Health & Place 28 (2014) 116–132

Contents lists available at ScienceDirect

Health & Place

journal homepage: www.elsevier.com/locate/healthplace

Cultural values and population health: a quantitative analysis of variations in cultural values, health behaviours and health outcomes among 42 European countries

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ARTICLE INFO

Article history:
Received 19 November 2013
Received in revised form
3 April 2014
Accepted 17 April 2014

Keywords:
Culture
Cultural values
Health behaviour
Health policy
Population health

ABSTRACT

Variations in 'culture' are often invoked to explain cross-national variations in health, but formal analyses of this relation are scarce. We studied the relation between three sets of cultural values and a wide range of health behaviours and health outcomes in Europe.

Cultural values were measured according to Inglehart's two, Hofstede's six, and Schwartz's seven dimensions. Data on individual and collective health behaviours (30 indicators of fertility-related behaviours, adult lifestyles, use of preventive services, prevention policies, health care policies, and environmental policies) and health outcomes (35 indicators of general health and of specific health problems relating to fertility, adult lifestyles, prevention, health care, and violence) in 42 European countries around the year 2010 were extracted from harmonized international data sources. Multivariate regression analysis was used to relate health behaviours to value orientations, controlling for socio-economic confounders.

In univariate analyses, all scales are related to health behaviours and most scales are related to health outcomes, but in multivariate analyses Inglehart's 'self-expression' (versus 'survival') scale has by far the largest number of statistically significant associations. Countries with higher scores on 'self-expression' have better outcomes on 16 out of 30 health behaviours and on 19 out of 35 health indicators, and variations on this scale explain up to 26% of the variance in these outcomes in Europe. In mediation analyses the associations between cultural values and health outcomes are partly explained by differences in health behaviours. Variations in cultural values also appear to account for some of the striking variations in health behaviours between neighbouring countries in Europe (Sweden and Denmark, the Netherlands and Belgium, the Czech Republic and Slovakia, and Estonia and Latvia).

This study is the first to provide systematic and coherent empirical evidence that differences between European countries in health behaviours and health outcomes may partly be determined by variations in culture. Paradoxically, a shift away from traditional 'survival' values seems to promote behaviours that increase longevity in high income countries.

1. Introduction

1.1. Variations in health between European countries

Europe is a subcontinent of great diversity, not only in terms of language, religion and other aspects of culture, but also in terms of population health. At the start of the 21st century, life expectancy at birth in Europe is more unequal than it has been for decades (Mackenbach, 2013a), and enormous variations between countries have been documented on all available measures of population health, including mortality from specific conditions, incidence of infectious diseases and cancer, and self-reported health and disability (Mackenbach, 2013b; Marmot et al., 2012; Mladovsky et al., 2009).

The main health divide within Europe is between East and West. Over the past decades, the countries of Western Europe have experienced sustained improvements in life expectancy, with a gradual convergence of all countries towards high values. By contrast, the countries in Central and Eastern Europe have experienced stagnation and sometimes even falls in life expectancy, both before and after the fall of the Soviet empire (Leon, 2011; McMichael et al., 2004). Although many specific health indicators also vary along an East–West axis, some other patterns can be noted as well, such as the low levels of mortality from ischaemic heart disease in Southern Europe (Mackenbach and McKee, 2013b).

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http://dx.doi.org/10.1016/j.healthplace.2014.04.004
1353-8292/

The explanation of these patterns of variation is undoubtedly complex, and is likely to include a wide range of factors. East–West patterns may be related to recent political history, when countries in Central and Eastern Europe lived for decades under autocratic, communist regimes (Mackenbach, 2013c, 2013a; McKee and Nolte, 2004). More specific explanations are likely to be involved as well, such as variations in economic conditions, health-related behaviours, access to health care, and effectiveness of health policies (Bobak et al., 2007; Mackenbach and McKee, 2013a; Nolte et al., 2004; Stuckler et al., 2009). However, the generic and long-standing character of these variations in health (life expectancy was already lower in Central & Eastern Europe before the second World War (Kirk, 1946; Mackenbach, 2013c)) suggests that there may also be some historically more persistent explanations, such as cultural differences.

1.2. Variations in culture between European countries

Despite a certain degree of cultural unity, however defined (Davies, 1996), and despite recent attempts at economic and political unification, Europe is a culturally diverse subcontinent. The concept of culture will be used here in its sociological definition of "the ways of thinking, the ways of acting, and the material objects that together shape a people's way of life" (Macionic and Gerber, 2011). Variations within Europe have roughly been summarized as occurring along two 'fault-lines'. The first separates East from West, e.g., Orthodox from Catholic Christianity, and late from early industrializing societies. The second 'fault line', equally fuzzy, divides South from North, e.g., Romance from Germanic languages, and Catholicism from Protestantism (Arts et al., 2003).

