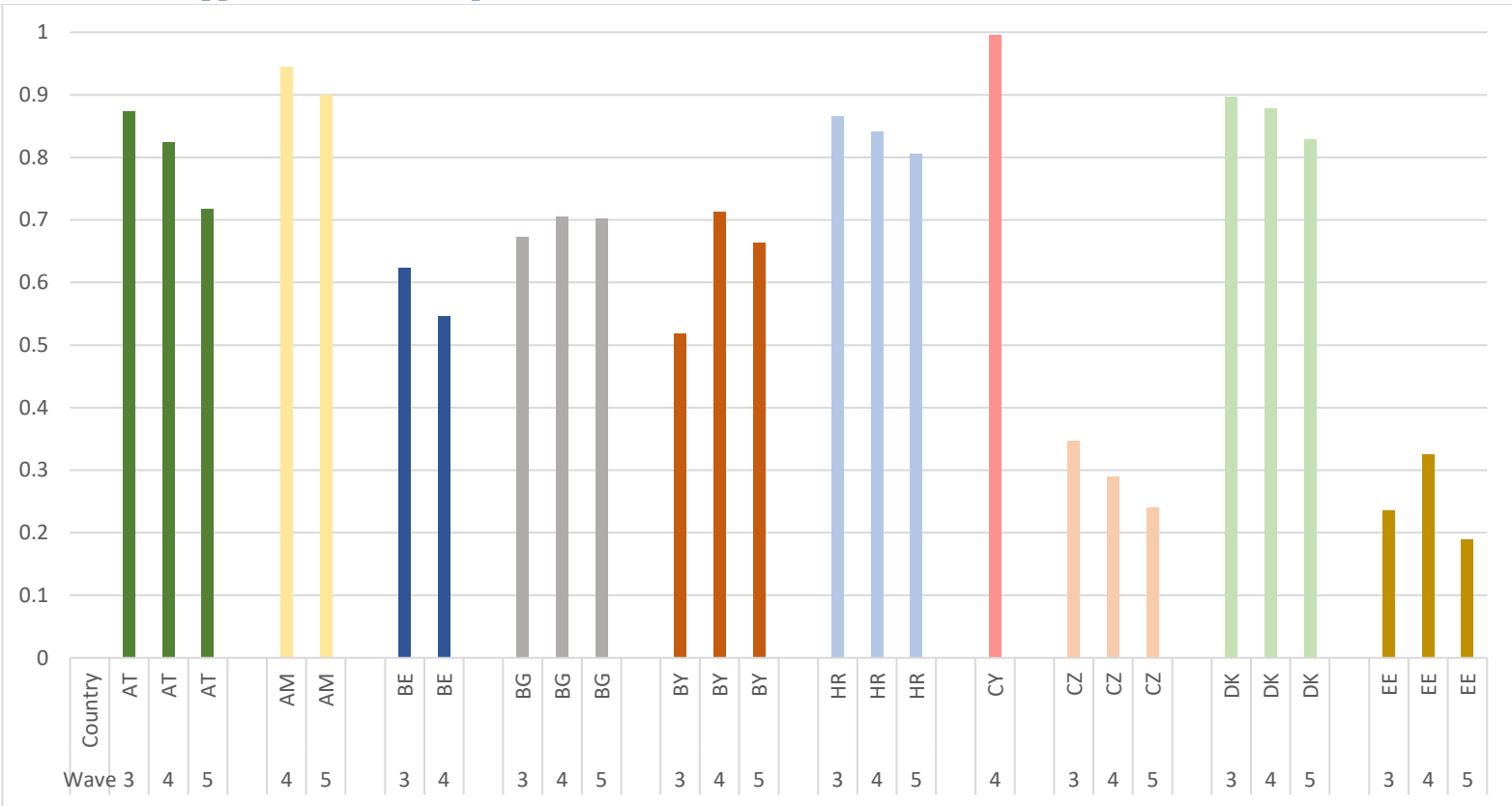
Appendix B2: Development of Z₂

