The Changing Influence of Societal Culture on Job Satisfaction across Europe

Abstract

We contribute to the growing multidisciplinary body of literature on subjective well-being by investigating the longitudinal stability and impact of societal cultural values (SCVs) – as opposed to the more common organisational values – on job satisfaction. It is assumed that SCVs evolve slowly; hence, their impacts on job satisfaction are likely to remain stable over time. False adherence to this assumption could cause misalignment between organisational policies/practices and expectations formed by societal culture, lowering job satisfaction and adversely impacting on productivity, competiveness and prosperity. We use four waves of the European Values Study to examine whether SCVs have evolved and their impacts on job satisfaction over a relatively short time period: 1981 to 2008.

We parameterise SCVs through reference to traditional vs secular-rational, and survival vs self-expression value continuums. Results indicate that the strength of many SCVs has declined, the impacts of traditional societal values on job satisfaction have remained fairly constant and the impacts of survival societal values on job satisfaction have declined substantially over this sample period. These reductions in SCVs amplify the importance of accounting for such changes when designing new or adjusting existing policies/practices to enhance job satisfaction and stimulate improvements in productivity, competitiveness and prosperity.

Keywords: societal culture, job satisfaction, traditional values, survival values, productivity

Introduction

Employers can achieve higher productivity and greater returns from their workforces by enhancing job satisfaction, capitalising on greater motivation levels and mitigating the effects of withdrawal behaviours and attitudes. The extant literature points to a close link between job satisfaction and productivity (Miller and Monge, 1986; DuBrin, 1991), a critical determinant of competitiveness (Husband and Ghobadian, 1981; Muellbauer, 1986, 1991) and prosperity (Bernolak, 1997; Lee and Tang, 2000). Not surprisingly, job satisfaction is a popular research topic due to its pervasive nature and multilayered impact.

Although the current body of research aimed at identifying determinants of job satisfaction is of undoubted value (e.g. Gaspay *et al*., 2008), the influence of societal culture – a pervasive and critical external phenomenon that shapes the values and beliefs of individuals – on job satisfaction has been largely overlooked. This is of concern from both theoretical and practical perspectives. The dominant theory suggests that societal culture is time invariant; hence, the assumption of neutral impact on job satisfaction. If false, adherence could result in misalignment between firms' policies/practices and employee expectations shaped by societal culture, adversely affecting job satisfaction and leading to lower productivity, reduced competitiveness and less than desired prosperity. Significant changes in the external environment such as globalisation, increased international movement of labour, and changes to the retirement age, further test the stability theory. Coyle-Shapiro and Shore (2007) postulated that major external environmental changes speed up the evolution of societal cultural values, altering the relationship between the organisation and its employees and affecting employees' responses to an organisation's policies and practices. If true, then managers face a challenge.

Societal culture is commonly defined as a system of shared values, beliefs and behavioural norms, which is learned and passed from one generation to the next through the

laws, policies and actions of a society (Aycan *et al.*, 2000; Thomas *et al.*, 2010). Oyserman (2001) suggests that cultural identities are not formed in isolation, but within a broader set of social values, norms and beliefs, which are shared with others within that context. Societal cultural values underlie people's attitudes and behaviour (Sengupta and Sinha, 2005). They help individuals to establish priorities (Miller *et al.*, 1990), determine right from wrong, or desirable from undesirable behaviour (Ball-Rokeach, 1973) and make sense of situations they encounter (Fiske and Taylor, 1991). This paper explores the longitudinal evolution of societal cultural values, testing their time invariance, and assessing changes in their impacts on job satisfaction across Europe over the period 1981 to 2008. As a by-product we also examine the relationship between job satisfaction and socio-demographic factors as well as work-related characteristics over three decades.

Organisations are open systems interacting with formal and informal institutions (Daft, 2007). Societal culture is among the key informal institutions (North, 1990). Researchers have examined attempts by multinational enterprises to account for societal cultural differences across their foreign subsidiaries (Luthans, 1993; Wasti, 1998). Other studies have shown that societal culture impacts on the motivation of public service employees (Ritz and Brewer, 2013), performance appraisal practices (Peretz and Fried, 2012), reward alignment (Magnusson *et al.*, 2014), success of exploratory innovations (Muller *et al.*, 2013) and employee–organisation relationships (Fitzsimmons and Stamper, 2014). Furthermore, other studies have examined the job–life satisfaction balance using societal cultural values (Georgellis and Lange, 2012).

Empirical studies examining the link between societal culture and job satisfaction are less common. Arguably this line of research has been hampered by the subjective nature of the two concepts, as well as the scarcity of appropriate data measuring societal cultural values. Although these issues are omnipresent, progress has been made in effectively

measuring a range of cultural values that shape a society's cultural identity (Inglehart and Baker, 2000; Inglehart, 2006) through the use of cross-country data sets, for example the European Values Study (EVS, 2014). Such progress has led to empirical investigations demonstrating the link between societal cultural attitudes and job satisfaction (Hui *et al.*, 1995; Huang and Van de Vliert, 2004; Fargher *et al.*, 2008; Lange, 2009; Van der Westhuizen *et al.*, 2012). Although these studies provide valuable snap shots, there is a paucity of longitudinal empirical research examining this relationship and, as pointed out, this is an important gap.

The aim of this paper is to empirically examine the: (i) longitudinal stability of cultural values; (ii) effect of cultural values on job satisfaction; (iii) the longitudinal relationship between cultural values and job satisfaction. Societal culture is parameterised by following the approach of Inglehart and Baker (2000). Additionally, all four waves of EVS are incorporated in this study to allow for comparisons to be made over the period 1981 to 2008. This study offers to organisations the potential of better understanding the importance of accounting for the likely evolution of societal cultural values when adjusting or developing policies as alignment could lead to higher levels of job satisfaction, boosting productivity, competitiveness and prosperity.

The rest of the paper is structured as follows. In the next section we review the pertinent literature and offer key theoretical insights. This is followed by a discussion of data and methodology. We finish with a discussion of key conclusions and implications for theory and practice.

Literature review and theory

Job satisfaction

Although extensively researched, much debate surrounds the meaning of job satisfaction. At the centre of this debate is the question of whether job satisfaction is determined by the characteristics of the job itself, within the mind of the employee, or through the interaction of the employee and their job (Locke, 1969). Through addressing such questions, Locke (1969, p. 316) defines job satisfaction as 'the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values'. In the context of this definition, Locke (1969, p. 320) defines values as 'that which a man actually seeks to gain and/or keep or considers beneficial'. His work also addresses value hierarchies, suggesting that individuals rank their values by importance and that ultimately individuals 'value some things more than others' (Locke, 1969, p. 328). Based on these definitions, it can be postulated that job satisfaction is a function of the perceived relationship between what an employee seeks to gain from their job and what the employee perceives their job to offer, as well as the relative importance of the value (Locke, 1969). The scope of this paper does not extend to a further development of Locke's (1969) theory; rather, it is well placed to empirically explore the following: (i) whether what one seeks to gain and/or keep, or considers beneficial as part of one's job, is influenced by societal culture, and (ii) whether value hierarchies remain constant over time (i.e. do individuals rate the relative importance of certain values consistently over an extended time period?).

On an empirical level, job satisfaction has become one of the most widely studied areas in organisational research due to its pervasive nature and multilayered impact; for example, the growing awareness of its relationship with withdrawal behaviours, such as absenteeism, lateness and drug abuse (Saari and Judge, 2004) and lower levels of productivity (Miller and Monge, 1986; DuBrin, 1991). Work by Hoppock (1937) and Kerr

(1948) laid the foundations for a flourishing multidisciplinary pursuit. Research continues towards identifying determinants of job satisfaction covering socio-demographic variables (e.g. gender, age and educational level), domain-specific variables such as dispositional influences (e.g. personality traits; see Judge and Bono, 2001), work situational influences (e.g. job challenge, being acknowledged; see Kovach, 1995), organisational policies (e.g. reward policy, performance management policies; see Fletcher and Williams, 1996; Mason, 1997; Helm, 2013; Saridakis *et al.*, 2013) and organisational capabilities (see Chiva and Alegre, 2009). Such empirical research is of immense value from an organisational perspective, informing the development of policies aimed at fostering higher levels of job satisfaction or assessing the value of policies.

