Religion as Reassurance? Testing the Insecurity Theory in 26 European Countries

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Abstract: In this article, we extend insecurity theory by examining the influence of various kinds of insecurities on religiosity. Religiosity is operationalized in terms of a public dimension (church attendance) and a private dimension (subjective religiosity). Using data from four rounds of the European Social Survey (ESS, 2002–2008) on 26 European countries, we find strong support for the main hypothesis of insecurity theory that higher levels of insecurity are associated with increasing religiosity. Furthermore, it appears that all kinds of insecurities play a role. Specifically, we find, among others, that religiosity is higher among people who have an insecure job position, whose parents were unemployed, whose parents had a lower status job, who have experienced a war in their own country, who have lost their partner, and who reside in a country with lower social welfare spending and a higher unemployment rate. On a more general level, it is concluded that both (i) economic and existential; (ii) past and present; and (iii) individual and contextual insecurities are important in explaining (cross-national) variation in religiosity.

Introduction

Why are some individuals more religious than others? In this article, we study the insecurity theory, which provides an answer to this question. The insecurity theory, originally proposed by Norris and Inglehart (2004), is grounded on the hypothesis that the more insecure people feel, the more religious they will be. Norris and Inglehart argued that the level of personal insecurity affects the level of stress and danger people experience. In turn, the more anxiety one experiences, the less one is capable of envisaging what will happen, which enhances the need for religious ideologies. Religious ideologies provide people with predictable rules to help them cope with dangers and immediate problems: a supernatural force or god ensures that in the end everything will turn out well—either presently or in a possible future afterlife. Hence, under conditions of greater insecurity, people are more inclined to follow the rules posed by religious ideologies, leading to more traditional religious values. Furthermore, insecurity theory states that the increasing importance of religious values will lead to an increase in participation in religious practices (*i.e.* church attendance, praying, and participation in ceremonies).

In line with insecurity theory, Norris and Inglehart (2004) found that lower levels of human development and higher levels of socio-economic inequality—two core conditions of economic insecurities in a country—are positively associated with religious participation and frequency of prayer. Norris and Inglehart (2004) used data from the World Value Survey on 76 countries. Subsequent cross-national studies also found that socio-economic inequality, as well as social welfare spending, were associated with religiosity (Gill and Lundsgaarde, 2004; Rees, 2009; Ruiter and Van Tubergen, 2009). The importance of societal economic insecurities was also observed in a longitudinal study. Using panel data, Chen (2010) showed that after the financial crisis Indonesian people studied the *Koran* more often and people sent their children to Islamic schools more frequently than before the economic crisis.

Whereas findings on the role of contextual economic insecurities (*e.g.* income inequality) are consistently in line with insecurity theory, evidence on individual economic insecurities (*e.g.* unemployment and income)

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is less consistent. Some studies found that people in more insecure economic conditions are more religious (*e.g.* Ruiter and Van Tubergen, 2009), other studies have not found this relationship (*e.g.* Te Grotenhuis, De Graaf and Peters, 1997). Furthermore, insecurities are not only of an economic nature, they can also be existential (*e.g.* experience of war, threats of terrorism, loss of partner or child). Few studies, however, have addressed the effect of existential insecurities on religiosity (*e.g.* Sosis, 2007; Ruiter and Van Tubergen, 2009).

At present, the insecurity theory is in need of development, both theoretically and empirically. To begin, it is unclear whether only economic insecurities are important for religious behaviour, or that existential insecurities also play a role—and possibly even more so than economic conditions. Also, past research has paid little attention to differences in personal experiences of insecurity *vis-à-vis* insecurities that affect the entire population. For instance: do people become more religious when they are unemployed themselves, or when the unemployment rate in their own country increases? Finally, the time dimension has been addressed implicitly in prior research. Does it matter whether people are currently confronted with an insecure condition or that they have (ever) experienced insecurity in the past?

This article aims to contribute to the literature by developing and testing insecurity theory more systematically. We explicitly distinguish between various kinds of insecurities, and include indicators of each type of insecurity in our analysis. Thus, we distinguish between insecurities that are individual and contextual, between economic and existential insecurities, and between past and present insecurities. We simultaneously test various dimensions of insecurity and explore their importance in explaining religiosity. We test hypotheses examined before, but we also derive and test new hypotheses by using the European Social Survey (ESS): a high-quality, standardized, cross national survey conducted in 32 European nations and Israel. We utilize the first four rounds of the ESS, which were conducted in 2002, 2004, 2006, and 2008.

Theory and Hypotheses

To investigate which type of insecurity condition is important in explaining religiosity, we first distinguish between two dimensions of insecurity: *economic* and *existential*. Economic insecurities refer to the position of the individual in the market economy (Vail, 1999). Examples are one's level of income and employment status, but also the unemployment rate and the level of social welfare spending within one's country. Existential

insecurities are concerned with conditions that confront people with life-threatening situations or death of significant others. For instance, the personal experience of a war and death of a friend give rise to insecurities of everyday existence and fear of death.

Another distinction is that between past and present insecurities. Norris and Inglehart (2004) stress that religious values are acquired early in life, during one's childhood, as part of the socialization process. They argued that these *past* conditions have an enduring impact on one's current religiosity, because they shape the demand for religion and the importance people attach to religious values. In addition, Norris and Inglehart implicitly acknowledged that *present* insecurities might affect one's current religiosity, *e.g.* major natural disasters can cause a sudden widespread resurgence of insecurity. In their study and that of others, however, it was not examined empirically whether past or present conditions of insecurity are more important for religiosity. In this article, we try to examine more systematically the role of past and present conditions of insecurity.

