



**Exploring
potential reasons for
Glasgow's 'excess' mortality:
results of a three-city survey
of Glasgow, Liverpool and
Manchester**

SUMMARY

- Previous research has suggested that the higher levels of mortality recorded in Scotland compared with other parts of the UK cannot be explained entirely in terms of poverty and socioeconomic deprivation alone. Notably, premature mortality (under 65 years) in Glasgow has been shown to be 30% higher than in the identically deprived UK cities of Liverpool and Manchester, with deaths at all ages almost 15% higher. This ‘excess’ has been shown for all adult age groups, both sexes and across different neighbourhood types (deprived and non-deprived).
- A number of hypotheses have been proposed to explain the additional levels of mortality; however, in many cases, assessment of the plausibility of these theories has been hindered by a lack of comparable data. This project sought to address this by collecting new data for seven sets of such hypotheses.
- A cross-sectional survey of the populations of Glasgow, Liverpool and Manchester was carried out in the latter half of 2011. Data were collected for the topics of: ‘sense of coherence’; social capital; perceptions of the effects of historical UK government policy; individual ‘values’ (e.g. psychological outlook (optimism, aspirations), hedonism, individualism); social mobility; ‘anomie’ (or ‘boundlessness and alienation’); early years experiences.
- From detailed analyses of the data, the seven hypotheses were re-categorised under three headings: plausible; less plausible; and still unknown:
 - It appears *plausible* that there are differences in some aspects of social capital (trust and reciprocity, and social participation) between Glasgow and the two English cities which could potentially impact on levels of health and wellbeing among some sections of the population.
 - However, it appears *less plausible* that Glasgow’s population suffers from a lower ‘sense of coherence’, from the effects of different childhood experiences, or from factors relating to particular ‘values’ that might have adverse impacts on health (e.g. psychological outlook).
 - It is probably fair to say that data weaknesses impair assessment of the evidence of the impact of political effects, differences in social mobility, higher levels of materialism, and whether the ‘anomie’ hypothesis holds true (although the data suggest the latter is unlikely). Further research is required to clarify the importance of some of these factors.
- What remains beyond doubt and speculation is the sheer scale of the ‘excess’ level of mortality and poor health in Glasgow (and other parts of Scotland) compared with elsewhere in the UK, the impact that it has on individuals and communities alike in terms of shortened and wasted lives, and the urgent need, therefore, to understand and address this situation – the ultimate aim of this continuing programme of research. This, however, must be alongside, not in place of, efforts to reduce poverty and deprivation, the fundamental drivers of poor health in any society.

INTRODUCTION

Traditional explanations for the poor health profile of Scotland, and particularly that of its largest city, Glasgow, have focused on the effects of socioeconomic deprivation, driven in recent decades by post-industrial decline. Both these explanations are tremendously important: the links between poverty and poor health are well-known, and the high levels of deprivation in and around Glasgow in particular are well-established. Across all Europe, mortality tends to be highest in deindustrialised regions.

However, despite their importance, these explanations do not appear to be *sufficient* to explain the *particularly* poor health profile of Scotland as a whole, and that of Glasgow and its surrounding post-industrial region in particular. Scotland's mortality rates are significantly higher than those of England and Wales, even once differences in deprivation have been taken into account. Health in virtually all post-industrial regions of Europe is better, and improving faster, than in West Central Scotland (WCS). Most strikingly of all, research published in 2010 showed the deprivation profiles of Glasgow, Liverpool and Manchester to be virtually identical: yet despite this, premature mortality in Glasgow was shown to be 30% higher than in the English cities, with deaths at all ages around 15% higher. This 'excess' was shown for all adult age groups, both sexes and across different neighbourhood types (deprived and non-deprived).

A number of hypotheses have been proposed to explain the additional levels of mortality; however, in many cases, assessment of the plausibility of these theories has been hindered by a lack of comparable data. To address this situation a programme of research has been established to collect new data and examine some of these suggested explanations in more detail.

AIMS & PURPOSE

The aims of the research were:

1. To carry out a representative survey of the populations of Glasgow, Liverpool and Manchester to collect new data relating to some of the more plausible hypotheses put forward to explain Glasgow's 'excess' mortality; and wherever possible, to collect these data using previously validated survey questions and scales.
2. To undertake detailed analyses of these data to establish where there were any significant differences between the cities (and whether such differences remained after adjusting for various characteristics of the samples).