Another stream of research has examined the relationship between organisational culture and job satisfaction. For example, job satisfaction has been shown to be positively related to organisational cultures characterised by clan and adhocracy typologies (Lund, 2003) as well as organisational cultures promoting fairness and opportunities for growth (Bellou, 2010). The next subsection explores culture in more detail.

What is culture?

Although a plethora of empirical research exists supporting the link between organisational culture and individual values and behaviour (Taylor *et al.*, 2008; Riggle *et al.*, 2009; Bellou, 2010) linking this to how societal cultural values can affect individual behaviour within an organisational setting has largely been neglected. Research on this front was initiated by Hofstede (1980) when he introduced a national cultural framework encompassing 50 countries in two survey rounds between 1967 and 1973 (Yamamura *et al.*, 2003). Within this framework, a set of cultural dimensions were developed to characterise the concept of national culture,[1] which was defined as 'the collective programming of the mind that

distinguished the members of one group or category of people from other' (Hofstede, 1980, p. 25).

Central to this framework is the argument that culture is like one's mental software, considerably stable in nature and a reliable predictor of how individuals within society are likely to think and act (Hofstede, 1991, 2001); this view is shared by others (e.g. Child, 1981; Hitt *et al.*, 2012). The 'stable' theory is based on the premise that the established institutions reinforce the societal norms and the ecological conditions that led to them (Hofstede, 2001, p. 12). There is limited empirical support, albeit dated, for this proposition (Smith *et al.*, 1996). Stable theory assumes that, societal cultural values can be viewed as a homeostatic quasi-equilibrium (Gaspay *et al.*, 2008) leading to the hypothesis that societal cultural values have a stable influence on job satisfaction over time even though there is no empirical support.

In contrast, some perceive societal culture as being more dynamic. For instance, Myers and Tan (2002) hold that culture is continually reinvented and in a constant state of flux, while Jones and Alony (2007) suggest that more research is needed to capture shifting cultural maps caused by globalisation. It is also argued that people are now operating within at least two national-based frames of cultural reference because of the homogenising effect of globalisation (Hewling, 2005) and potentially, due to the continuous exposure to new cultures, past cultural identities may have become diluted and ultimately reinvented.

The need for evidence to corroborate, or otherwise, these two contrasting theories is becoming increasingly pertinent, particularly as increasing globalisation, multiculturalism, and multigenerationalism disrupt societal cultural equilibria. Additionally, the assumption that institutions are immune from change, and act to reinforce societal norms and ecological conditions, is questioned (Lawrence *et al.*, 2002). These points are also noted by other scholars (Hewling, 2005; Jones and Alony, 2007). At the very least it is important to test this

theoretical perspective empirically; hence our research is a timely contribution to both theory and practice.

Our findings will provide the basis for more robust time-sensitive organisational strategies aimed at keeping a close alignment between organisational policies and evolving societal culture.

Concern has been raised regarding Hofstede's (1980) approach, as it largely refers to *work* values and whether work values provide a good indication of national culture (Georgellis and Lange, 2012). Nonetheless, Georgellis and Lange (2012) concede that 'culture' has been measured and applied in a number of contexts, including individual, organisational as well as national. When discussing the connection between cultural differences and multinational businesses, Ghemawat and Reiche (2011) state that cross-cultural misunderstandings and cultural differences, while difficult to observe and measure, are very important for multinational businesses because culture influences the attitudes and behaviours of employees and a failure to appreciate and account for cultural differences can lead to embarrassing blunders, strained relationships and lower performance. Accordingly, the literature has established links between cultural distance and (i) cross-border debt and equity foreign portfolio investments (Aggarwal *et al*., 2009), (ii) foreign direct investment (Benassy-Quere *et al*., 2005) and (iii) mergers and acquisitions (Wong, 2007).

Supporting the notion that culture is open to change, Inglehart (2006) and Inglehart and Baker (2000) associated shifts in societal culture with economic development. Within this cultural change, however, a significant degree of persistence of traditional values is often observed. This persistence, along with the variation in cultural values among industrialised societies, can be attributed to differences in cultural heritage, and particularly to religious heritage. To this point, Hofstede and Hofstede (2005) acknowledge that self-expression of societal cultural values – for example, visible cultural practices such as symbols (e.g. words

or gestures) or rituals (e.g. practices or activities) – are formed later in life and are more susceptible to change under alternative cultural environments. Traditional values are implicit and are typically held unconsciously, passed down through the generations as parents instil the same values into their children as they had instilled into themselves by their parents (Hofstede *et al.*, 2010). Hence, traditional values are unlikely to change over time or by relocating to a region with different societal cultural values. This leads us to propose two hypothesis related to cultural values:

H1a: Traditional societal cultural values are more likely to remain static over time.

H1b: Self-expression societal cultural values are more likely to vary over time.

Culture and job satisfaction

Theorising the exact nature of the relationship between societal cultural values and job satisfaction is a difficult task. Deresky (2011) as well as Browaeys and Price (2008) discuss how effective managers and particularly those in multinational organisations must be very aware of societal cultural differences. In an empirical investigation into the job–life satisfaction relationship across Europe, Georgellis and Lange (2012) concluded that the relationship between job–life satisfactions varies across societies and that those variations are related to societal cultural values. They further caution against the assumption that managerial theories – for example, Maslow's (1970) need-gratification – are universally applicable. This implies that societal cultural values may moderate the effect of various management inputs on employee outcomes, including job satisfaction. There is a range of explanations as to why such moderation takes place. For instance, it is theorised that an individual's societal cultural values can affect their expectations of various aspects of their job (Hui, 1990; Probst and Lawler, 2006). If reality exceeds their expectations, a higher level of job satisfaction is most likely to result, and vice versa. For example, certain societal

cultural values, such as individualism as opposed to collectivism, may lead an individual desiring self-directed and autonomous tasks in their job (Oyserman *et al.*, 2002). If an employer increases the level of autonomy for a set of employees, it would be expected that the job satisfaction of those employees who hold individualistic societal cultural values will increase by a greater proportion than those who do not.

An alternative, but not necessarily opposing, theory suggests that societal cultural values may influence the level of resistance that individuals have in the face of various management initiatives (Kirkman and Shapiro, 1997, 2001). For example, societal cultural values that lead an individual to have a greater aversion to collaborating with others and relying on other team members will be more likely to resist changes that push for greater team-based work. On the other hand, other societal cultural values may lead an individual to resist management initiatives that result in greater self-management. Attitudinal outcomes, such as lower commitment and lower job satisfaction, are ways in which individuals manifest their resistance (Kotter and Schlesinger, 1979). Our second aim therefore is to test whether cultural values affect job satisfaction at the individual level.

Existing studies

Contributions to the parameterisation and influence of societal cultural values on job satisfaction include Hui *et al.* (1995), Huang and Van de Vliert (2004), Moutafi *et al.* (2007), Fargher *et al*. (2008), Lange (2009) and Van der Westhuizen *et al.* (2012). The effects of societal cultural values on participatory decision-making (PDM) and job satisfaction across Europe were empirically explored by Van der Westhuizen *et al.* (2012) whose analysis of the survival/self-expression continuum suggests that movements towards traditional values resulted in higher levels of job satisfaction while movements towards survival values yielded the opposite effect. Additionally, it was found that both traditional and self-expression values

resulted in higher levels of PDM, and that this impact was more significant for women, with respect to the self-expression domain. Lange (2009) illustrated how a legacy constructed on Communist industrial relations in Central and Eastern Europe influences job satisfaction, even after economic and social transition have occurred. In a comparative study, Fargher *et al*. (2008) investigated the effects of societal cultural values on job satisfaction between Eastern and Western Europe concluding that traditional values were more imbedded in Western European culture, playing a more influential role in job satisfaction for this region. An indirect link is also drawn by Moutafi *et al.* (2007) suggesting societal cultural values act as a moderating factor between job performance and extroversion/introversion, with extroverts being more satisfied in their jobs than introverts (Rahim, 1981). Similarly Furnam and Springfield (1993) studied middle and senior management in an Asian-based international airline and found that extroversion correlated with high job performance for European managers whereas introversion was positively associated with job success for Chinese managers.