In addition, we anticipate that insecurities can arise from both *individual* and *contextual* conditions. For instance, when people are unemployed they are in an insecure personal situation, leading to higher levels of religiosity as compared to people who have a job. Over and above such individual situations, however, one could become insecure when other people in the environment are unemployed. Thus, if the unemployment rate in a country is high, people are more often confronted with unemployed friends and relatives, thereby confronting people with the insecurity of others and a possible insecure condition in their own future as well (*i.e.* employed people could become unemployed as well). We develop hypotheses on both individual and contextual conditions related to insecurity.

In the following, we formulate the hypotheses derived from insecurity theory. Clearly, the proposed systematization is still of a general nature and we admit that a complete analysis of all insecurities that might affect religiosity is close to impossible. Nevertheless, we hypothesize about conditions of insecurity that have been studied in earlier research and, moreover, we hypothesize about conditions that have not been studied before. In Table 1, we present an overview of all our hypothesized effects on religiosity.

Economic Insecurities

The first dimension that we consider is economic insecurity. Different individual and contextual conditions of economic insecurities can be distinguished. We start

Table 1 Overview of all hypothesized effects on religiosity

Type of insecurity	Level	Time perspective	
		Past	Present
Economic			
1. Employment	Individual	+	+
2. Social welfare spending	Contextual		−
3. Unemployment rate	Contextual		+
Existential			
4. Health	Individual		−
5. Loss of partner	Individual	+	
6. Threat of terrorism	Individual		+
7. Experience of war	Contextual	+	

by discussing the individual conditions and then turn to the contextual conditions.

A core indicator of people's economic security is their employment status. People who are employed have a more economic secure position than those who are unemployed or inactive (Ruiter and Van Tubergen, 2009). People's individual economic position is also determined by the employment status of their partner. The decision to work is often made at the household level, and the job status of the spouse is therefore important to consider. We assume that when the partner is employed, people have an economically more secure position. Hence, we hypothesize that:

H1a: The better one's current economic position (i.e. being employed, having an employed partner), the less religious one is

Concerning people's individual economic position we additionally expect that their level of insecurity is formed by their past economic situation. Following the emphasis of Norris and Inglehart (2004) on conditions of insecurity during childhood, we look at the employment status of the parents when people were young. When people grew up with parents who were unemployed, they have experienced more financial uncertainties than when they both worked. In addition, when people's parents had lower status jobs financial insecurities during childhood might have been more intense. Furthermore, past economic insecurities are shaped by people's own job history. Having been unemployed, especially for a long time period, could have created feelings of economic insecurities that endure. In summary, it is hypothesized that:

H1b: The better one's past economic situation (i.e. having employed parents during childhood, parents having higher

status jobs during childhood, no personal experience of unemployment), the less religious one is.

At the contextual level, we follow Norris and Inglehart (2004) and look at the importance of social welfare spending within a country as an important contextual economic condition. It is argued that the higher the level of social welfare spending in a country, the more secure people will be of income, even if unemployed, since they will be helped by the state in facing the daily financial problems (Ruiter and Van Tubergen, 2009). This pertains to both the poor and the rich: the poor people in a society with more welfare spending will have more economic securities than the poor in a more equal society. The rich experience more economic securities as well, because they are less confronted with the poverty of others in their country, and personally, when they lose their job they are secured by the state (Ruiter and Van Tubergen, 2009). Thus, in countries with more social welfare spending, there will be more widespread feelings of economic security. Accordingly, we hypothesize:

H2: The higher the current level of social welfare spending within a country, the more religious one is.

Lastly, the unemployment rate in a country is expected to affect religiosity (Chen, 2010). In times of economic downturn many people lose their job and income, creating feelings of insecurity even among those not directly affected. Thus, the more unemployed people in one's surroundings, the higher will be the experience of insecurity of others in people's environment as well the threat of losing one's own job. It is hypothesized that:

H3: The higher the unemployment rate in a country, the more religious one is.

Existential Insecurities

The second dimension is existential insecurity, *i.e.* the insecurities that arise when people are confronted with death and life-threatening situations. We first discuss individual conditions of existential insecurity, and then turn to societal conditions.

A condition related to feelings of existential insecurity is people's health. When people are sick or unhealthy, they more often experience the insecurity of existence and fear of death, and thus experience more stress and existential anxiety (Norris and Inglehart 2004). Hence, we hypothesize that:

H4: The healthier one currently is, the less religious one is.

Another individual existential condition that might affect people's religiosity is the loss of a person that is important in one's life (McIntosh, Silver and Wortman, 1993). Here, we examine the consequences of the death of one's partner. Brown *et al.* (2004) argued that the loss of a partner causes feelings of despair and existential stress. To cope with this stress, they maintained, people turn to religion. We therefore hypothesize that:

H5: People who lost their partner are more religious than people who never lost a partner.

