



Researching the geography of mental wellbeing

Philip Andrew Jones

To cite this article: Philip Andrew Jones (2007) Researching the geography of mental wellbeing, Journal of Mental Health, 16:4, 439-443, DOI: [10.1080/09638230701482386](https://doi.org/10.1080/09638230701482386)

To link to this article: <https://doi.org/10.1080/09638230701482386>



Published online: 06 Jul 2009.



Submit your article to this journal [↗](#)



Article views: 2853



View related articles [↗](#)



Citing articles: 3 View citing articles [↗](#)

EDITORIAL

Researching the geography of mental wellbeing

PHILIP ANDREW JONES

University of Wales Swansea, School of Medicine, Grove Building, Singleton Park, Swansea, UK

Introduction

Different disciplines have different methods of investigating the same phenomenon and truly multi-disciplinary research can bring added benefits to most areas of study. Geography is the study of any phenomenon at or near the earth's surface, and as such it necessitates a multi-disciplinary approach. This editorial highlights the role that can be played by professional geographers in mental health research, advocating more multi-disciplinary research and the broadening of research methods taught to all disciplines.

Analytical methods used in geography have undergone many changes. One of the most notable and significant changes took place in the 1960s when geographical research went through what is now commonly referred to as the quantitative revolution. It was a major paradigm shift for the discipline seeing it largely move away from descriptive narrative to statistical analysis of space, place and society. Since that time geographical research methodology has continued to evolve, and so have the techniques used by geographers. Advances in micro-computing have facilitated the development of new quantitative techniques and more recently they have brought digital mapping and Geographic Information Systems (GIS) to the desk-top. Gatrell (2002) noted in his introductory book, *Geographies of Health*, that a good deal of spatial analytical work has been paralleled by the development of geographic information systems. GIS is a computer-based information system that enables capture, modelling, storage, retrieval, sharing, manipulation, analysis and presentation of geographically referenced data (Worboys & Duckham, 2004). Typically, GIS data have two elements. The first is the location of each instance of a phenomenon, and this is usually in the form of a map grid reference or a pair of latitude and longitude coordinates. The second element is associated with the attributes of each instance of the phenomenon. For example, a GIS of disease would have the spatial location of each incident together with information about the disease (disease name, age, gender, date, outcome, etc. of the sufferer). Openshaw et al. (1987) and colleagues analysed data on the incidence of cancer using information held in the regional cancer registry in northern England. The spatial references were produced from the postcode of each patient, which then allowed them to analyse for spatial clustering in cases. In GIS, data are stored in thematic layers with

each layer representing one type of feature: examples of thematic layers being, administrative areas, road networks, or incidence of disease as in the case of Openshaw and colleagues (1987). The layers of information can be analysed singly or in relation to each other and the results can be displayed in the form of a map on the computer screen. The results of the analysis can form new thematic layers of information that can then be further analysed. It is interesting to note that these layers of information can be assembled from quite disparate sources, such as census data, local government information, or individual patient records and can include a wide variety of data including climate and weather or transport networks.

Alongside the advances in quantitative techniques there has also been a growth in non-quantitative research methodologies. Together they provide a rich tool kit for researchers in many disciplines and mental health research could take greater advantage of these developments.

The emergence of medical geography

The 1950s saw the emergence of a new sub-discipline in geography: medical geography. May was an early publisher in the field with a paper entitled, "Medical Geography: It's Methods and Objectives" (May, 1950), and he is now considered to be the "father" of medical geography in the United States (Meade & Earickson, 2000). But it was not until the early 1970s that mental health geography emerged as a recognised sub-discipline of geography. In 2001, Philo and Wolch (2001), both professional geographers, published a review on the research in mental health geography that had taken place since its inception. Their work traced both the changing focus of the studies and the changing methodologies used before going on to look at future possibilities. In another article published in the same journal, Jones (2001) aimed "to demonstrate that geographers... have much to offer to mental health research". Between them, the papers argued for the importance of including geographers in mental health research, as a geographer being a "jack of all trades" is able to see things in a wider context seeking "to explore and interrelate" all the factors that underpin spatial variation of a given phenomenon (Jones, 2001). Again in 2005, Andrews and Moon in their introduction to health geography highlighted the importance of recognizing the role of place and space on human health.