Taking a different approach, Huang and Van de Vliert (2004) found that job level was positively correlated with job satisfaction in countries with individualistic societal cultural values but had no effect in countries with collectivistic societal cultural values. Individualistic cultural values promote welfare, interests and goals of the individual and his/her core family (Sagie and Aycan, 2003), while collectivistic cultural values are those that advocate membership within communities or large groups and consider the welfare, interests and goals of the group to be more important than those of the individual group member (Sagie and Aycan, 2003). In contrast, Hui *et al.* (1995) found that collectivistic employees reported a higher level of satisfaction with their work and other job-related variables (e.g. pay, promotion, co-workers) than their individualistic counterparts. This result was consistent even after accounting for the different ranks of employees.

Therefore the body of research reviewed suggests that there is a link between societal cultural values and job satisfaction. However, current research primarily relies on snapshots rather than longitudinal data. Moreover, the previous research does not implicitly examine possible differences between traditional and self-expression societal cultural values and the direction of the relationship is not straightforward. Our third aim is therefore to contribute to the literature by investigating culture changes over time and whether the effect of culture on job satisfaction changes over time.

According to the literature some societal cultural values are more susceptible to change than others. Inglehart (2006) and Inglehart and Baker (2000) emphasise traditional vs secular-rational and survival vs self-expression dimensions of societal cultural values, and although their theory has come under some scrutiny (Haller, 2002), it has served as the basis of several empirical investigations relating to the influence of societal cultural values on behavioural outcomes (see Dalton *et al.*, 2002; Oosterbeek *et al.*, 2004; Fargher *et al*., 2008; Van der Westhuizen *et al.*, 2012). These variables cover both traditional and self-expression societal cultural values enabling us to test the theoretical argument proffered previously. Furthermore, a range of variables that are available in all four waves of the EVS fit into these two dimensions, as will be discussed in the next section. A key feature of this study is that it investigates the link between societal cultural values, representing both traditional and self-expression values, and job satisfaction over time, thereby gauging the influence of societal cultural values on job satisfaction over three decades, a missing piece in the existing empirical literature.

Taking our lead from Fitzsimmons and Stamper (2014) we posit that at an individual level societal cultural values shape what employees seek to achieve from their jobs and, through variation in the self-concept, their perception of what their job offers – hence, their job satisfaction. This theoretical argument is supported by other scholars (Scott and Lane,

2000). We further posit that, based on Locke (1969), the importance attached to 'value' is a key determinant of job satisfaction. Moreover, based on the arguments presented, the influence of the traditional elements of societal cultural values on job satisfaction are likely to remain static over the short to medium term, while the influence of self-expression elements of societal cultural values on job satisfaction are likely to vary over the short to medium term. These arguments result in two additional hypotheses that the following empirical investigation will test:

H2a: Traditional cultural values have a static influence on job satisfaction over time.

H2b: Self-expression cultural values have a dynamic influence on job satisfaction over time.

Data and methodology

Data

We use data from the EVS: a cross-national survey on basic human values, which provides insights into the ideas, beliefs, preferences, attitudes, values and opinions of citizens from across Europe. Our sample comes from all four currently available waves (1981, 1990, 1999 and 2008) and provides the best opportunity of conducting a longitudinal analysis. The majority of the existing literature tends to use only the most recent two waves; however, future research could take advantage of the next wave, available in 2017. The sample is restricted to the countries that were included in all four waves to provide a consistent data source. Our sample is also restricted to those respondents who were employed, of working age (18 to 64) and not self-employed. This yielded an effective sample of 17,600 respondents. It is important to recognise that while these societal cultural values / attitudes are based on individual data, they can also be linked to the *n*th level, as the predominant set of values (whether traditional or self-expression) often help form societal cultural identity.

Table 1 presents the percentage of respondents by country, for the 2008 survey it shows a higher job satisfaction rating in Denmark (7.96), Iceland (8.31) and Ireland (8.10).

< Insert Table 1 >

Job satisfaction is a self-reported ordinal variable on a scale of 1 to 10, with 1 representing 'complete dissatisfaction' and 10 corresponding to 'complete satisfaction' with the respondent's job. Job satisfaction relative to the country average is used as the dependent variable in the empirical analysis, to control for country-specific influences in our estimations. We also adjust standard errors in the empirical analysis to allow for the clustering of respondents within the 13 participating countries.

There are concerns with using satisfaction data. Using a single item job satisfaction variable to capture the multidimensional nature of the concept may be problematic, as we cannot distinguish between the extrinsic (e.g. instrumental, material) aspects of employment such as promotion, pay or job security, and the intrinsic (e.g. quality of work) aspects such as relations with managers, scope for initiative and the nature of the work itself. Acknowledging this concern, we take comfort from research by Wanous *et al.* (1997), which suggests that workers' satisfaction can be adequately examined on the basis of a single-item measurement. Further research (once more suitable data is available) should explore whether the use of single-item measurements for job satisfaction affect the subsequent statistical relationships identified here. To test the robustness of our subsequent results, we also re-estimated the empirical models using z-score transformations (which take into account the variable's standard deviation) of the job satisfaction variable.

Table 2 provides descriptive statistics of all explanatory variables used in our empirical analysis. These include a range of socio-demographic characteristics (e.g. gender, age, marital status and household income), work-related characteristics (e.g. occupational status, job values) and cultural values of the individual.

< Insert Table 2 >

We focus on the two main dimensions of societal culture grounded on research by Inglehart (2006) and Inglehart and Baker (2000): (i) traditional vs secular-rational and (ii) survival vs self-expression values. Traditional societies tend to emphasise religion, the family unit, absolute moral standards and deference to authority, while secular-rational values emphasise the opposite. In terms of the latter dimension, societies ranking highly with regard to survival values are found to prioritise economic and physical security above all else, which leads to insistence on traditional gender roles, low levels of interpersonal trust, intolerance of others and an emphasis on hard work, while self-expression values favour the opposite. A range of variables was selected from EVS to capture these two distinct societal cultural spectrums (see Table 2).

We follow work by Inglehart and Baker (2000) and create the dimensions of traditional vs secular-rational and survival vs self-expression values. A key emphasis of traditional vs secular-rational values is religion. In this study, we follow previous empirical work by Draulans and Halman (2005), Halman and Draulans (2006) and Knutsen (2009) by using 'believes in hell' as a measure of differences in religious beliefs.

Figure 1 portrays the mean values of the societal cultural variables for the core set of countries present across all four EVS waves. In contrast to all the other cultural variables that are dummy in nature, 'divorce is never justifiable' and 'homosexuality is never justifiable' are categorical and ordered from 1 to 10, and are therefore placed on the secondary axes in the two plots shown in Figure 1. With respect to the traditional cultural values, all except 'believes in hell' follow a downward trend in our core countries sample. Most noticeably, 'confidence in church'[2] has experienced a substantial drop between the third and fourth wave of EVS. The decline in the mean for 'confidence in church' is not surprising given that the social importance of religion has generally decreased across Europe (Voicu, 2009).

Furthermore, with beliefs (including those of a religious nature) being commonly prescribed by the church and practices of the local community (Halman and Draulans, 2004), and urbanisation breaking local community ties allowing individuals to adjust their belief systems (Voicu, 2009), one would expect fewer people to report confidence in religious institutions (i.e. the church).

< Insert Figure 1 >

In a similar fashion, all five indicators of survival variables have decreased in importance over the sample period. Two variables are particularly prominent: 'homosexuality is never justifiable' became increasingly justifiable and 'tolerance and respect are unimportant to teach at home' experienced a remarkable increase (i.e. intolerance fell) between the first and second wave. These observations are in line with existing literature, which finds that self-expressive values have increased in importance over recent decades within industrialised societies (Inglehart and Baker, 2000; Inglehart, 2006). Hofstede *et al.* (2010) also acknowledge that national wealth is associated with increasing levels of individualism, which is itself a close equivalent of the self-expression measure (Inglehart, 2006).

Both Figure 1 and Table 2 lend support to H1b (self-expression societal cultural values are more likely to vary over time) but go against H1a (traditional societal cultural values are likely to remain static over time). In terms of the latter, these findings are unexpected, as they indicate that apart from 'Believes in Hell,' all other indicators for traditional societal cultural values have experienced a downward trend over the sample period.

While this descriptive portrait provides insight into the general trends of cultural values across Europe over time, more complex econometric work is required to extract the

impact of these values on job satisfaction, while holding constant other potential confounding factors.