Existential insecurities also arise when people believe that they will be a victim of a life-threatening crime or violent acts of others. In this study, we examine the possible consequences of people's expectations of being a victim of a terrorist attack in the nearby future. The 11 September suicide attacks in the United States (killing 2,976 people), the attack on the Atocha railway station in Madrid (March 2004, killing 191 people), the suicide bombers attack on one double-decker bus and three Underground trains in London (July 2005, killing 52 people) and many other successful and unsuccessful attacks have created feelings of existential threat in Europe, though individual differences in the experienced threat exist. We hypothesize that:

H6: The more strongly one believes that a terrorist attack is likely to happen in the nearby future in one's own country, the more religious one is.

We also hypothesize about existential insecurities that are more contextual in nature, *i.e.* conditions that affect the entire population. Here, we look at the impact of war, as a life-threatening contextual condition. Having experienced a war during one's life can have an enduring impact on people's existential insecurities (Norris and Inglehart 2004; Ruiter and Van Tubergen, 2009). In wartime, not only those people who are directly involved (most notably soldiers) become more confronted with the possibly of death, also those more indirectly involved experience stronger existential insecurities, as they can become more involved themselves in the future, and they are confronted with the death of relatives, friends and others in their environment. We hypothesize that:

H7: People who have ever experienced a war in their own country are more religious than those who have never experienced a war in their country.

Data and Methods

Data

We utilize the four available rounds from the ESS (European Social Survey Team 2010: 2002–2003, 2004–2005, 2006–2007, and 2008–2009). In total, 32 European countries and Israel participated at least in one of the four ESS rounds. Due to missing information on various contextual variables, we leave out respondents from Bulgaria, Cyprus, Croatia, Latvia, Portugal, Romania, and Ukraine of our analyses. The ESS is a standardized, cross-sectional, nationally representative survey, conducted in the years 2002, 2004, 2006, and 2008.[1]

The ESS is the result of the European Science Foundation's aim to obtain an adequate research instrument that enables cross-cultural comparison. Extensive attention has been paid to ensuring the methodological quality of the survey (Meuleman *et al.*, 2008). The questionnaire was translated into each native language, following rigorous procedures for cross-cultural surveys (see Harkness *et al.*, 2003: pp. 35–56). Respondents were selected by means of strict probability samples of the resident populations aged 15 years and older. Response rates are reasonably high for most countries, although some countries were not able to meet the target response of 70 per cent.[2] Since only a small portion of the respondents had missing data on various variables, we performed list-wise deletion. We include 149,790 respondent (N_1) from 26 countries (N_2) (see Supplementary Appendix A) in our analyses.

Dependent Variable

Religiosity has been operationalized such that the private and public dimensions of religiosity are captured (*e.g.* Aarts *et al.*, 2008). The private dimension is

measured by *subjective religiosity*, using the item: 'Regardless of whether you belong to a particular religion, how religious would you say you are?' Respondents could answer on a 10-point scale ranging from 'not at all religious' to 'very religious'. We treat this variable as a continuous variable.[3]

The public dimension has been operationalized by the *attendance* of religious services, using the following item: 'Apart from special occasions such as weddings and funerals, about how often do you attend religious services nowadays?' Respondents could answer on a 7-point scale that ranged from 'never' to 'every day'. Because of the U-shaped distribution of the variable, we constructed a dichotomous variable with values 1 'attend once a week or more' and 0 'attend less than once a week'.

Independent Variables: Individual Level

Economic insecurities

Employment status: Respondents were asked what their main activity has been during the last 7 days. Moreover, respondents indicated, if employed, whether they had an unlimited or a limited contract for their current occupation. Based on these two items we constructed the following dummy variables: 'employed, unlimited contract'; 'employed, limited contract'; 'unemployed, actively searching'; 'student'; and 'inactive'. The employed-categories include those who are employed and those who are in military service. The inactive-category includes those who are unemployed and not searching for a job (*e.g.* disabled, retired).

Employment status partner: Respondents were asked what the main activity of their partner has been during the last 7 days. Based on this item we constructed the following dummy variable with 0 'employed partner', and 1 'unemployed/inactive partner'.

Employment status father: This variable measures the employment status of the father when the respondent was 14-years old. Three dummy variables were created on the basis of this item: 'employed father', 'unemployed father', 'dead/absent father when 14'.

Employment status mother: This variable measures the employment status of the mother when the respondent was 14-years old. Three dummy variables were created on the basis of this item: 'employed mother', 'unemployed mother', 'dead/absent mother when 14'.

Occupational status parents: Respondent could indicate the kind of work their parents were doing when the respondent was 14 years old. This variable reports the highest status level of occupational status of the parents. Hence, if the father had an occupational status score of '26' and the mother '48', the respondent gets '48' on this variable. The reported occupations have been summarized in the ISEI occupational scale (Ganzeboom and Treiman, 1996), which is an interval variable. If both parents were unemployed, dead or absent, respondents were assigned the lowest occupational score (18) on this variable.

Unemployment history: This variable measures whether respondents have ever been unemployed. Based on this item we created the following three dummy variables: 'unemployed for a period of 0–3 months', 'unemployed for a period of more than 3 months, but less than 12 months', and 'unemployed for a period of more than 12 months'.

Existential insecurities

Good health: Respondents were asked: 'How is your health in general?' People could answer on a 5-point scale ranging from 'very bad' to 'very good'. Because of the left-skewed distribution of the variable, we created a dummy variable indicating whether one perceives one's health as 'bad' or 'good' (including fair to very good).