APPROACHES & METHODS

A cross-sectional survey of the populations of Glasgow, Liverpool and Manchester was carried out in the latter half of 2011. Data were collected from 3,700 respondents across the three cities (just over 1,200 in each).

Data were collected for seven topics (some overlapping): 'sense of coherence'; social capital; perceptions of the effects of historical UK government policy; individual 'values' (e.g. psychological outlook (optimism, aspirations), hedonism, individualism, future orientation (or 'time preferences' – the extent to which individuals are willing to 'invest' in their future health)); social mobility; 'anomie' (or 'boundlessness and alienation'); early years experiences. Where possible, existing survey scales and questions were used to measure these concepts e.g. Antonovsky's 13-item 'Sense of Coherence' scale (SOC-13), the Office for National Statistics core 'Social Capital Harmonised Question Set', the Life Orientation Test (Revised) (LOT-R), Schwartz's Human Values Scale, the Generalised Self-Efficacy (GSE) scale.

A 55% response rate was achieved, with the samples shown to be broadly representative of the cities' populations. Multivariate regression modelling analyses were employed to ensure that any observed differences between the cities were independent of differences in the characteristics of the survey samples (age, gender, social class, ethnicity, and so on).

FINDINGS & CONCLUSIONS

There are obvious limitations in using contemporary cross-sectional survey data to explore hypotheses relating to mortality differentials between whole populations, and caution is required in drawing conclusions. However, from analyses of these new data, and in the context of previous relevant research, it seems reasonable to categorise the hypotheses that were explored in the project under three headings: plausible; less plausible; and still unknown.

It appears *plausible* that there are differences in some aspects of social capital (trust and reciprocity, and social participation) between Glasgow and the two English cities which could potentially impact on levels of health and wellbeing in the population: differences between the samples in social participation (e.g. volunteering (Figures 1 and 2)), trust and reciprocity (e.g. Figure 3) are clear and consistent, and are supported by analyses of related ‘values’ such as universalism (Figure 4) and benevolence. Further research is required to understand what the ‘drivers’ of these differences might be.

Figures 1 and 2 show lower rates of volunteering in Glasgow compared with Liverpool and Manchester, a finding true of most social classes (although most clearly in comparisons of higher, rather than lower, social class). At the city-level, the difference remained even after adjustment for differences in the characteristics of the survey samples (e.g. age, gender, social class, education, ethnicity and so on).

Figure 1.