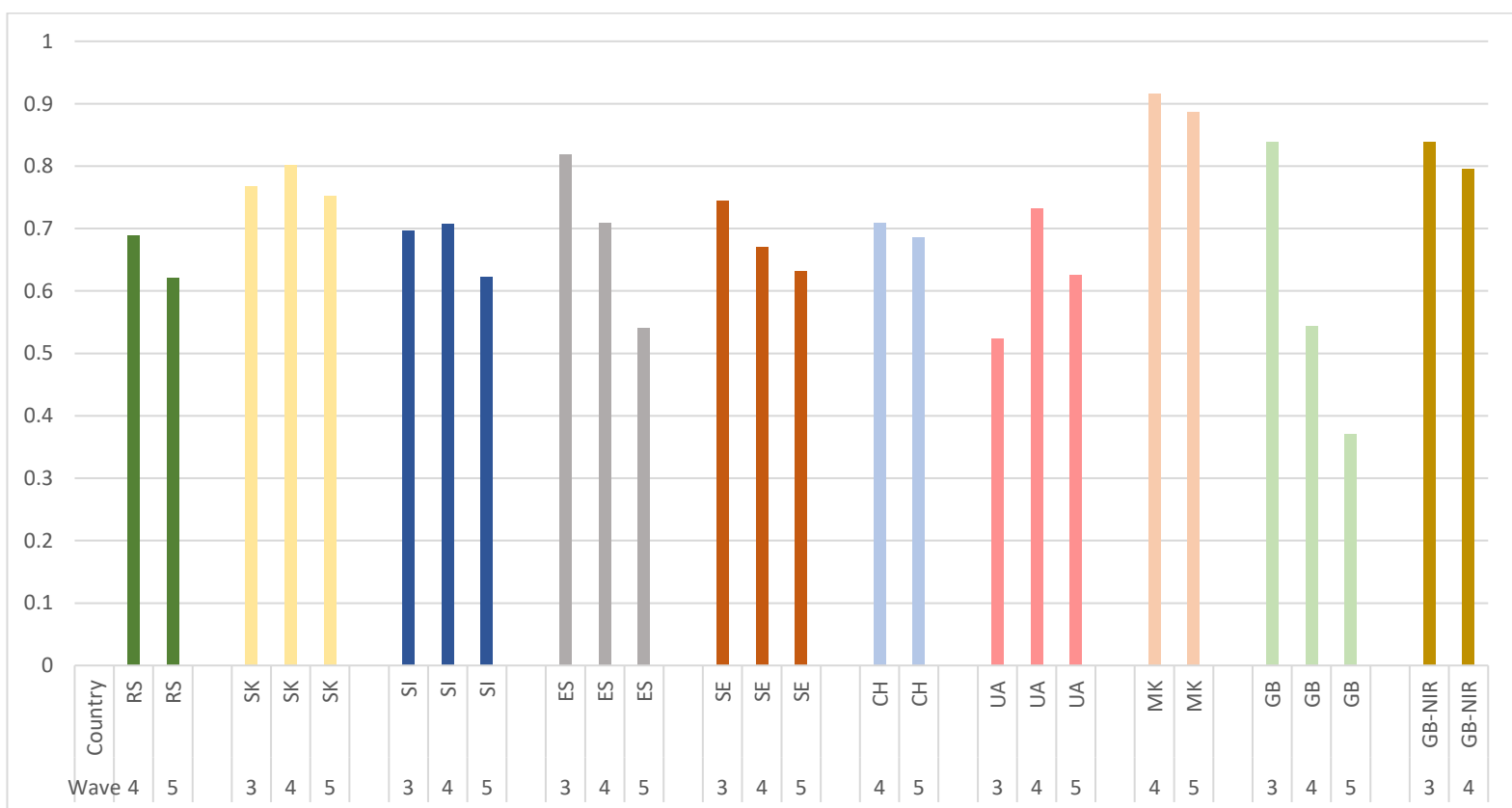
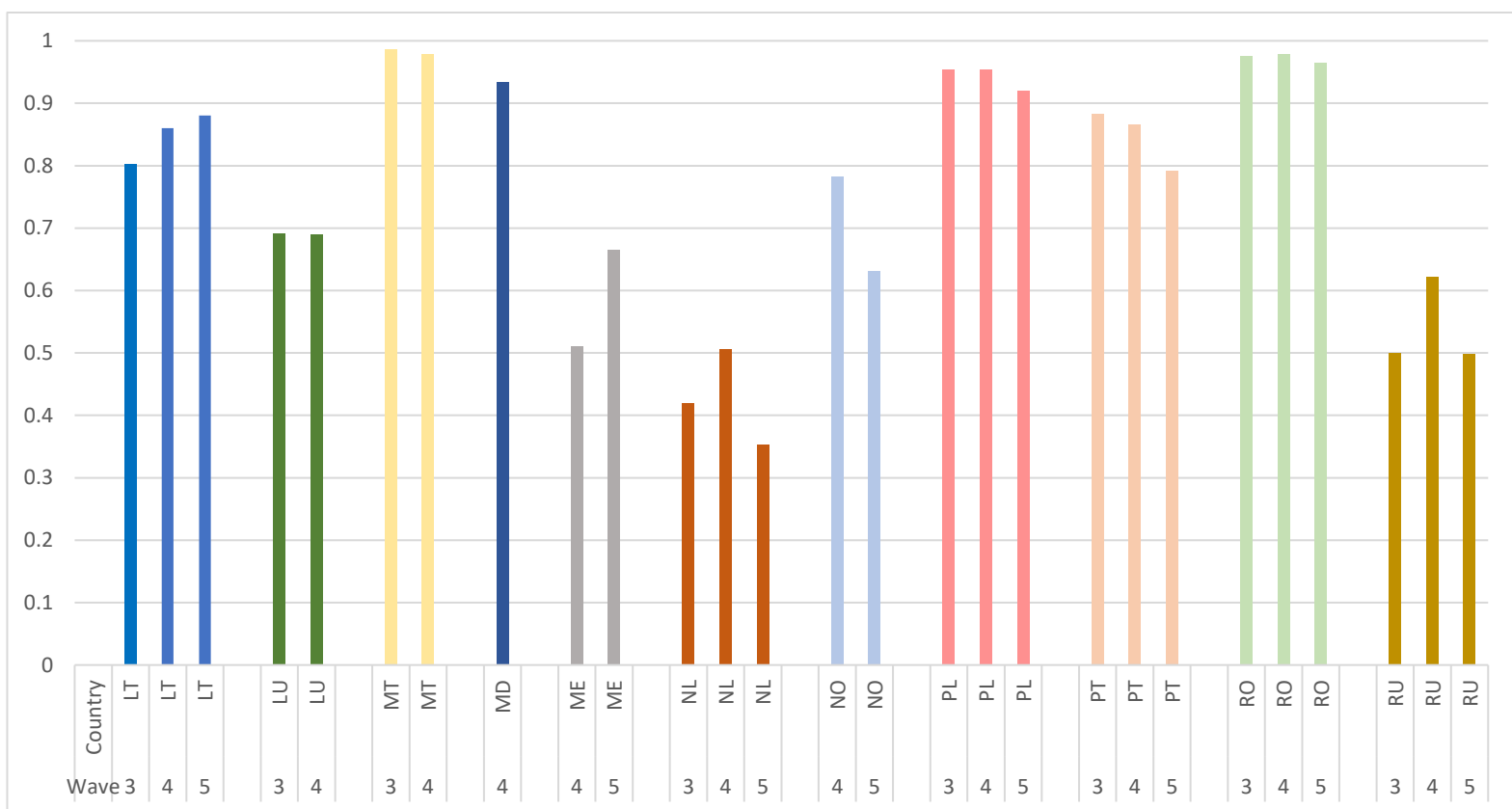
Note: to improve interpretability, scores were transposed by +1.18 so that the minimum value equals 0.