Marital status: This item measures whether respondents have ever lost a partner and is based on the item that asks for the marital status of the partner.[4] Respondents could indicate if they were widowed. Dummy variables were created for the 'widowed'-category and the other categories of marital status: 'have partner in same household (cohabiting/married)', 'separated', 'divorced', and 'single'.

Experience of war: This variable is a dichotomous variable indicating whether a person has once experienced a war (1 = yes, 0 = no). Based on the Correlates of War-database (COW, 1995), we assessed for all 26 countries in our data set whether in the past 100 years there has been a war.[5] Only people who were >4 years at the start of the war scored '1' on this variable.

Threat of terrorism: Only in round three and four of the ESS respondents were asked: 'Do you think that a terrorist attack somewhere in your country during the next twelve months is likely?' Respondents could answer on a 4-point scale ranging from 'not at all likely' to 'very likely'. We treat this variable as an interval variable.

Independent Variables: Contextual Level

Social welfare spending

This variable measures the level of public expenditure on social benefits and social transfers as a percentage of the GDP per country. We calculated the mean level of social welfare spending over the whole period of 2002–2008. We use data from the OECD (OECD, 2009). In additional analysis, we use socio-economic inequality as another measure of contextual economic insecurities

(*e.g.* Norris and Inglehart, 2004; Rees, 2009) and exclude social welfare spending for multicollinearity reasons. We use the Gini-coefficient, measured on the basis of the net disposable household income, for income inequality in the various countries and calculated the mean level of socio-economic inequality over the period of 2002–2006 (UNU-WIDER, 2008). A Gini of '0' means perfect equality and '100' means perfect inequality.

Unemployment rate

This measures the number of unemployed people as a percentage of the labour force in a country (people in a country aged between 15 and 64 years who are able and willing to work). We calculated the mean level of unemployment rate over the whole period of 2002–2008. We use data from the International Labour Organization (ILO, 2009).

We control for *gender*, *education* (the number of completed years of education, respondents with more than 25 years of education scored 25 on this variable), and *age* (age of respondent when interviewed). In Table 2, we present the descriptive statistics of all dependent, independent, and control variables.

Methods

We use multilevel methods that take into account the hierarchical nature of our data (Snijders and Bosker, 1999). Not accounting for the nesting of respondents in a country would lead to an underestimation of the standard errors. Because unemployment rates and the level of social welfare spending vary across countries but are fairly stable within countries over the time frame (2002–2008), we used countries as contextual-level units ($N_2 = 26$).

We use linear multilevel regression for subjective religiosity, as this is measured as a continuous variable. Since we transformed religious attendance into a dichotomous variable, we perform binary multilevel logistic regression as well (Rabe-Hesketh and Skondral, 2008). Furthermore, we will apply influential case analysis, because we have a limited number of higher level contextual units (*i.e.* 26 countries). Due to some influential higher level contextual units, multilevel modelling can provide potentially unreliable estimates (Van der Meer, Te Grotenhuis and Pelzer, 2010). Van der Meer *et al.* (2010) developed software to perform diagnostic tests (using the Cook's distance and the DFBETAS-measures) that assess whether certain countries are so influential that they might disturb the potential relationship between an independent and dependent variable. We applied this procedure and based on these diagnostics we excluded the influential

cases and performed our analyses again to check for robustness. We report the results of both analyses.

Results

In Table 3, we present the results of the linear multilevel regression of subjective religiosity and in Table 4, we present the findings of the multilevel binary logistic regression of church attendance. Given that the question on the threat of terrorism is only asked in the third and fourth round of the ESS, we perform a separate analysis on respondents from the third and fourth round to test our hypothesis concerning the relationship between threat of terrorism and religiosity (*H7*) (Table 5).

Economic Insecurities

In line with H1a, we find that the better one's current economic position, the less religious one is. Employed people with an unlimited (permanent) contract are significantly less religious than people who have a temporary contract, who are unemployed, who are student or who are inactive. Our models show statistically significant differences for both subjective religiosity and religious attendance. In terms of magnitude, however, we find that employed people score only slightly lower on the scale of subjective religiosity (*i.e.* 0.114–0.284, SD = 2.99). With respect to religious attendance, the differences are more pronounced (see Model 1, Table 4). Compared to people who have a permanent contract, those with a temporary contract have 15.1 per cent ($e^{0.141}$) higher odds to attend the church weekly (or more), those who are unemployed have 31 per cent higher odds, students have 81 per cent higher odds, and those who are inactive have 25 per cent higher odds. Also in line with H1a, the results indicate that having an unemployed or inactive partner, as compared to an employed partner, is positively related to subjective religiosity (0.128 higher score) and the likelihood of attending church (24 per cent higher odds).