Empirical approach

Given the categorical and ordinal nature of the job satisfaction variable, *JS*, an appropriate empirical estimation approach to apply to identify the determinants of job satisfaction is ordered logit regression. The general form of the ordered logit model is:

$$JS_i = \beta X_i^{'} + u_i \qquad i = 1,2,...,N \tag{1}$$

with the ordered response, *JS*, having ten categories. The ordered response model is defined as:

$$\Pr(JS = j \left| X, \alpha, \beta \right.) = F_j(\alpha_j - X^{'}\beta) - F_{j-1}(\alpha_{j-1} - X^{'}\beta) \tag{2}$$

where $j = 1,2,...10$, $\alpha_0 = -\infty$, $\alpha_{j-1} \le \alpha_j$, $\alpha_m = \infty$ and F is the cumulative distribution function of the logit distribution $F_j = 1/(1+\exp(-(\alpha_j - X^{'}\beta)))$. The underlying job satisfaction equation for estimation is:

$$\begin{aligned} JS = {} & \alpha + \beta * Culture + \beta * Job\ values + \beta * Job\ level + \beta * Gender + \beta * Age \\ & + \beta * Marital\ status + \beta * Employment\ characteristics + \beta * Household\ income + u \end{aligned} \tag{3}$$

We doubt that individuals are independently and identically distributed across the sample and instead expect individual characteristics to have higher correlations if they are from the same country. Thus in the empirical analysis we control for country-specific influences by incorporating country-level clustering into our regression approach. This may have its limitations, as it requires the assumption that job satisfaction and all of other variables have a strong degree of similar within each country. For example, there are clear cultural differences within Belgium between the Walloon and Flemish communities. We therefore recommend that future research conducts cases studies of within-country differences where distinct community entities exist.

Additionally, to ensure that the occurrence of multicollinearity was minimised in the regression analysis, all cultural variables were orthogonalised using Draper and Smith's (1981) orthogonalisation process. For the traditional variables, this is done with respect to the 'confidence in church' indicator; and for the survival values, this is done with respect to the 'homosexuality is never justifiable' variable. This process ensures that each of the societal cultural variables are contributing a unique aspect within their own societal cultural value domain, and are not related to the other societal cultural variables within their own societal value domain.

Results

Examination of the societal cultural variables above highlights some important trends. However, a more sophisticated empirical approach is required in order to identify whether societal cultural values influence job satisfaction. The results of our ordered logit regression are provided in Table 3.

< Insert Table 3 >

Three model variants were employed for each of the four waves of EVS. The first model includes only socio-demographic characteristics as determinants of job satisfaction; the second augments this model with work-related characteristics; while the third augments it further to include societal cultural values based on the two dimensions of traditional vs secular-rational and survival vs self-expression.

Our early model suggests that males are more satisfied at work relative to their female counterparts (e.g. Model I in 1990 and 1999) but this impact changes sign when work-related characteristics are included. The finding that men are less satisfied at work, on average, relative to females, corresponds to findings by Fargher *et al*. (2008) who made use of just the third wave of EVS.

Apart from 1981, the results support a U-shaped relationship between 'age' and job satisfaction. Clark *et al.* (1996) link this empirical observation to an individual's personal circumstances over their life stages and non-work related factors that impact on job satisfaction. This also provides support to value hierarchies (Locke, 1969), whereby the relative importance of certain values might change over an individual's life. The effect of marital status on job satisfaction is generally positive if the worker is married, though this impact is not always statistically significant. Once we have taken account of the fullest range of explanatory variables (i.e. Model III) then we find that it is only in 1999 that being married had a significant positive impact on job satisfaction.

Based on the results of Model I, the impact of household income on job satisfaction shows that belonging to a medium- or high-income household had a positive impact on job satisfaction, relative to belonging to a low-income household, which could be indicative of the types of jobs held by higher income individuals who may have more control or 'voice' in their job, and hence find it more satisfying. However, in 1999 and 2008, these estimated coefficients turn negative once work-related characteristics are included (i.e. Models II and III). This result may be due to workers from higher income households having higher expectations than those from lower income households, and once work-related factors such as occupational status and other work attitudes are controlled for, the impact on job satisfaction is negative, as these expectations are not being met. This reasoning may also help to explain why the impact of belonging to a higher income household was still positive (albeit statistically insignificant) prior to 1990, even after controlling for work-related characteristics; expectations of what you receive from your job in terms of utility may have been lower three decades ago or they may have become artificially inflated over time, and hence these expectations were easier to meet and exceed in wave 1, relative to subsequent waves of EVS.

It would have been useful to add education to the group of socio-demographic characteristics in Table 3, as it is often expected to play a key part in determining job satisfaction. However, in order to ensure consistency across our specifications in all four waves it was necessary to exclude educational qualifications as an explanatory variable because data were not collected as part of the survey in waves 1 and 2 of EVS. While this is an important limitation, we draw comfort from the fact that other recent studies, such as Fargher *et al*. (2008), did not find a statistically significant impact of medium educational attainment (relative to low levels of education) across the whole European sample in their study of wave 3, and only found a significant impact of high educational attainment on job satisfaction for males from Western Europe. Additionally, we would expect to indirectly capture educational attainment through the use of occupational status indicators (professional, skilled, less skilled and manual), which many past empirical studies, such as Fargher *et al*. (2008), did not employ in their specifications.

With respect to work-related characteristics, the impact of PDM on job satisfaction stands out. Having the freedom to be part of the decision-making process appears to be a key determinant of satisfaction at work, and this result is unchanged when societal cultural characteristics are added to the specification (i.e. Model II to III). This finding validates recent empirical research by Van der Westhuizen *et al.* (2012), which shows a similar result for wave 4 of the EVS. The findings also indicate that this impact appears to be time-invariant over the 1981 to 2008 period.

Within the set of work values, if an individual perceives that 'good pay' is an important job characteristic then they are less likely to be satisfied at work. The same result holds for 'good hours'. It is likely that those who indicate that either 'good pay' and/or 'good hours' are important are those who are not happy with their pay and/or hours, and hence this is a possible reason why they are less satisfied at work. 'Job security' appears to have had a

decreasing impact on job satisfaction over time; it was significant at the 1% level in 1981, as well as in Model II in 1990, and significant at the 10% level in Model II in 1999, and insignificant by 2008.

Societal cultural values

Our attention now turns to our core set of independent variables. For the first set of societal cultural values, those from the traditional vs secular-rational perspective, the results from the ordered logit regression (Table 4) generally support the notion that the influence of societal cultural values on job satisfaction remains stable over time. In particular, two variables stand out: (i) 'confidence in church' and (ii) 'always love and respect one's parents'. Both variables have statistically significant positive impacts on job satisfaction in all four waves.[2]

< Insert Table 4 >

Although the preliminary analysis of mean values in Figure 1 indicated that there has been an overall decline in 'confidence in church', with a substantial drop between the third (1999/2000) and fourth (2008) wave of EVS, the results of the ordered logit regression portrays that, in general, having 'confidence in church' does have a positive influence on a respondent's job satisfaction and this influence has remained relatively stable between 1981 and 2008. The odds ratios indicate that having 'confidence in church' results in an individual being 11.4% more likely to move up one category of job satisfaction in 1981, and this figure steadily increases to 18.8% by 2008.

Such findings provide credence to Inglehart and Baker's (2000) notion that even though church attendance has dwindled to the point where only a small number attend church services regularly, religious traditions have shaped societal culture through institutions, such as the church, to a point where those values have become ingrained within individuals and ultimately shape their behaviour and values within various life domains. Such results also

corroborate recent propositions by Hofstede and Hofstede (2005), who argue that while culture remains stable over time, rituals and practices (e.g. church attendance) are more susceptible to change. Furthermore, from the perspective of value hierarchies, this supports the theory that job satisfaction is not only a function of what an employee seeks to gain from their job, relative to what the employee perceives their job to be offering, but also the relative importance of the value (Locke, 1969). So even though 'confidence in church' has decreased between 1981 and 2008 (i.e. ranked at a relatively lower level on the hierarchy), as indicated in the preliminary analysis, it still has a positive influence on job satisfaction over the same time period.

A similar finding is identified for 'always loving and respecting one's parents'; although the trend emphasised in the previous section showed that there has been an overall decrease, its positive influence on job satisfaction appears to be relatively stable across the four waves of the EVS. Fargher *et al*. (2008), who found a similar result for male respondents using data from wave 3 of EVS, attributed their finding to conformity values, which may spill over into a respondent's work domain.

