Subjective wellbeing and the region: multilevel approaches

Philip S. Morrison
Victoria University of Wellington, New Zealand

The rise of interest in the subjective perception of wellbeing is complementing, and at times even rivalling policy interest in regional variations in objective measures of wellbeing. This is because people behave on the basis of what they perceive and subjective wellbeing is an interpretation of the gap between what people expect and what they have achieved to date. This gap in turn reflects not only their ascribed and achieved attributes, but the local, regional and national context in which they live.

The wide variations across countries in average levels of subjective wellbeing continue to be well documented at a global scale (Helliwell, Huang and Wang 2016). Regional scientists are now broadening our understanding of the role of the subnational or regional context. This understanding has arguably progressed further in Europe than elsewhere and a major methodological contribution to this understanding has come from applying the multilevel model.

The multilevel model

One of the first to apply the multilevel model to the geography of subjective wellbeing explains how

> " 'A multilevel problem is 'a problem that concerns the relationships between variables that are measured at a number of different hierarchical levels' (Hox 1995) p. 5. It is interesting to not only know what the possible effects of economic objective indicators on subjective well-being are at each level (the macro level and micro level), but also how variables of both levels simultaneously relate to the response variable at the individual level" (Schyns 2002) p. 7.

In other words, the multilevel model helps avoid the 'atomistic' fallacy, the failure to recognise the importance of context in understanding human behaviour. Scholars from a range of disciplines have now applied the multilevel model at various scales in different parts of the world and drawn tentative policy conclusions based on their results (Aslam and Corrado 2012, Ballas and Tranmer 2012, Bonini 2008, Deeming and Hayes 2012, Haller and Hadler 2006, Han et al. 2013, Oishi et al. 1999, Pittau, Zelli and Gelman 2010, Poortinga 2006, Rampichini, Schifini and Andrea 1998, Schyns 2002, Sugarwoto and Tampubolon

2015, Swift et al. 2014, Węziak-Białowolska 2016, Wills-Herrera, Islam and Hamilton 2009, Yuan 2016). The approach and contribution of these studies is reviewed and summarised in the paper.

The issue of context effects especially as they relate to both physical and mental health have been investigated much earlier at the scale of the neighbourhood, most notably in studies of public health (Subramanian, Jones and Duncan 2003). Many of the conceptual and methodological issues arising from that are relevant to the emerging multilevel literature in regional science (Mitchell 2001). Among the deficiencies frequently identified in the local effects literature is the lack of clear conceptual or theoretical framework (O'Campo 2003). Too often, commentators have noted, we are presented with empirical results about the respective statistical influence of contexts without an articulation of the pathways and the mechanisms involved. The regional science applications to date are subject to the same criticism.

One of the primary values of the multilevel model is the onus it places on the researcher to clarify not only the scales at which 'context' is relevant (city, expanded city, region etc.), but their characteristics (standard of living, social capital, income per capital etc). In addition, and this is the greatest challenge, it implicitly asks researchers to articulate the mechanisms through which the particular contexts impact individual wellbeing.

The purpose of this paper is to highlight the need for and the opportunities for theory that can link the individual to the relevant context. In framing the problem I draw on Urie Bronfenbrenners' confrontation of a similar problem in understanding the development of the child and his consequent use of ecological systems theory (Bronfenbrenner 1979). The primary tool I use to test several of the ideas from his framework is the multilevel model. I draw on the latest European Social Survey (ESS7, 2014), earlier samples of which have been analysed by previous applications of the multilevel model (Poortinga 2006, Swift et al. 2014, Aslam and Corrado 2012).

The results obtained from the 2014 European Social Survey (ESS7) confirm not only the importance of country level effects but of regional effects as noted by others. However, the variation in regional effects vary systematically with average levels of development, the differences converging with development.

Persistent differences between rural and urban and across city size also persist and nest within regions. Less well articulated in the regional science literature is way the results differ depending on the measure of wellbeing – notably cognitive (satisfaction) compared to hedonic (happiness) measures, and that dissatisfaction and satisfaction are not necessarily subject to the same model.

Heterogeneity

Of particular interest in this study is the influence of heterogeneity – an issue already identified in in the economics literature (Clark et al. 2005). The presence of heterogeneity has been documented in the case of income whose effects on wellbeing vary by region (Pittau et al. 2010), education - which greatly modifies the negative effect of city residence on wellbeing (Migheli 2016), and the way GDP effects the way subjective wellbeing varies by age (Poortinga 2006). I therefore explore the way in which the relative influence of the region on subjective wellbeing varies when the young are contrasted with the old, low income with middle and high income, minority vs majority populations, among other contrasts.

In summary, this paper uses the multilevel model to expose a number of challenges in understanding the way people's level of subjective wellbeing is sensitive to their region of residence, how results vary depending on the outcome being analysed (satisfaction vs happiness for example), and how individuals with different attributes respond differently to residence in different regions. In each case the arguments are illuminated by drawing on research which has used an ecological framework to understand development in other contexts.

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