In line with H1b, we find that the worse one's past economic position during childhood, the more religious one currently is. Having an unemployed father during one's childhood—instead of having an employed father—is associated with a higher level of current religiosity (0.170 higher score) and 18 per cent higher odds to attend church weekly. Likewise, having an unemployed mother—instead of an employed mother—during one's childhood shows a general higher level of current religiosity (0.242 higher) and a higher likelihood to attend church weekly (the odds are 15 per cent higher). Note that we also find that the absence of a father during childhood is negatively related with both

Table 2 Descriptive statistics of dependent, independent and control variables

	Range	Mean (SD)
Subjective religiosity	0–10	4.85 (2.99)
Weekly religious attendance	0/1	0.17
Individual level		
Employment status		
Employed, unlimited contract	0/1	0.42
Employed, limited contract	0/1	0.08
Student	0/1	0.09
Unemployed	0/1	0.03
Inactive	0/1	0.38
Employment status partner		
No partner	0/1	0.46
Employed partner	0/1	0.27
Unemployed/inactive partner	0/1	0.28
Employment status father when 14		
Employed father	0/1	0.90
Unemployed father	0/1	0.04
No father	0/1	0.06
Employment status mother when 14		
Employed mother	0/1	0.50
Unemployed mother	0/1	0.48
No mother	0/1	0.02
Occupational status parents when 14	18–68	39.36 (15.69)
Ever been unemployed		
Never	0/1	0.76
Period of 3–12 months	0/1	0.14
Period of >12 months	0/1	0.11
Good health	0/1	0.92
Marital status		
Have partner	0/1	0.55
Have partner, separated	0/1	0.01
Divorced	0/1	0.08
Single	0/1	0.27
Widowed	0/1	0.09
War experience	0/1	0.21
Threat of terrorism in own country[a]	1–4	2.28 (0.85)
Education completed (in years)	0–26	11.89 (4.14)
Age (in years)	15–99	46.50 (18.31)
Female	0/1	0.53
Country level		
Social welfare spending (in per cent)	10.1–28.7	21.37 (4.71)
Unemployment rate (in per cent)	3.1–15.0	7.21 (3.15)

All continuous variables are mean centered in the analysis.
[a]*This information is based on rounds 3 and 4 of the ESS. In these two rounds together $N_1 = 65,266$ and $N_2 = 22$.*

subjective religiosity and weekly attendance, which is surprising since this can be interpreted as more insecure experiences. Regarding the occupational status of the parents during childhood, we also find confirmative evidence for both dimensions of religiosity, but the effect sizes are small. A one standard deviation increase in the occupational status of the parents is associated with a decrease on the religiosity scale of 0.06 and 5 per cent ($1-e^{-0.003*15.69}$) lower odds of attending church weekly.

Table 3 Multilevel regression of subjective religiosity in 26 European countries, and after exclusion of influential countries in 22 countries[a]

	Model 1: all countries		Model 2: without influential countries		Confirmed?
	b (SE)		b (SE)		
Intercept	4.583**	(0.191)	4.515**	(0.191)	
Individual variables					
Employment status					
Employed, unlimited contract (ref.)	–	–	–	–	
Employed, limited contract	0.141**	(0.028)	0.149**	(0.029)	+
Unemployed	0.114**	(0.041)	0.095*	(0.045)	+
Student	0.284**	(0.031)	0.284**	(0.033)	
Inactive	0.208**	(0.020)	0.213**	(0.021)	+
Employment status partner					
Employed (ref.)	–	–	–	–	
Unemployed/inactive	0.128**	(0.021)	0.131**	(0.022)	+
Employment status father when 14					
Employed (ref.)	–	–	–	–	
Unemployed	0.170**	(0.037)	0.191**	(0.042)	+
No father	−0.111**	(0.030)	−0.090**	(0.032)	
Employment status mother when 14					
Employed (ref.)	–	–	–	–	
Unemployed	0.242**	(0.016)	0.251**	(0.017)	+
No mother	0.007	(0.048)	0.032	(0.052)	
Occupational status parents when 14	−0.004**	(0.001)	−0.003**	(0.001)	+
Unemployment history					
Never been unemployed (ref.)	–	–	–	–	
Unemployed 3–12 months	−0.169**	(0.021)	−0.172**	(0.022)	−
Unemployed for >12 months	−0.178**	(0.024)	−0.197**	(0.026)	−
Good health (1 = yes)	−0.104**	(0.027)	−0.113**	(0.030)	+
War experience (1 = yes)	0.164**	(0.027)	0.178**	(0.029)	+
Marital status					
Have partner	−0.167**	(0.032)	−0.162**	(0.034)	+
Have partner, separated	−0.525**	(0.064)	−0.480**	(0.068)	+
Divorced	−0.584**	(0.037)	−0.600**	(0.039)	+
Widowed (ref.)	–	–	–	–	
Single	−0.582**	(0.035)	−0.594**	(0.038)	+
Education (in years)	−0.037**	(0.002)	−0.034**	(0.002)	
Age	0.015**	(0.001)	0.016**	(0.001)	
Female	0.847**	(0.015)	0.860**	(0.016)	
Contextual variables					
Social welfare spending (%)	−0.063	(0.040)	−0.062	(0.049)	−
Unemployment rate (%)	0.089	(0.060)	0.069	(0.069)	−
Random part					
R^2 (individual level)	0.08		0.08		
R^2 (contextual level)	0.26		0.21		
R^2 (total)	0.12		0.10		
N_2	26		22		
N_1	149,790		134,500		

$**P < 0.01$, $*P < 0.05$ (one-tailed tests). +hypothesis confirmed, −hypothesis not confirmed.
[a]Influential countries are: Estonia, Iceland, Poland, and Turkey. These countries have a value of df beta that exceeds $2/\sqrt{N_2}$ and are therefore influential. These evaluations are based on the diagnostic tests as prescribed by Van der Meer et al. (2010). Packages for the diagnostic tests in R or MlWin are available on their website.