Taken together, the results for the traditional vs secular-rational values are consistent with Hofstede's (1980) main thesis that culture is like one's mental software, a consistently reliable predictor as to how individuals within society are likely to think and act. In particular, our findings indicate that traditional values are a consistent predictor over time of individuals' perception of utility in their workplace. Inglehart and Baker (2000) also observed that while industrialisation brings with it a shift from traditional to secular-rational values, there is no ongoing effect evident post-industrialisation. That is, this dimension demonstrates relative stability beyond the initial surge in economic development. These findings provide support for hypothesis H2a.

For the second set of societal cultural values, those from survival vs self-expression, the results from the ordered logit regression generally counter the notion that culture remains stable across time. The first three variables under this domain (i.e. 'homosexuality is never justifiable', 'tolerance and respect are unimportant to teach at home' and 'would never sign a petition') displayed an overall decrease in their influence over job satisfaction across the four waves of EVS. This is in line with the results of the preliminary descriptive statistics (see Table 3), which showed a decrease in the mean values of 'homosexuality is never justifiable' and 'tolerance and respect are unimportant to teach at home'. Based on the results in Table 3, the positive influence of 'homosexuality is never justifiable' on job satisfaction is only statistically significant in the first and third wave of the study, and this result represents changing and less rigid attitudes towards sexual orientation. The belief that 'tolerance and respect are unimportant to teach at home' had a statistically significant and positive impact on job satisfaction in the first wave of the study only. Furthermore, never expressing one's civil liberties through 'signing a petition' was positively related and statistically significant with respect to job satisfaction in the first three waves of the study. These results are not surprising in light of the empirical literature that shows that societal cultural values across various countries have generally moved towards self-expressive type values (Inglehart and Baker, 2000; Flanagan and Lee, 2003; Hagenaars *et al.*, 2003) and with self-expression values on the rise throughout all countries for which longitudinal data is available (Welzel, 2010).

The second grouping of survival vs self-expression variables showed that values relating to 'have to be careful when trusting people' and 'child needs both parents to be happy' were only statistically significant determinants of job satisfaction in the second wave of the EVS. What is more, 'have to be careful when trusting people' is the only societal cultural variable that exhibits a relatively strong and negative impact on job satisfaction in 1990. This result aligns with the empirical findings by Fargher *et al*. (2008), who argued that

interpersonal trust is a social construct, which ultimately shapes individuals' preferences and attitudes, including attitudes towards work.

In contrast to the group of variables characterising traditional values, the results from Table 3 and subsequent odds ratios presented in Table 4 show that there have been shifts in societal cultural values across the four waves of EVS, and especially with respect to values concerning survival vs self-expression. These shifts go against Hofstede's (1980) premise that culture is stable and a consistent and reliable predictor of how individuals will behave or act. The shifts have occurred on two distinct levels: (i) an overall shift towards a greater focus of self-expression (i.e. displaying higher levels of tolerance for out-groups and respect for individuals' freedom of expression), and (ii) a continual reinvention of societal cultural values relating to interpersonal trust and two-parent families across two decades. The results also suggest that shifts towards societal cultural values more focused on self-expression do not influence workers' job satisfaction, at least not at conventionally accepted levels of statistical significance. This calls into question Inglehart and Baker's (2000) findings that individuals who are orientated towards self-expression values should display higher levels of subjective well-being. However, based on theoretical work by Locke (1969), if individuals do not perceive their job values as being achieved within the work environment (e.g. opportunities for self-expression) then low job satisfaction is likely to result. Therefore organisational programmes may need to be (re)aligned in support of changing cultures to ensure job satisfaction is being promoted and organisational benefits are being captured.

Overall, the results from Table 4 are relatively unambiguous and can be summarised succinctly by two main findings: (i) the time-invariant impact of traditional cultural values on job satisfaction, and (ii) the declining importance of survival values on job satisfaction. The latter of these lends support for hypothesis H2b and in particular highlights that the dynamic influence of self-expression values with respect to job satisfaction is in a negative direction

over the sample period. Further research is required to delve deeper into the potential causes of these trends. For instance, are there country-specific factors that play a role in this sample from Europe, and/or are demographic shifts in the working-age population driving either of these outcomes? While this is beyond the scope of the paper, preliminary analysis of a proxy age cohort born in 1960 does reveal that the importance of 'confidence in church' is increasing in terms of its influence on job satisfaction, while the reverse is true for the value that 'homosexuality is never justifiable'.

Repeating the regression analysis for the age groups 21 to 30 in wave 1, 31 to 40 in wave 2, 41 to 50 in wave 3 and 51 to 60 in wave 4 yields insignificant odds ratios for 'confidence in church' in 1981 and 1990, which increase to 1.118 and 1.250 (significant at the 5% level) in 1999 and 2008, respectively. This evidence corroborates Smith (2012), who finds that belief in God is highest among older adults. When analysing differences among age groups, it is found that the largest uplift in belief in God occurred among those aged 58 and older, which is arguably in response to being at the age where there is an increasing anticipation of one's own mortality (Smith, 2012).

Using the same empirical approach reveals a contrasting pattern for 'homosexuality is never justifiable', with the odds ratios falling from 1.164 (significant at the 5% level) in 1981 to 0.987 (insignificant) by 2008. This indicates that at the start of an average individual's working life, having the value that 'homosexuality is never justifiable' actually increased job satisfaction levels, but by the end of their working life span (i.e. aged 51 to 60 in wave 4) this impact diminishes to a negligible effect. This result also supports the theory of value hierarchy (Locke, 1969), in that having the value of 'homosexuality is never justifiable' becomes relatively less important over an individual's working lifespan and, consequently, has a relatively lower impact on their job satisfaction towards the end.

Conclusions

Determining the factors that influence workers' job satisfaction levels has become a growing point of interest for organisations due to its pervasive and multilayered impacts on success factors, e.g., productivity, competitiveness and prosperity. From a theoretical standpoint, at an individual level, societal cultural values shape what employees seek to achieve from their jobs and, through variation in the self-concept, affect the perception of satisfaction gained from the job. There is significant empirical support for this theoretical argument. Although the current body of empirical research is of undoubted value, it has predominately focused on examining the relationship between societal cultural values and job satisfaction at a single point in time (e.g. Georgellis and Lange, 2012; Konrad *et al.*, 2013). On the other hand, there is a paucity of research examining this phenomenon over time. A significant gap in the current literature because of: (i) globalisation, greater movement of labour across national borders and broader mix of intergenerational labour force are likely to combine and create greater dynamism in societal cultural values; and (ii) the theoretical ambiguity surrounding the evolutionary nature of societal cultural values. With a focus on Europe, this study investigates the relationship between societal cultural values and job satisfaction over almost three decades, operationalises societal cultural values using traditional values that are ingrained in one's psyche, and rituals/practices, which according to theory are more susceptible to change.

This paper makes use of the fourth wave of EVS and combines it with all previous waves collected since 1981. The ordered logit regression model was applied for the balanced group of countries in each wave. At first, the model focused solely on socio-demographic characteristics as determinants of job satisfaction, where results were generally consistent with extant literature. One limitation of ensuring consistency in the method and variables across time was the exclusion of education from the investigation. Nonetheless, we would

expect to indirectly capture educational attainment through the use of occupational status indicators.

The empirical analyses were extended to include work-related characteristics, where the impact of PDM on job satisfaction stood out; having the freedom to be part of the decision-making process appears to be an important determinant of job satisfaction, and this result is stable to the inclusion of societal cultural characteristics. This is consistent with recent empirical research by Van der Westhuizen *et al.* (2012).

The key theoretical contributions of the paper are two-fold. First, we showed that societal cultural values are dynamic and have evolved over the period covered by the study. Second, despite these changes, the influence of traditional societal cultural values on job satisfaction has remained relatively constant despite the changes in the value ascribed to these variables. On the other hand, the influence of survival values on job satisfaction has declined. The empirical results partially support our propositions. They support the argument that there are two different types of societal cultural values – those that are formed early in life and typically held unconsciously and those that are formed later in life such as visible cultural values (symbols, rituals), which are more transient – hence, it is important to distinguish and ascertain the impact of the different dimensions of societal cultural values on job satisfaction over time.