Appendix B3: Development of Z_3





level 2
variance.

0.001***

<0.001

0.001***

<0.001

* $p < 0.05$. *** $p < 0.001$.

Table A2
Models for H3 with Z₂.

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.545***	0.050	3.150***	0.158	3.240***	0.166	3.240***	0.166
Individual religiosity			0.057***	0.003	0.054***	0.006	0.054***	0.006
Societal rel. commit.			0.246*	0.089	0.303*	0.099	0.295*	0.099
Religious commitment			0.061***	0.003	0.058***	0.006	0.059***	0.006
Sex			-0.130***	0.004	-0.128***	0.004	-0.128***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001
Marital status			0.021***	0.004	0.018***	0.004	0.018***	0.004
Education			-0.062***	0.001	-0.062***	0.001	-0.062***	0.001
Average education			-0.117***	0.030	-0.133***	0.031	-0.132***	0.031
Societal * Individual rel. commit.							-0.037*	0.014
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.412***	0.002	0.409***	0.002	0.409***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.019***	0.004	0.019***	0.004	0.019***	0.004
Individual religiosity level 1 variance					<0.001*	<0.001	<0.001*	<0.001
Religious commitment level 1 variance					0.001***	<0.001	0.001*	<0.001

Intercept level 2 variance (country)	0.086***	0.022	0.079***	0.021	0.108***	0.028	0.108***	0.028
Individual religiosity level 2 variance					0.001***	<0.001	0.001*	<0.001
Religious commitment level 2 variance					0.001*	<0.001	0.001*	<0.001

* $p < 0.05$. *** $p < 0.001$.

Table A3
Models for H1 and H2 with Z₃.

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.546***	0.049	2.750***	0.227	2.699***	0.244	2.661***	0.244
Individual religiosity			0.087***	0.002	0.083***	0.007	0.132***	0.023
Proportion of Christians			0.501*	0.182	0.712***	0.198	0.760***	0.199
Sex			-0.120***	0.004	-0.119***	0.004	-0.119***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001
Marital status			0.023***	0.004	0.021***	0.004	0.021***	0.004
Education			-0.062***	0.001	-0.062***	0.001	-0.062***	0.001
Average education			-0.124***	0.029	-0.141***	0.030	-0.140***	0.030
Prop. Chr. * Ind. rel.							-0.067*	0.031
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.451***	0.002	0.414***	0.002	0.412***	0.002	0.412***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.017***	0.003	0.016***	0.003	0.016***	0.003
Individual religiosity level 1 variance					0.001***	<0.001	<0.001***	<0.001
Intercept level 2 variance (country)	0.083***	0.022	0.101***	0.025	0.153***	0.037	0.154***	0.038
Individual religiosity level 2 variance					0.001***	<0.001	0.002***	<0.001

p < 0.05. *p < 0.001.*

Table A4
Models for H3 with Z₂.

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.545***	0.050	2.852***	0.228	2.833***	0.243	2.850***	0.243
Individual religiosity			0.057***	0.003	0.054***	0.006	0.054***	0.006
Proportion of Christians			0.453*	0.183	0.586*	0.196	0.557*	0.196
Religious commitment			0.061***	0.003	0.058***	0.006	0.115***	0.022
Sex			-0.130***	0.004	-0.128***	0.004	-0.128***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001
Marital status			0.021***	0.004	0.018***	0.004	0.018***	0.004
Education			-0.062***	0.001	-0.062***	0.001	-0.062***	0.001
Average education			-0.121***	0.029	-0.133***	0.030	-0.132***	0.030
Societal * Individual rel. commit.							-0.080*	0.030
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.412***	0.002	0.409***	0.002	0.409***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.017***	0.003	0.016***	0.003	0.016***	0.003
Individual religiosity level 1 variance					<0.001*	<0.001	<0.001*	<0.001
Religious commitment level 1 variance					0.001***	<0.001	0.001***	<0.001

Intercept level 2 variance (country)	0.086***	0.022	0.099***	0.025	0.136***	0.034	0.136***	0.034
Individual religiosity level 2 variance					0.001*	<0.001	0.001*	<0.001
Religious commitment level 2 variance					0.001*	<0.001	0.001*	<0.001

* $p < 0.05$. *** $p < 0.001$.

Table A5
Models for H1 and H2 with X₃.