Table 4 Multilevel logistic regression of weekly religious attendance in all 26 European countries, and after exclusion of influential cases in 23 countries[a]

	Model 1: all countries b (s.e.)		Model 2: without influential countries b (s.e.)		Confirmed? (+/−)
Intercept	−2.416**	(0.173)	−2.396** (0.134)		
Individual variables					
Employment status					
Employed, unlimited contract (ref.)	−	−	−	−	
Employed, limited contract	0.141**	(0.032)	0.181** (0.037)		+
Unemployed	0.267**	(0.048)	0.317** (0.053)		+
Student	0.594**	(0.037)	0.553** (0.042)		
Inactive	0.227**	(0.022)	0.246** (0.024)		+
Employment status partner					
Employed (ref.)	−	−	−	−	
Unemployed/inactive	0.212**	(0.023)	0.264** (0.025)		+
Employment status father when 14					
Employed (ref.)	−	−	−	−	
Unemployed	0.162**	(0.038)	0.227** (0.041)		+
No father	−0.116**	(0.033)	−0.086** (0.037)		
Employment status mother when 14					
Employed (ref.)	−	−	−	−	
Unemployed	0.143**	(0.018)	0.149** (0.019)		+
No mother	−0.015	(0.052)	0.034 (0.056)		
Occupational status parents when 14	−0.003**	(0.001)	−0.001* (0.001)		+
Unemployment history					
Never been unemployed (ref.)	−	−	−	−	
Unemployed 3–12 months	−0.228**	(0.026)	−0.200** (0.029)		−
Unemployed for >12 months	−0.221**	(0.027)	−0.187** (0.031)		−
Good health (1 = yes)	0.227**	(0.028)	0.172** (0.030)		−
War experience (1 = yes)	0.166**	(0.027)	0.180** (0.029)		+
Marital status					
Have partner	−0.122**	(0.031)	−0.189** (0.034)		+
Have partner, separated	−0.446**	(0.075)	−0.443** (0.084)		+
Divorced	−0.785**	(0.045)	−0.810** (0.048)		+
Widowed (ref0.)	−	−	−	−	
Single	−0.342**	(0.037)	−0.358** (0.040)		+
Education (in years)	−0.018**	(0.002)	−0.017** (0.002)		
Age	0.017**	(0.001)	0.016** (0.001)		
Female	0.311**	(0.017)	0.277** (0.018)		
Contextual variables					
Social welfare spending (%)	−0.055	(0.036)	−0.069** (0.029)		−/+
Unemployment rate (%)	0.145**	(0.054)	0.123** (0.046)		+
Random part					
R^2 (total)	0.01		0.00		
N_2	26		23		
N_1	149,790		134,009		

**P < 0.01, *P < 0.05 (one-tailed tests). +hypothesis confirmed, −hypothesis not confirmed.
[a]Influential countries are: Estonia, Ireland, and Poland. These countries have a value of dfbeta that exceeds $2/\sqrt{N_2}$ and are therefore influential. These evaluations are based on the diagnostic tests as prescribed by Van der Meer et al. (2010).

Table 5 Multilevel regression of subjective religiosity (linear) and religious attendance (logistic) for all European countries available in ESS-round 3 and 4[a]

	Model 1: subjective religiosity b (SE)		Model 2: religious attendance b (SE)		Confirmed? (+/−)
Threat of terrorism own country	0.075**	(0.015)	0.044**	(0.017)	+
N_2	22		22		
N_1	65,266		65,266		

**$P < 0.01$ (one-tailed tests).
[a]Results of multilevel-regression when controlled variables included in Tables 3 and 4.

In contrast with *H1b*, however, we do not find that the worse one's personal employment background, the more religious one currently is. On the contrary, our results show that persons who were unemployed for a period of 3–12 months or longer are currently less religious than those who have never been unemployed. This negative relationship is found for both subjective religiosity and church attendance.

With respect to *H2*, the results reported in Tables 3 and 4 seem to show no evidence that the level of social welfare spending is negatively associated with either subjective religiosity or church attendance. However, these findings are driven by some countries, because after exclusion of influential countries, we do find a negative association of social welfare spending with weekly attendance (Model 2, Table 4), which is in line with *H2*. In standardized terms, we find that 1 SD increase in social welfare spending is related to 28 per cent $(1-e^{-0.069*4.71})$ lower odds of weekly attendance. Since no relationship between welfare spending and subjective religiosity is found, we conclude that there is only partial evidence for *H2*.[6]

Regarding *H3*, we find some evidence that unemployment rate is positively associated with people's religiosity. A higher unemployment rate is not associated with higher levels of subjective religiosity. However, we find a pronounced negative relationship between unemployment rate in a country and weekly attendance: the odds of attending the church weekly increase with 58 per cent with a one standard deviation increase in the unemployment rate. Thus, overall we find partial evidence for *H3*.

Existential Insecurities

We postulated various hypotheses regarding the relationship of existential insecurities and religiosity. To start, we hypothesized that the healthier one is, the less religious one would be *(H4)*. In line with our hypothesis, we find that people who perceive their health as good score lower on the subjective religiosity scale than people with a bad health (0.104 lower). For weekly church attendance, we find the opposite: people who perceive themselves as healthy are more likely to attend church weekly than people who perceive themselves as having a bad health (the odds are 25 per cent higher). This is opposite to what we expected. One possible reason could be that although people with a bad health are more religious (*i.e.* subjective religiosity), they are more constrained to attend religious meetings frequently than people who are healthy.