The results presented in this article are important for organisational management and policy formation, as asymmetries in societal cultural values may be critical to job satisfaction in the workplace. Job satisfaction moderates critical facets of firm performance such as retention rate, absenteeism rates, motivation, productivity and competitiveness. The generally accepted belief that societal cultural values are considerably stable in nature, and would therefore be a reliable predictor as to how individuals within the workplace are likely to think and act, must be called into question, specifically when cultures adopt values within the

survival vs self-expression based perspective. Hence, it is not sufficient to focus on culture mix but to be cognisant of cultural shifts over time. This is important because job satisfaction is pervasive and it moderates critical facets of firm performance such as retention rates, absenteeism rates, motivation, productivity and competitiveness.

Due to the temporal gap between the most recent wave of EVS and the impending fifth wave in 2017, future research will be able to examine further the impact of cultural shifts in the last decade, as well as potentially investigate the impact on a sub-national basis. This study also suggests that age distribution within the workplace should be taken into consideration when developing and implementing organisational practices. Perhaps more open communication throughout the organisation can facilitate further understanding of the influence of societal culture on job satisfaction and how these evolve. Such understanding may assist in the development of effective strategies aimed at increasing job satisfaction, which in turn is likely to lead to improvements in productivity and competitiveness.

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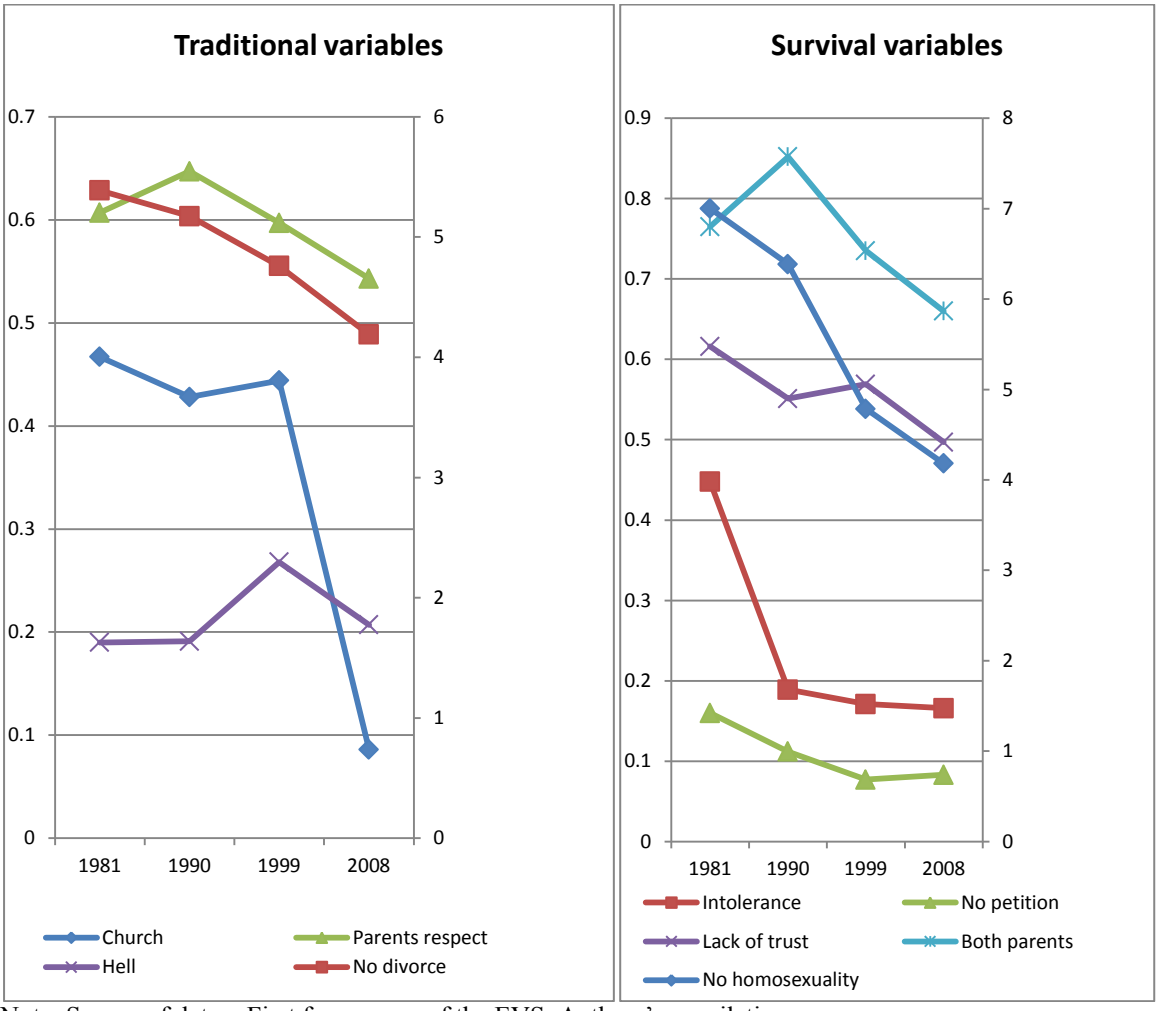
Figure 1. Changes in cultural values over time



Note: Source of data – First four waves of the EVS. Authors' compilation.

Table 1. Participating countries: percentage of respondents and job satisfaction ratings

Country	**Percentage of sample (2008, Model I)**	**Job satisfaction (rating)**
Belgium	10.7	7.75
Denmark	10.2	7.96
France	10.8	7.26
Germany	12.7	7.55
Great Britain	7.2	7.32
Iceland	6.7	8.31
Ireland	4.3	8.10
Italy	5.9	7.33
Malta	4.2	7.59
The Netherlands	9.7	7.66
Northern Ireland	2.0	7.62
Spain	4.5	7.26
Sweden	9.2	7.59

Table 2. Descriptive statistics

	Definition	Mean (standard deviation)			
		1981	1990	1999	2008
Socio-demographic characteristics					
Job satisfaction	Ordinal categorical variable on a scale 1 to 10 (1 = extremely dissatisfied, 10 = extremely satisfied) minus average country job satisfaction	–0.165 (2.050)	0.013 (1.942)	–0.085 (1.829)	0.017 (1.791)
Male	Dummy variable: 1 for male; 0 otherwise	0.602 (0.490)	0.589 (0.492)	0.551 (0.497)	0.505 (0.500)
Age	Age in years	35.109 (12.349)	37.988 (11.600)	38.982 (10.763)	41.545 (11.235)
Married	Dummy variable: 1 for married or registered partnership; 0 otherwise	0.682 (0.466)	0.707 (0.455)	0.600 (0.490)	0.583 (0.493)
Widowed	Dummy variable:1 for widowed; 0 otherwise	0.017 (0.128)	0.018 (0.133)	0.013 (0.112)	0.015 (0.121)
Med income	Dummy variable: 1 for middle income; 0 otherwise	0.526 (0.499)	0.468 (0.499)	0.553 (0.497)	0.546 (0.498)
High income	Dummy variable: 1 for high income; 0 otherwise	0.407 (0.491)	0.307 (0.461)	0.282 (0.450)	0.395 (0.489)
Part time	Dummy variable: 1 for employed part time; 0 otherwise	0.145 (0.353)	0.122 (0.327)	0.174 (0.379)	0.166 (0.372)
Skilled	Dummy variable: 1 for skilled; 0 otherwise	0.384 (0.487)	0.379 (0.485)	0.404 (0.491)	0.331 (0.471)
Less skilled	Dummy variable: 1 for less skilled; 0 otherwise	0.327 (0.469)	0.331 (0.471)	0.289 (0.453)	0.245 (0.430)
Manual	Dummy variable : 1 for manual; 0 otherwise	0.185 (0.388)	0.124 (0.329)	0.101 (0.302)	0.133 (0.340)
Work-related characteristics					
PDM	Participatory decision-making. Ordinal categorical variable on a scale 1 to 10 (1 = no decision-making freedom in job, 10 = great deal of decision-making freedom in job)	6.270 (2.627)	6.636 (2.481)	6.795 (2.397)	6.900 (2.264)
Good pay	Dummy variable: 1 if individual thinks good pay is an important job characteristic; 0 otherwise	0.686 (0.464)	0.732 (0.443)	0.794 (0.405)	0.717 (0.451)
Pleasant people	Dummy variable: 1 if individual thinks sense of belonging/pleasant co-workers is an important job characteristic; 0 otherwise	0.735 (0.442)	0.738 (0.440)	0.787 (0.409)	0.764 (0.425)
Job security	Dummy variable: 1 if individual thinks job security is an important job characteristic; 0 otherwise	0.579 (0.494)	0.601 (0.490)	0.581 (0.493)	0.514 (0.500)
Good hours	Dummy variable: 1 if individual thinks good working hours is an important job characteristic; 0 otherwise	0.465 (0.499)	0.457 (0.498)	0.526 (0.499)	0.427 (0.495)
Use initiative	Dummy variable: 1 if individual thinks opportunity to use initiative (freedom for self-expression) is an important job characteristic; 0 otherwise	0.472 (0.499)	0.553 (0.497)	0.564 (0.496)	0.504 (0.500)
Achieve something	Dummy variable: 1 if individual thinks potential to achieve something (ego motivation) is an important job characteristic; 0 otherwise	0.523 (0.500)	0.601 (0.490)	0.614 (0.487)	0.537 (0.499)