Variations in culture may have a profound impact on health, for example through variations in health-related behaviours (Payer, 1996). Individuals in different European societies differ in, among other things, their fertility patterns, lifestyles, and rates of participation in preventive programs, and some of these variations may well be due to variations in attitudes, norms or other elements of culture. The same applies to variations in what will be denoted here as "collective health behaviour", in the form of national policies in the areas of prevention, health care, and the environment (Mackenbach, 2013b). However, although 'culture' is an implicit or explicit part of many theories of the determinants of health behaviour (Glanz et al., 2002), it is often treated as a background variable that eludes measurement, so that quantitative evidence of the impact of culture on between-country variations in health is extremely scarce.

One area of cross-cultural research where measurement issues have been tackled effectively, and where quantitative data on between-country variations in culture have become available, even abundantly, is that of cultural values. 'Values' are broad preferences concerning appropriate courses of action that the members of a society share, and that underlie their norms of behaviour in specific situations (Nolan and Lenski, 2004). Over the past decades, several approaches to operationalizing cultural values have evolved, each with its own theoretical rationale and its own set of survey-based indicators.

1.3. Cultural values and their measurement

One widely known approach has been developed by Ronald Inglehart, a political scientist from the United States who developed the theory of 'post-materialism' (Inglehart, 1977). In respondents' answers to survey questions on their beliefs and attitudes, he discovered an intergenerational shift in the cultural values of the populations of advanced industrial societies, from religious to secular, and from survival-oriented to 'well-being' or 'self-expression'-oriented values (Inglehart, 1990). Inglehart has proposed to measure countries' cultural value orientation with two indicators, each based on five survey questions, capturing a 'traditional' to 'secular-rational' and a 'survival' versus 'well-being' or 'self-expression' axis, respectively (Inglehart, 1997; Inglehart and Baker, 2000; Inglehart and Welzel, 2005). These two dimensions have since been confirmed, with small variations, in several other analyses (Hagenaars et al., 2003), and have allowed large-scale measurement of variations and changes in cultural values in many countries, particularly in the context of the World Values Study and the European Values Survey.

Another approach has been developed by Geert Hofstede, a Dutch sociologist who, on the basis of factor analysis of attitude surveys among employees of the IBM company in 50 countries, initially identified 4 dimensions of national cultures: 'power distance' (extent to which the less powerful accept that power is distributed unequally), 'individualism' (emphasis on personal achievements and individual rights), 'uncertainty avoidance' (tendency to cope with anxiety by minimizing uncertainty and ambiguity), and 'masculinity' (strict division of emotional roles between the genders and emphasis on competitiveness and power) (Hofstede, 1980, 2001). These results were later confirmed in other populations, but analyses of data from national values surveys have revealed two additional dimensions: 'long-term orientation' (importance attached to the future and emphasis on persistence and saving) (Hofstede, 2001; Minkov, 2007) and 'indulgence' (emphasis on gratification of natural human drives related to enjoying life) (Hofstede et al., 2010). The latter scale emerged from an analysis of Inglehart's 'self-expression' dimension, which appeared to contain two different subdimensions, one corresponding to Hofstede's 'individualism', the other to this newly coined 'indulgence' (Minkov, 2009). Important variations between countries, also within Europe, on Hofstede's dimensions have been documented (Hofstede, 1980, 2001; Hofstede et al., 2010).

A third approach is that developed by Shalom Schwartz, an American-Israeli social psychologist. On the basis of a theory of basic human needs, and of surveys measuring the priority attached to items within each of these needs domains, he proposed seven cultural orientations. These are 'affective autonomy' (emphasis on the desirability of individuals independently pursuing pleasure and other positive experiences), 'intellectual autonomy' (desirability of individuals independently pursuing their own ideas), 'embeddedness' (or conservatism; importance of maintaining the social order), 'egalitarianism' (importance of transcending self-interest and promoting the welfare of others), 'hierarchy' (legitimacy of an unequal distribution of power and resources), 'harmony' (fitting harmoniously into the environment), and 'mastery' (getting ahead through active self-assertion) (Schwartz, 1994, 1999, 2006). Originally measured in relatively small and restricted samples, particularly students and teachers, questions capturing these dimensions are now also included in the European Social Survey (Davidov et al., 2008). Applications have documented important cross-national variations, also within Europe (Schwartz, 1999, 2006; Schwartz and Bardi, 1997).

Although these three approaches have different theoretical rationales, the dimensions overlap both conceptually and empirically (Gouveia and Ros, 2000; Inglehart and Oyserman, 2004; Schwartz, 2006). This also emerges from Fig. 1 which summarizes the geographical distribution of countries' scores on these variables within Europe, on the basis of their associations with longitude and latitude. Some dimensions, such as Inglehart's 'self-expression' and Schwartz's 'intellectual' and 'affective autonomy' cluster closely together, all having higher values in the West, with Hofstede's 'individualism' and 'indulgence' not far away.

On the other hand, many others have more distinct geographical patterns, implying that there may be scope for a comparative analysis of their impact on health behaviours. Several cultural values display either a clear North–South pattern (such as the 'secular-rational',