

Social capital, place and health: developing and applying small-area indicators of social capital in the investigation of health inequalities

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This paper reports findings from a project conducted for the Health Development Agency on the relationship between social capital, place and health (Mohan et al., 2004). Although strong claims have been made about the effect of community-level social capital on health outcomes, many studies have been based on ecological correlation analysis for large spatial units (such as American states). Measures of social capital used in such studies are usually unstandardised response rates to questions about trust, participation and social cohesion. The focus of studies of health inequality is usually at a much smaller scale and consequently, to assess whether social capital does indeed have an impact, we need small-area measures of it. In our work we reviewed various candidate data sources which might generate such small-area data; these included voter turnout, blood donation, and membership lists of national organisations with a civic or altruistic purpose. Intrinsically interesting though these might be, we concluded that they had various shortcomings as indicators of social capital.

We turned therefore to a technique we have described as synthetic estimation, which we have used in developing estimates of health-related behaviours and disease prevalence, and applied it in the production of small-area estimates of characteristics of the neighbourhood social environment, such as participation in associational life. The method may be characterised as ‘modelling nationally, and predicting locally’ because the initial models are estimated using multi-level data derived from national datasets, calibrated to allow for within-region as well as between-region variation. These models produce coefficients which can then be applied to socio-economic data at the local scale.

As an example we outline a model of the determinants of volunteering. The likelihood that an individual would engage in voluntary activity was most strongly predicted by individual characteristics but there was some evidence of within-region variability (after allowing for individual characteristics, the probability of volunteering rose as the socioeconomic status of the locality rose), and rather less evidence of between-region variability (Mohan et al forthcoming a). One of the points which emerges from this modelling exercise is that when allowance is made for individual socioeconomic characteristics, apparently large regional variations shrink somewhat, raising questions about the validity of analyses based on unstandardised measures.

We then show how this method can be used to generate predictions of the variations between places in a number of aspects of the social environment (for fuller discussion see Mohan et al forthcoming b). The estimates we produce are validated against direct observations of the behaviours we are predicting from other sources, and a satisfactory degree of correlation is obtained, giving us confidence in the estimates we have produced.

Finally we deployed our indicators in an analysis of the relationship between individual and area (ward-level) characteristics and individual health outcomes (see

Mohan et al., 2005). Our conclusion was that our area-level measures of social capital added little to the explanation of health inequalities for this outcome measure (survival probabilities in the Health and Lifestyle Survey) and at this spatial scale.

References

- J Mohan, S Barnard, K Jones and L Twigg (2004) **Social capital, place and health** London: Health Development Agency (available on-line at: <http://www.publichealth.nice.org.uk/page.aspx?o=502867>)
- J Mohan, S Barnard, K Jones and L Twigg (2005) *Social capital, geography and health: a small-area analysis for England* **Social Science and Medicine**, 60, 1267-83
- J Mohan, S Barnard, K Jones and L Twigg (forthcoming a) *Volunteering, geography and welfare: a multi-level investigation of geographical variations in voluntary action* In Milligan, C and Conradson, D (eds) **Landscapes of voluntarism** Bristol: Polity Press
- J Mohan, S Barnard, K Jones and L Twigg (forthcoming b) *Developing small-area indicators of social capital: direct measures and indirect estimates*. **Environment and Planning A** forthcoming