Interesting work	Dummy variable: 1 if individual thinks interesting work is an important job characteristic; 0 otherwise	0.590 (0.492)	0.661 (0.473)	0.701 (0.458)	0.633 (0.482)
Task knowledge	Dummy variable: 1 if individual thinks task knowledge (job that meets one's abilities) is an important job characteristic; 0 otherwise	0.513 (0.500)	0.571 (0.495)	0.600 (0.490)	0.493 (0.500)
Traditional vs secular-rational					
Confidence in church	Dummy variable: 1 if great deal or quite a lot of confidence in church; 0 otherwise	0.467 (0.499)	0.428 (0.495)	0.444 (0.497)	0.086 (0.280)
Divorce is never justifiable	Ordinal categorical variable on a scale 1 to 10 (1 = divorce is always justifiable; 10 = divorce is never justifiable)	5.388 (2.932)	5.174 (2.716)	4.760 (2.841)	4.188 (2.682)
Always love and respect one's parents	Dummy variable: 1 if always love and respect parents; 0 otherwise	0.607 (0.488)	0.647 (0.478)	0.597 (0.491)	0.543 (0.498)
Believes in hell	Dummy variable: 1 if believes in hell; 0 otherwise	0.190 (0.392)	0.191 (0.393)	0.268 (0.443)	0.207 (0.406)
Survival vs self-expression					
Homosexuality is never justifiable	Ordinal categorical variable on a scale 1 to 10 (1 = homosexuality is always justifiable; 10 = homosexuality is never justifiable)	7.001 (3.255)	6.386 (3.260)	4.786 (3.328)	4.182 (3.143)
Tolerance and respect are unimportant to teach at home	Dummy variable: 1 if individual didn't mention teaching tolerance and respect at home as being important; 0 otherwise	0.448 (0.497)	0.189 (0.392)	0.171 (0.376)	0.166 (0.372)
Would never sign a petition	Dummy variable: 1 if would never sign a petition; 0 otherwise	0.160 (0.367)	0.112 (0.315)	0.077 (0.267)	0.083 (0.275)
Have to be careful when trusting people	Dummy variable: 1 if have to be careful when trusting people; 0 otherwise	0.616 (0.486)	0.551 (0.497)	0.569 (0.495)	0.497 (0.500)
Child needs both parents to be happy	Dummy variable: 1 if child needs both parents to grow up happy; 0 otherwise	0.765 (0.424)	0.852 (0.355)	0.735 (0.442)	0.660 (0.474)
Sample size		3,128	5,295	4,309	4,868

Note: standard deviations in parentheses.

Reference categories for socio-demographic characteristics are Female, Non-married or widowed, Low income, Full time, Professional.

Table 3. Job satisfaction model

Variable	**1981**			**1990**			**1999**			**2008**		
Socio-demographic characteristics	Model I	Model II	Model III	Model I	Model II	Model III	Model I	Model II	Model III	Model I	Model II	Model III
Male	–0.018	–0.128	–0.098	0.040*	–0.071*	–0.077	0.109**	–0.033	–0.063	–0.047	–0.152**	–0.170***
	(0.068)	(0.079)	(0.096)	(0.030)	(0.043)	(0.075)	(0.056)	(0.064)	(0.072)	(0.061)	(0.061)	(0.056)
Age	0.035***	–0.001	0.008	–0.011	–0.034***	–0.017	–0.050**	–0.086***	–0.086***	–0.040***	–0.052***	–0.049***
	(0.013)	(0.012)	(0.014)	(0.012)	(0.013)	(0.012)	(0.024)	(0.026)	(0.027)	(0.014)	(0.010)	(0.012)
Age^2	–0.0002	0.0002	0.0000	0.0003**	0.001***	0.0003**	0.0008***	0.001***	0.001***	0.001***	0.001***	0.001***
	(0.0002)	(0.0001)	(0.0002)	(0.0001)	(0.0002)	(0.002)	(0.0003)	(0.0003)	(0.0003)	(0.0002)	(0.0001)	(0.0002)
Married	0.124	0.114	0.115	0.130*	0.097	0.056	0.160***	0.208***	0.159**	0.157**	0.099*	0.076
	(0.079)	(0.083)	(0.125)	(0.079)	(0.073)	(0.106)	(0.055)	(0.062)	(0.066)	(0.071)	(0.060)	(0.060)
Widowed	0.373*	0.369**	0.247	0.028	0.048	–0.009	0.222	0.114	0.154	0.069	0.163	0.147
	(0.231)	(0.167)	(0.273)	(0.184)	(0.225)	(0.259)	(0.237)	(0.191)	(0.272)	(0.234)	(0.193)	(0.183)
Med income	0.206	0.098	0.126	0.135**	0.090	0.030	0.126	–0.055	–0.058	0.175	–0.098	–0.115
	(0.102)	(0.119)	(0.182)	(0.052)	(0.092)	(0.123)	(0.124)	(0.140)	(0.158)	(0.129)	(0.157)	(0.143)
High income	0.333	0.088	0.122	0.234**	–0.077	–0.153	0.238	–0.125	–0.058	0.375	–0.134	–0.121
	(0.206)	(0.205)	(0.265)	(0.095)	(0.102)	(0.154)	(0.156)	(0.167)	(0.172)	(0.231)	(0.223)	(0.203)
Work-related characteristics												
Part time		–0.031	0.023		–0.040	0.043		–0.138	–0.156*		0.056	0.070
		(0.104)	(0.099)		(0.124)	(0.096)		(0.091)	(0.069)		(0.130)	(0.127)
Skilled		0.835	0.099		–0.005	–0.039		–0.033	–0.019		–0.078	–0.114
		(0.143)	(0.127)		(0.110)	(0.093)		(0.088)	(0.073)		(0.086)	(0.070)
Less skilled		0.178	0.051		0.129	0.097		–0.031	–0.029		0.028	0.027
		(0.149)	(0.124)		(0.115)	(0.112)		(0.069)	(0.085)		(0.081)	(0.093)
Manual		–0.147	–0.293*		–0.050	–0.132		0.015	–0.068		0.004	0.025
		(0.156)	(0.150)		(0.159)	(0.159)		(0.191)	(0.189)		(0.124)	(0.142)
PDM		0.350***	0.340***		0.361***	0.359***		0.345***	0.338***		0.412***	0.412***
		(0.028)	(0.026)		(0.023)	(0.012)		(0.020)	(0.020)		(0.021)	(0.017)
Good pay		–0.285***	–0.245***		–0.105*	–0.109		–0.124**	–0.165***		–0.039	–0.074
		(0.067)	(0.056)		(0.059)	(0.063)		(0.061)	(0.065)		(0.061)	(0.058)
Pleasant people		0.087	0.095		0.075	0.135*		–0.062	0.074		0.155	0.202**
		(0.107)	(0.125)		(0.059)	(0.078)		(0.083)	(0.069)		(0.090)	(0.085)
Job security		0.243***	0.273***		0.181***	0.114		0.215*	0.136		0.137	0.159
		(0.082)	(0.068)		(0.066)	(0.095)		(0.124)	(0.127)		(0.148)	(0.152)
Good hours		–0.006	–0.033		–0.156***	–0.114**		–0.043	–0.035		–0.165**	–0.193**
		(0.060)	(0.061)		(0.050)	(0.057)		(0.060)	(0.050)		(0.082)	(0.076)
Use initiative		0.004	0.090		–0.021	0.027		–0.048	0.010		–0.209***	–0.125**
		(0.076)	(0.056)		(0.046)	(0.057)		(0.070)	(0.081)		(0.078)	(0.060)
Achieve something		0.072	0.045		0.083	0.103		0.112	0.109		0.031	0.038
		(0.067)	(0.081)		(0.086)	(0.090)		(0.098)	(0.094)		(0.084)	(0.086)
Interesting work		0.082	0.099		0.006	–0.023		0.054	0.034		0.042	0.059
		(0.086)	(0.093)		(0.061)	(0.057)		(0.042)	(0.053)		(0.091)	(0.097)
Task knowledge		0.004	–0.022		0.0061	0.053		0.024	–0.095		0.235***	0.170**
		(0.079)	(0.082)		(0.056)	(0.055)		(0.097)	(0.104)		(0.093)	(0.082)