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.546***	0.049	2.471***	0.273	2.402***	0.276	2.358***	0.277
Belong to Chr. Denom.			0.116***	0.004	0.110***	0.015	0.283***	0.080
Societal religiosity			0.292***	0.082	0.331***	0.084	0.350***	0.084
Sex			-0.104***	0.004	-0.104***	0.004	-0.104***	0.004
Age			0.005***	<0.001	0.005***	<0.001	0.005***	<0.001
Marital status			0.027***	0.004	0.025***	0.004	0.025***	0.004
Education			-0.064***	0.001	-0.063***	0.001	-0.063***	0.001
Average education			-0.124***	0.029	-0.130***	0.029	-0.130***	0.029
Soc. Rel. * Belong to Chr. Den.							-0.069*	0.031
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.417***	0.002	0.415***	0.002	0.415***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.019**	0.004	0.018***	0.003	0.018***	0.004
Belong to Chr. Den. level 1 variance					0.003***	0.001	0.003***	0.001
Intercept level 2 variance (country)	0.083***	0.022	0.081***	0.021	0.088***	0.023	0.088***	0.023
Belong to Chr. Den. level 2 variance					0.006*	0.002	0.006*	0.002

* $p < 0.05$. *** $p < 0.001$.

Table A6
Models for H3 with X₃.

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.545***	0.050	2.652***	0.272	2.557***	0.270	2.563***	0.270
Belong to Chr. Denom.			0.036***	0.005	0.028*	0.013	0.028*	0.013
Societal Religiosity			0.247*	0.081	0.284***	0.081	0.282***	0.081
Religious commitment			0.091***	0.003	0.089***	0.007	0.188***	0.037
Sex			-0.127***	0.004	-0.124***	0.004	-0.124***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001
Marital status			0.023***	0.004	0.020***	0.004	0.020***	0.004
Education			-0.063***	0.001	-0.063***	0.001	-0.063***	0.001
Average education			-0.120***	0.029	-0.118***	0.029	-0.118***	0.029
Societal * Individual rel. commit.							-0.038*	0.014
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.413***	0.002	0.410***	0.002	0.410***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.020***	0.004	0.018***	0.004	0.018***	0.004
Belong to Chr. Den. level 1 variance					0.003*	0.001	0.003*	0.001
Religious commitment level 1 variance					0.001***	<0.001	0.001*	<0.001

Intercept level 2 variance (country)	0.086***	0.022	0.078***	0.020	0.079***	0.021	0.079***	0.021
Belong to Chr. Den. level 2 variance					0.004*	0.001	0.004*	0.001
Religious commitment level 2 variance					0.001*	<0.001	0.001*	<0.001

* $p < 0.05$. *** $p < 0.001$.

Table A7
Models for H1 and H2 with X₃ and Z₂.

Parameter	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.544***	0.050	3.166***	0.157	3.198***	0.157	3.199***	0.157
Belong to Chr. Denom.			0.117***	0.004	0.110***	0.015	0.110***	0.015
Societal rel. commit.			0.314***	0.090	0.345***	0.093	0.355***	0.093
Sex			<0.103***	0.004	-0.102***	0.004	-0.102***	0.004
Age			0.005***	<0.001	0.005***	<0.001	0.005***	<0.001
Marital status			0.027***	0.004	0.025***	0.004	0.025***	0.004
Education			-0.063***	0.001	-0.063***	0.001	-0.063***	0.001
Average education			-0.116***	0.029	-0.122**	0.029	-0.122***	0.029
Soc. Rel. Commit * Belong to Chr. Den.							-0.043	0.035
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.449***	0.002	0.416***	0.002	0.414***	0.002	0.414***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.019***	0.004	0.017***	0.003	0.017***	0.004
Belong to Chr. Den. level 1 variance					0.003***	0.001	0.003***	0.001
Intercept level 2 variance (country)	0.085***	0.022	0.085***	0.022	0.094***	0.024	0.094***	0.024
Belong to Chr. Den.					0.006*	0.002	0.007*	0.002

level 2
variance

* $p < 0.05$. *** $p < 0.001$.

Table A8
Models for H3 with X₃ and Z₂.