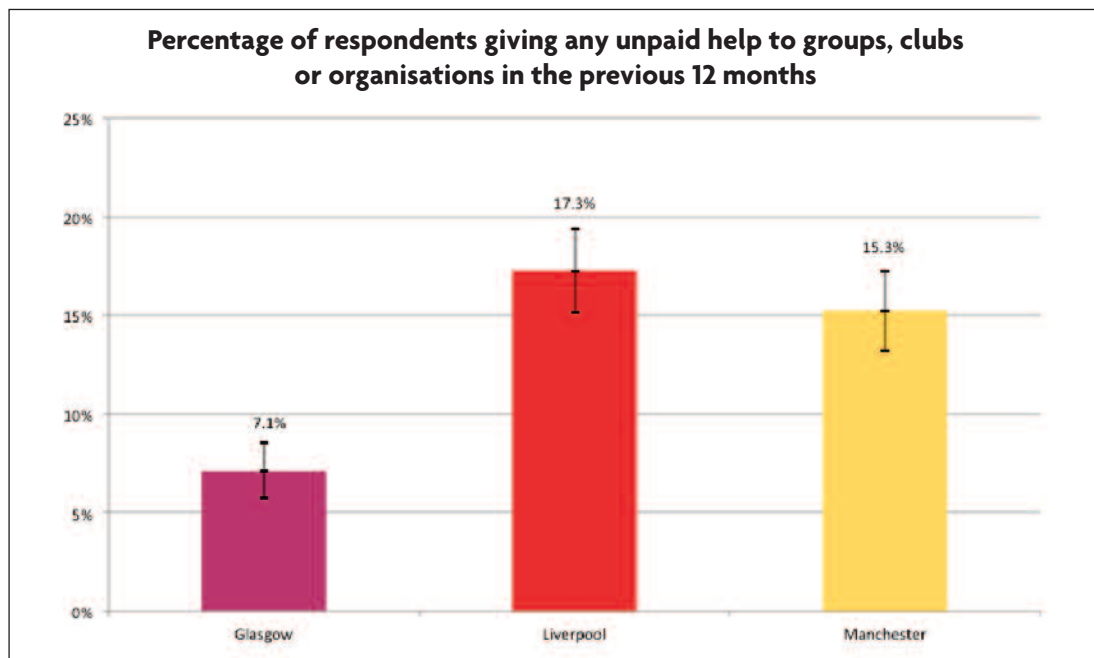


Figure 2.

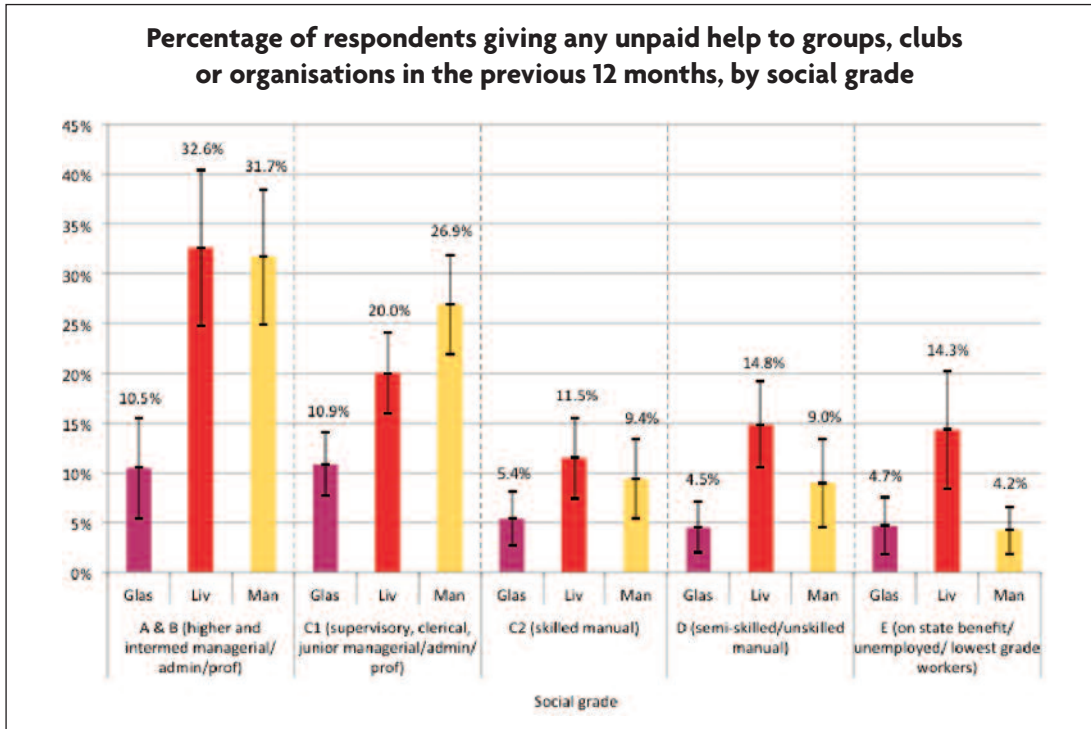


Figure 3 shows that levels of trust of people in respondents' neighbourhoods were significantly lower among the Glasgow sample, a finding that remained true in the modelling analyses (i.e. after adjustment for different characteristics of the samples).

Figure 3.