Traditional vs secular-rational												
Confidence in church			0.108***			0.131***			0.124***			0.173***
			(0.035)			(0.045)			(0.048)			(0.059)
Divorce is never justifiable			0.029			0.120***			0.021			0.051
			(0.044)			(0.023)			(0.035)			(0.062)
Always love and respect one's			0.067*			0.098***			0.153***			0.100**
parents			(0.037)			(0.034)			(0.040)			(0.040)
Believes in hell			–0.017			–0.023			0.0003			0.014
			(0.043)			(0.047)			(0.035)			(0.059)
Survival vs self-expression												
Homosexuality is never			0.121***			0.006			0.163***			–0.006
justifiable			(0.042)			(0.037)			(0.051)			(0.064)
Tolerance and respect are			0.080***			0.020			0.005			–0.016
unimportant to teach at home			(0.025)			(0.032)			(0.021)			(0.027)
Would never sign a petition			0.123***			0.052***			0.071**			–0.005
			(0.032)			(0.019)			(0.034)			(0.044)
Have to be careful when			–0.024			–0.082**			–0.063			–0.005
trusting people			(0.032)			(0.032)			(0.043)			(0.049)
Child needs both parents to be			0.043			–0.055*			0.049			0.030
happy			(0.028)			(0.032)			(0.037)			(0.036)
When job satisfaction = 1	–3.842**	–2.858**	–2.784**	–5.581**	–4.309**	–4.099**	–5.435**	–4.458**	–4.601**	–5.722**	–3.993**	–4.159**
	(0.317)	(0.279)	(0.344)	(0.518)	(0.658)	(0.724)	(0.295)	(0.414)	(0.370)	(0.483)	(0.611)	(0.647)
= 2	–2.473**	–1.497**	–1.369**	–3.854**	–2.547**	–2.356**	–4.557**	–3.577**	–3.787**	–4.676**	–2.966**	–3.047**
	(0.331)	(0.243)	(0.302)	(0.215)	(0.258)	(0.292)	(0.443)	(0.446)	(0.403)	(0.366)	(0.430)	(0.417)
= 3	–1.874**	–0.894**	–0.751**	–3.192**	–1.829**	–1.569**	–3.939**	–2.949**	–3.125**	–3.877**	–2.122**	–2.206**
	(0.286)	(0.227)	(0.274)	(0.221)	(0.290)	(0.357)	(0.425)	(0.434)	(0.406)	(0.361)	(0.427)	(0.419)
= 4	–1.319**	–0.279	–0.107	–2.450**	–1.039**	–0.815**	–3.380**	–2.342**	–2.528**	–3.207**	–1.415**	–1.467**
	(0.285)	(0.255)	(0.320)	(0.171)	(0.260)	(0.326)	(0.448)	(0.472)	(0.432)	(0.343)	(0.403)	(0.389)
= 5	–0.628**	0.501**	0.656**	–1.772**	–0.288	–0.078	–2.681**	–1.580**	–1.789**	–2.581**	–0.721	–0.789**
	(0.267)	(0.235)	(0.313)	(0.164)	(0.274)	(0.358)	(0.445)	(0.461)	(0.420)	(0.336)	(0.409)	(0.400)
= 6	0.021	1.275**	1.448**	–1.085**	0.506	0.683**	–1.943**	–0.752	–0.944**	–1.928**	0.029	–0.041
	(0.265)	(0.270)	(0.344)	(0.164)	(0.265)	(0.342)	(0.454)	(0.473)	(0.441)	(0.315)	(0.392)	(0.384)
= 7	0.689**	2.056**	2.247**	–0.413**	1.295**	1.490**	–1.092	–0.217	0.059	–1.106**	0.986**	0.897**
	(0.259)	(0.261)	(0.336)	(0.178)	(0.277)	(0.361)	(0.427)	(0.439)	(0.390)	(0.322)	(0.434)	(0.437)
= 8	1.614**	3.094**	3.319**	0.532**	2.394**	2.596**	–0.016	1.423**	1.323**	–0.013	2.279**	2.204**
	(0.262)	(0.249)	(0.319)	(0.191)	(0.301)	(0.401)	(0.432)	(0.441)	(0.392)	(0.345)	(0.481)	(0.487)
= 9	2.585**	4.187**	4.404**	1.630**	3.627**	3.830**	1.029**	2.568**	2.475**	1.241**	3.650**	3.598**
	(0.275)	(0.300)	(0.361)	(0.165)	(0.306)	(0.378)	(0.471)	(0.477)	(0.418)	(0.336)	(0.501)	(0.515)
=10	4.327**	5.926**	6.066**	3.065**	5.113**	5.358**	2.833**	4.482**	4.281**	2.986**	5.440**	5.396**
	(0.442)	(0.362)	(0.405)	(0.334)	(0.449)	(0.557)	(0.534)	(0.491)	(0.513)	(0.573)	(0.716)	(0.753)
Pseudo R-square	0.006	0.061	0.064	0.003	0.056	0.060	0.004	0.049	0.054	0.003	0.059	0.061
Sample size	5363	4597	3128	7845	7445	5295	6348	6043	4309	6281	5983	4868

Note: Standard errors adjusted for clusters of country affiliations. Control variables: Female, Non-married or widowed, Low household income, Full time, Professional.
***, **, and * denotes significance at 1%, 5% and 10% levels, respectively.
The models were re-estimated using z-score transformations of ordered categories and revealed qualitatively similar results.

Table 4. Odds ratios of cultural values

Variable	**1981**	**1990**	**1999**	**2008**
Traditional vs secular-rational				
Confidence in church	1.114***	1.140***	1.132***	1.188***
Divorce is never justifiable	1.029	1.128***	1.021	1.052
Always love and respect one's parents	1.069*	1.103***	1.165***	1.106**
Believes in hell	0.983	0.977	1.000	1.014
Survival vs self-expression				
Homosexuality is never justifiable	1.128***	1.006	1.177***	0.994
Tolerance and respect are unimportant to teach at home	1.083***	1.020	1.005	0.984
Would never sign a petition	1.130***	1.053***	1.074**	0.995
Have to be careful when trusting people	0.976	0.921**	0.939	0.995
Child needs both parents to be happy	1.044	0.946*	1.050	1.030
Pseudo R-square	0.064	0.060	0.054	0.061
Sample size	3128	5295	4309	4868

Note: All socio-demographic and work-related characteristics also included, but not reported here.
***, **, and * denote significance at 1%, 5% and 10% levels, respectively.
Odds ratios are presented to aid interpretation of the effects of all variables on job satisfaction.
'Confidence in church' and 'always love and respect one's parents' can be interpreted accordingly. However, interpretation of odds-ratio magnitudes for the other cultural values should be strongly discouraged due to their construction using the orthogonalisation process.

Endnotes

[1] The framework presented by Hofstede (1991) includes the following dimensions: (i) power distance, (ii) uncertainty avoidance, (iii) individualism vs collectivism, (iv) masculinity vs femininity, and (v) long-term orientation vs short-term orientation.

[2] 'Confidence in church' is a specific variable in the European Values Study (EVS, 2014) and it has a high level of religious relevance for European countries. Its degree of relevance would be lower in other parts of the world where many do not refer to 'the church', as in parts of Asia, and future research that applies our approach to other parts of the world could parameterise this type of religiosity in other location-specific ways.