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.545***	0.050	3.253***	0.158	3.248***	0.155	3.249***	0.155
Belong to Chr. Denom.			0.036***	0.005	0.028*	0.013	0.029*	0.013
Societal Rel. Commit.			0.253*	0.050	0.290*	0.090	0.289*	0.090
Religious commitment			0.091***	0.003	0.089***	0.007	0.091***	0.007
Sex			-0.127***	0.004	-0.124***	0.004	-0.124***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001
Marital status			0.023***	0.004	0.020***	0.004	0.020***	0.004
Education			-0.063***	0.001	-0.063***	0.001	-0.063***	0.001
Average education			-0.115***	0.030	-0.112***	0.029	-0.112***	0.029
Soc. * Ind. rel. commit.							-0.044*	0.016
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.413***	0.002	0.410***	0.002	0.410***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.019***	0.004	0.017***	0.004	0.018***	0.004
Belong to Chr. Den. level 1 variance					0.003*	0.001	0.003*	0.001
Religious commitment level 1 variance					0.001***	<0.001	0.001*	<0.001
Intercept level 2	0.086***	0.022	0.081***	0.021	0.084***	0.022	0.084***	0.022

variance (country)				
Belong to Chr. Den. level 2 variance	0.004*	0.001	0.004*	0.001
Religious commitment level 2 variance	0.001*	<0.001	0.001*	<0.001

* $p < 0.05$. *** $p < 0.001$.

Table A9
Models for H1 and H2 with X₃ and Z₃.

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.546***	0.049	2.862***	0.231	2.847***	0.232	2.841***	0.232
Belong to Chr. Denom.			0.116***	0.004	0.111***	0.015	0.140*	0.052
Prop. of Chr.			0.499*	0.186	0.549*	0.187	0.559*	0.188
Sex			-0.104***	0.004	-0.104***	0.004	-0.104***	0.004
Age			0.005***	<0.001	0.005***	<0.001	0.005***	<0.001
Marital status			0.027***	0.004	0.025***	0.004	0.025***	0.004
Education			-0.064***	0.001	-0.063***	0.001	-0.063***	0.001
Average education			-0.123***	0.029	-0.127***	0.029	-0.127***	0.029
Prop. of Chr. * Belong to Chr. Den.							-0.042	0.071
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.417***	0.002	0.415***	0.002	0.415***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.017***	0.003	0.016***	0.003	0.016***	0.003
Belong to Chr. Den. level 1 variance					0.003***	0.001	0.003***	0.001
Intercept level 2 variance (country)	0.083***	0.022	0.112***	0.027	0.122***	0.030	0.122***	0.030
Belong to Chr. Den. level 2 variance					0.006***	0.002	0.007***	0.002

p < 0.05. *p < 0.001.*

Table A10*Models for hypothesis 3 with X₃ and Z₃.*

	Null model		Model with fixed effects		Model with fixed and random effects		Full model	
Parameter	B	SE	B	SE	B	SE	B	SE
Fixed								
Intercept	2.545***	0.050	2.960***	0.230	2.937***	0.228	2.944***	0.228
Belong to Chr. Denom.			0.036***	0.005	0.029*	0.013	0.028*	0.013
Proportion of Christians			0.450*	0.184	0.479*	0.184	0.468*	0.184
Religious commitment			0.091***	0.003	0.089***	0.007	0.147***	0.026
Sex			-0.127***	0.004	-0.124***	0.004	-0.124***	0.004
Age			0.004***	<0.001	0.004***	<0.001	0.004***	<0.001
Marital status			0.023***	0.004	0.020***	0.004	0.020***	0.004
Education			-0.063***	0.001	-0.063***	0.001	-0.063***	0.001
Average education			-0.119***	0.029	-0.117***	0.029	-0.116***	0.029
Prop. of Chr. * Ind. rel. commit.							-0.080*	0.034
	Variance component	SE	Variance component	SE	Variance component	SE	Variance component	SE
Random								
Residual	0.450***	0.002	0.413***	0.002	0.410***	0.002	0.410***	0.002
Intercept level 1 variance (country-wave)	0.035***	0.006	0.017***	0.003	0.016***	0.003	0.016***	0.003
Belong to Chr. Den. level 1 variance					0.003*	0.001	0.003*	0.001
Religious commitment level 1 variance					0.001***	<0.001	0.001*	<0.001

Intercept level 2 variance (country)	0.086***	0.022	0.103***	0.025	0.107***	0.026	0.107***	0.026
Belong to Chr. Den. level 2 variance					0.004***	0.001	0.004*	0.001
Religious commitment level 2 variance					0.001***	<0.001	0.001*	<0.001

* $p < 0.05$. *** $p < 0.001$.