Spatial analysis of mental wellbeing

For many phenomena, not to adopt a spatial model of analysis makes little sense, and I believe that mental wellbeing is one such phenomenon. Most geographers would agree that, "spatial analysis is so intrinsic to geographic thinking that many geographers would find it strange to discuss it separately" (Meade & Earickson, 2000). Yet, in 2005, Skapinakis et al. (2005) and Weich et al. (2005) both published papers in the same issue of *The British Journal of Psychiatry* exploring the geography of mental wellbeing that used a method whose philosophy is rooted non-spatial statistics. Both teams used Multilevel Analysis a "methodology that does not incorporate any notion of space", (Chaix et al., 2005). It should be noted that Multilevel Analysis is not a single technique but a methodology, with its main focus being the analysis of data that have nested sources of variability: that is, where data items have more than one level of relationship to each other. An example of a nested source of variability would be data on educational levels in school children, where there is variation between pupils and between classes. This "nests" the data necessitating the analysis of variability on more than one level: one level of analysis between pupils as

individuals and the other level as members of different classes. For a fuller explanation of Multilevel Analysis and its applications refer to Snijders and Bosker (1999). As advanced as Multilevel Analysis is, when used to explore phenomenon based on aerial units (e.g., administrative areas) it does not take into account the relative positions of the different areas being explored. It analyses the characteristics of each of the areas without reference to where they are in relation to one another in space. In the cases of Skapinakis, and Weich and their respective co-workers, the relationships between measures of mental health of individuals and measures of deprivation for the areas in which the individuals lived were explored. In addition to the use of a non-spatial analytical technique, there was no reference to the “geography” of the phenomenon or to any geographical research methodology. They used an advanced, non-spatial method to explore a phenomenon that is inherently spatial. Interestingly, using the same technique they came to conclusions that were quite different. One team concluded that, “mental health differences in Wales are partly explained by the level of regional social deprivation” (Skapinakis et al., 2005) while the other concluded, “ward level socio-economic deprivation does not influence the onset or maintenance of common mental disorders” (Weich et al., 2005). These conclusions may have been due in part to the fact that in both cases the analysis was based on spatial units that are arbitrary, and the units may or may not bear a meaningful relationship to the phenomenon being investigated. It is beyond this editorial to discuss in any detail how to make the relationship of a phenomenon and its geography meaningful. However a simple example might be seen in the case of an investigation into the clustering of childhood leukaemia around a nuclear power plant. The phenomenon would need to be investigated using point source data for the incidents of disease, and point and aerial data for the sources of potential pollution modelling its spread in relation to climatic conditions. Simply analysing patterns of disease occurrence based on cancer rates by administration area and its Euclidian distance from the nuclear power plant would not be sufficient.

Research training

Looking at the research methodology of health researchers and comparing it to the methodology of geographers it is clear that there is a difference. A quick browse of any medical school teaching programme or healthcare professional body examination syllabus in relation to research methods reveals an emphasis on inferential statistics and epidemiological methods. This, I believe, is where projects would benefit from the inclusion of a professional geographer in studies where space is a factor.

The point in question is simple: does professional training in a particular discipline bias researchers in the research techniques they use? It would seem reasonable to believe that it does; and this in turn gives rise to a second, more important question: does methodological bias have negative consequences for the “acceptance by others” of the discovery of new knowledge and its applications to better healthcare? If it does, it might go some way to explaining why researchers continue using certain techniques where other methodologies might be more profitable, and why the findings of one group of professionals sometimes have little effect on the practice of others.

Lack of progress

In relation to the spatial variation of mental wellbeing, some researchers seem to be asking the same questions as we have always asked: what underlies the heterogeneous distribution of mental health? Yet 30 years on we seem to be no nearer an understanding of the true

nature of the geography of mental wellbeing, as evidenced by the variety of conclusions drawn by different researchers on the same topic. It is obvious to all (on the surface at least) that there is a geography to mental health; so how do we get to the bottom of it?

First, we need to be clear about what we are trying to do. If, as was suggested by Diez-Roux (1998) we are trying to get away from “methodologic individualism” in order to bring macro level variables back into epidemiological research, then the adoption of multilevel analysis would seem to be a good place to start. This method would facilitate the exploration of the role of context on a phenomenon. On the other hand if space is an important factor then it might be better to take a geographical approach. As a geographer this seems self-evident, yet in so many cases researchers are not taking this approach. Two excellent examples of the geographical approach can be found in the work of Chaix et al. (2005) who compared two methods of investigating mental and behavioural disorders in Sweden, with contrasting results, and Chaix, Merlo & Chauvin (2005) who, looking at healthcare utilization in France, compared two different ways of investigating space, demonstrating the superiority of one method over the other.

Second, we need to be clear why we are doing the research. If the research is exploratory, simply seeking to discover new primary knowledge of a phenomenon, then any advance is welcome. On the other hand, if the aim is to understand better a phenomenon in order to introduce changes, then it might be better to adopt methods that allow the analysis that includes elements that can be changed in the real world such as access to and quality of services and facilities, and transport and communication networks.

Third, we need to be clear about the scale of the knowledge we are trying to advance. If, on the one hand, we are trying to advance our understanding of a phenomenon at a larger collective level, then epidemiological and GIS techniques would seem appropriate. But, if we are trying to understand a phenomenon at the individual or micro social scale, or if we are trying to understand the human experience of a phenomenon, then we need to consider other techniques such as qualitative research methods.