In line with expectations, the results show that people who lost their partner (the widowed) are more religious than people who have never lost a partner *(H5)*. Taking the widowed category as the reference, we find that this group scores significantly higher in terms of both subjective religiosity and church attendance as compared to those who are cohabiting, separated, divorced, or single. Hence, persons who once lost their spouse are on average more religious than persons who never experienced such a loss. It should be emphasized that this relationship is found even after controlling for age and other associated factors like health, socio-economic background, employment, and gender. Furthermore, although some categories of marital status are more likely found among people who are less religious (*e.g.* divorced), the fact that all categories are less religious than the widowed group provides strong evidence for *H5*.

We hypothesized that the experience of a war, which is an insecure and uncontrollable situation, is positively associated with religiosity *(H7)*. Inspecting the results tells that there is indeed a significant positive association of experience of war with religiosity. Those who experienced a war perceive themselves as more religious (0.164 higher score) and they have a 18 per cent higher odds of attending church at least once every week, compared to those who never experienced a war in their own country.

Since the items concerning the threat of terrorism were only asked in rounds 3 and 4 of the ESS, we needed to perform a separate analysis to test the hypothesis about the threat of terrorism. In Table 5, we present the results of the analysis in which only respondents and countries from rounds 3 and 4 of the ESS were included ($N_1 = 65,266$; $N_2 = 22$).

It was hypothesized that the more one believes that a terrorist attack is likely to happen in the nearby future, the more religious one is (*H6*). Our results indeed show statistically significant associations with both private and public aspects of religion. However, the effect sizes are small. More specifically, a 1 SD increase in the scale that measures people's threat of terrorism in the nearby future, is associated with a 0.075 higher score on the scale of subjective religiosity, and 4 per cent higher odds of attending church once a week or more.

Model Comparison

To further assess the importance of various dimensions of insecurity, we compared the explained power of models that separately included the various types of insecurities (Table 6). We focus on the explained variance of subjective religiosity, since the measures of explained variance for the logistic methods (*i.e.* weekly church attendance) are controversial (Snijders and Bosker, 1999).

Using multilevel linear regression of subjective religiosity, we find that in an empty model (Table 6, Model 1), the variance at the country-level is 1.19 and the variance at the individual level is 7.79. This results in an intra-class correlation of $\rho = 0.13$,[7] which indicates

that 13 per cent of the variation in subjective religiosity is due to the country combination in which people live and 87 per cent has to do with individual differences. Following Snijders and Bosker (1999: p. 46), the contextual variance observed here is reasonable, given that, for example, in educational research ρ-values between 0.05 and 0.20 are common. Model 2 of Table 6 shows that our control variables already explain some of the total variance of religiosity ($R^2_{total} = 0.065$).

In Models 3 and 4, we compare the explained variances of religiosity when including measures of economic and existential insecurities, respectively. We learn from this comparison that economic insecurities contribute somewhat more ($R^2_{total} = 0.104$) to the explanation of subjective religiosity than existential insecurities ($R^2_{total} = 0.073$). The differences are, however, small and it should be noted that we included more measures of economic insecurity than of existential insecurity. Therefore, we tentatively conclude that economic insecurities are somewhat more important for subjective religiosity than existential insecurities.

In Models 5 and 6, the relative importance of past and present insecurities in explaining religiosity are compared. We find that the present insecurities explain somewhat more of the variance ($R^2_{total} = 0.095$) of subjective religiosity than past insecurities ($R^2_{total} = 0.083$). These are, however, minor differences. Based on these results, we conclude that present and past insecurities are equally important in explaining religiosity.

Lastly, we compare individual and contextual insecurities. We find that by including all measures of

Table 6 Model comparisons of subjective religiosity

Including:	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept	X	X	X	X	X	X	X	X
Control variables		X	X	X	X	X	X	X
Economic insecurities			X					
Existential insecurities				X				
Past insecurities					X			
Present insecurities						X		
Individual insecurities							X	
Contextual insecurities								X
Random part								
σ^2_e	7.792	7.233	7.184	7.192	7.167	7.211	7.154	7.233
σ^2_{u0}	1.193	1.166	0.870	1.134	1.075	0.922	1.063	0.936
R^2 (individual level)	–	0.072	0.078	0.077	0.080	0.074	0.082	0.072
R^2 (contextual level)	–	0.023	0.254	0.049	0.099	0.227	0.109	0.215
R^2 (total)	–	0.065	0.104	0.073	0.083	0.095	0.099	0.091

X means that the set of variables is included in the model.

individual insecurities 9.9 per cent of the total variance of subjective religiosity is explained (see Table 6, Model 7). In Model 8, when we add only contextual insecurities, we find about the same explained variance (9.1 per cent). We tentatively conclude that subjective religiosity is about equally associated with individual and contextual conditions.