I believe that this is where the problems begin. When we look at the work of others we judge the results by the methods being used. This, of course, is necessary to ensure the validity of the findings, but unfortunately, there is a risk that results can be taken to be invalid or of little consequence on the basis of the research methods used being alien to us. Often, for what ever reason, it is all too easy to be prejudiced against methods other than those with which we are familiar. What is needed is a broader understanding of research philosophy, methodology and techniques. Only then will we begin to appreciate (and hopefully accept) research findings that have used methods not favoured by ourselves. This is where professional geographers come into the picture. All geographers are exposed to a full spectrum of research methods (including their underlying philosophy) during their training. This places geographers in a position where they have access to a toolkit that is more varied than any other single discipline. Added to this, geography is unique, being the only discipline that naturally includes space in its analysis. What is needed is a more fully collaborative approach to research, and in particular, research into mental wellbeing.

Solution to the problem

This brings me back to the title of this paper: in relation to researching the geography of mental wellbeing, is there method in the madness or madness in the method? I would suggest there is a little of both. To each researcher there is always a good reason for choosing a particular method of analysis. Sometimes it would seem a natural choice: certain methods lend themselves to certain analysis. In other cases it might be what other researchers have

used and the new research is simply repeating or furthering the work in a different context, time or location. I suspect that researchers choose methods for a variety of reasons, one being the desire to remain within their own comfort zone; but researchers should always look to use the most appropriate method for the topic being studied. Following the advice of Altman (1990), we should not shy away from complex techniques in favour of simpler ones just because we feel more comfortable with them, when the more complex techniques would be more appropriate. However, the reverse of this is also true and we should not overlook a technique just because it is simple. We should use what is the most appropriate technique for the research. This idea should not be limited to statistical methods, as it is just as valid for research methods in general. Researchers would benefit from taking time to consider a wider range of research methodologies and to learn about them. This should include developing an understanding of the philosophy that underpins each discipline together with its research methods and analytical techniques. It would seem that as a research community we are suffering from an excess of the division of labour and specialization as each discipline has developed techniques that are sometimes unknown or little used by other disciplines. If the conclusion of Chaix, Merlo and Chauvin (2005) is true, that “the kind of conceptualisation of space during analysis influences the understanding of the place effects on health”, the exploration of the geography of mental wellbeing would be best served by forming multidisciplinary teams that include geographers using geographical techniques. Only then will there be a fuller picture and true progress in the understanding of the geographical nature of mental wellbeing.

References

- Altman, D. G. (1990). *Practical statistics for medical research*. London: Chapman & Hall/CRC.
- Andrews, J. G., & Moon, G. (2005). Space, place and the evidence base: Part 1 – An introduction to health geography, Worldviews on Evidence-based nursing: second Quarter 2005.
- Chaix, B., Merlo, J., Subramanian, S. V., Lynch, L., & Chauvin, P. (2005). Comparison of a spatial perspective with the multilevel analytical approach in neighborhood studies: The case of mental and behavioral disorders due to psychoactive substance use in Malmö, Sweden, 2001. *American Journal of Epidemiology*, 162, 171–182.
- Chaix, B., Merlo, J., & Chauvin, P. (2005). Comparison of a spatial approach with the multilevel approach for investigating place effects on health: The example of healthcare utilisation in France. *Journal Epidemiology and Community Health*, 59, 517–526.
- Diez-Roux, A. (1998). Bringing context back into epidemiology: Variables and fallacies in multilevel analysis. *American Journal of Public Health*, 88(2), 216–222.
- Gatrell, C. A. (2002). *Geographies of health: An introduction*. London: Blackwell Publishers.
- Jones, J. (2001). The geography of mental health. *Epidemiologia e Psichiatria Sociale*, 10, 219–224.
- May, J. M. (1950). Medical geography: Its methods and objectives. *Geographical Review*, 40(1), 9–41.
- Meade, M. S., & Erickson, R. J. (2000). *Medical geography*. London: Guilford Press.
- Openshaw, S., Charlton, M., Wymer, C., & Craft, A. (1987). A Mark 1 geographical analysis machine for the automated analysis of point data sets. *International Journal of GIS*, 1, 335–358.
- Philo, C., & Wolch, J. (2001). The ‘three waves’ of research in mental health geography: A review and critical commentary. *Epidemiologia e Psichiatria Sociale*, 10, 230–244.
- Skapinakis, P., Lewis, G., Araya, R., Jones, K., & Williams, G. (2005). Mental health inequalities in Wales, UK: Multi-level investigation of the effect of area deprivation. *British Journal of Psychiatry*, 186, 417–422.
- Snijders, A. B., & Bosker, R. J. (1999). *Multilevel analysis: An introduction to basic and advanced multilevel modelling*. London: Sage Publications.
- Weich, S., Twigg, L., Lewis, G., & Jones, K. (2005). Geographical variation in rates of common mental disorders in Britain: Prospective cohort study. *British Journal of Psychiatry*, 186, 29–34.
- Worboys, M., & Duckham, M. (2004). *GIS: A computing perspective* (2nd ed.). London: CRC Press.