Conclusion and Discussion

In this article, we proposed various tests of the insecurity theory and examined whether it is a valuable theory to explain people's religiosity. We further specified as the main hypothesis of insecurity theory that higher levels of insecurity lead to a higher level of religiosity by evaluating which specific insecurity conditions are important in explaining variation in religiosity among countries. We introduced three distinctions: (i) between economic and existential insecurities; (ii) between past and present insecurities; and (iii) between individual and contextual insecurities. To test our hypotheses, we utilized the ESS that encompasses most of the European societies. Naturally, for each dimension more aspects can be thought of than examined here, and sometimes the distinction between different dimensions is not clear-cut (e.g. growing up in times of war leads to existential insecurities, but also to economic uncertainty). We therefore see our study as a beginning to more systematically hypothesize about and empirically test the impact of insecurities on religiosity.

When looking at the distinction between economic and existential insecurities, we generally find support that both forms of insecurity play a role in religiosity. We find that nearly all our indicators of economic and existential insecurities show the predicted association with religiosity, both private (subjective religiosity), and public (church attendance). Furthermore, economic insecurities seem to be somewhat more important in explaining religiosity than existential, though further research that includes more measures is needed.

When it comes to the distinction between past and present insecurities, our results seem to challenge the idea that insecurities experienced during people's childhood are more important in explaining religiosity than present insecurities. Although we find that past insecurities (such as employment status of the parents during childhood) are related to religiosity, present insecurities are equally strongly associated with one's religiosity. Therefore, these findings might pose questions to the original proposition of Norris and Inglehart (2004: p. 17), which stated that religiosity is formed during childhood and remains rather stable over time. On the

other hand, however, it is more difficult to adequately measure past insecurities, and our study possibly underestimates the role of insecurities people might have encountered in their youth. We therefore tentatively conclude that religiosity is a dynamic personal attribute that is related to both present and past conditions. This would imply that differences in religiosity are not only the result of socialization patterns (see e.g. Need and De Graaf, 1996), but are subject to change later in one's life, too.

Regarding the distinction between individual and contextual insecurities, we find that both individual and contextual insecurities are associated with religiosity and that with regard to subjective religiosity individual and contextual conditions are about equally important. Thus, we do not find evidence for the suggestion (Norris and Inglehart, 2004: p. 18) that contextual conditions are more important in explaining religiosity than individual conditions. Possibly, however, the role of contextual conditions (e.g. social welfare spending) is larger than estimated in our study, because European countries are quite similar to one another. In future research more (non-Western) countries and larger time periods should be analysed.

All in all, this study provides much evidence in favour of insecurity theory, as proposed by Norris and Inglehart (2004) and developed further by other authors and in this study. However, the theory needs to be developed further and our results also pose various scientific puzzles. To start, we find that people who have been unemployed are less religious than those who have never been unemployed, whereas we expected the opposite. Further research, using panel data, is needed to assess more precisely the impact of the job history on religiosity. A second unexpected outcome of our study is that we sometimes find differential effects for church attendance and subjective religiosity. Most prominently, it appears that social welfare spending and unemployment rate are significantly associated with religious attendance, but no relationship is found with regard to subjective religiosity. Possibly, this is due to the few cases at the contextual level and the little variation in terms of unemployment rate and welfare spending across countries.

Another, more substantive reason, could be that in insecure times people go to religious communities not only for the need for predictability and reassurance—as postulated by the main mechanism of insecurity theory—but also because these provide tangible goods, such as food and clothes, and intangible goods, such as social support and social capital (Te Grotenhuis, De Graaf and Peters, 1997; Scheve and Stasavage, 2005, 2006; Dehejia, DeLeire and Luttmer, 2007), making the

relationship between economically insecure conditions and religious attendance particularly strong. Further research could examine this possibility in more detail by further differentiating between public and private dimensions of religion. Next to subjective religiosity, one could study other private aspects of religion, such as religious beliefs and values, and besides religious attendance it would be interesting to look at church membership, and various kinds of religious activities and involvement.

Supplementary Data

Supplementary Data are available at *ESR* online.

Notes

1. A drawback of the ESS data is that they are cross-sectional. This means that reverse causality and spurious effects may play a role. We have tried to minimize these problems by leaving out variables that are likely to be affected by religion (*i.e.* reverse causality) and by considering adequate controls, but results should be interpreted with the usual caution.
2. Information on non-response and data collection is on the website: http://www.europeansocialsurvey.org.
3. To check for robustness, we transformed the religiosity scale into a dichotomous variable (original scores $0–5 = 0$; $6–10 = 1$). The multilevel binary logistic regression analysis showed that all findings are stable and robust.
4. Unfortunately, we were not able to disentangle whether a respondent ever lost a partner and then remarried/re-cohabited. This group is thus misclassified.
5. Various wars took place in the countries under study: the Second World War (1939–1945, all European countries, except for Spain, Switzerland, and Sweden), the Hungarian Revolution (1956, Hungary); Turkey-Cypriote War (1974, Turkey and Cyprus); Ten Day War (1991, Slovenia); and various wars in Israel.
6. In additional analyses, we included socio-economic inequality (Gini-coefficient) instead of social welfare spending and obtain highly similar results. After exclusion of influential countries, we find a statistically significant positive association between inequality and religious attendance [standardized effect is 38 per cent $(e^{0.062 \ast 5.140})$] and no relation between inequality and subjective religiosity.
7. The intra-class correlation ρ is calculated by: $\rho = \sigma^2_{u0} \, / \, (\sigma^2_{u0} + \sigma^2_{e})$, where σ^2_{u0} is the variance at the country level and σ^2_{e} is the variance at the individual level.

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