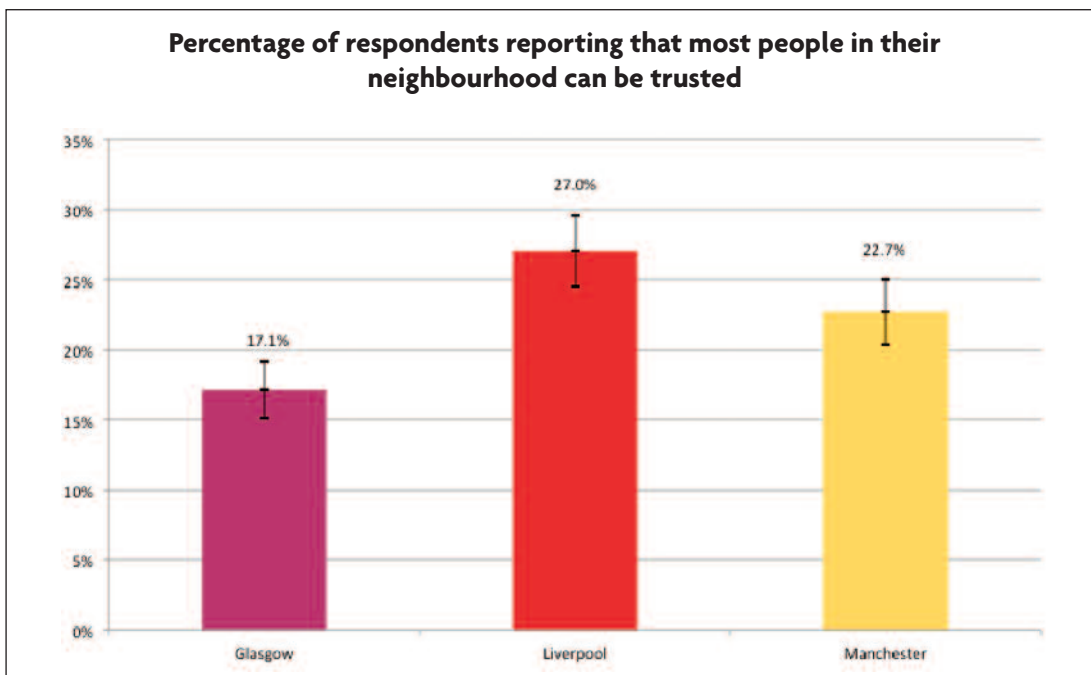
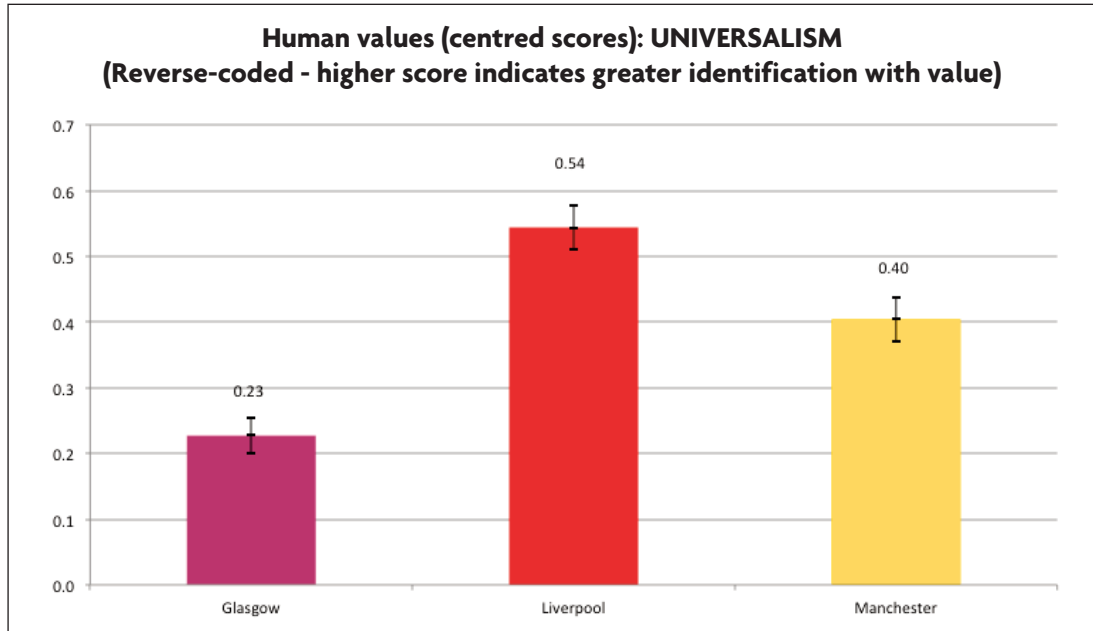


Figure 4 shows the Glasgow sample was significantly less associated with the value of universalism, suggesting a more individualistic outlook.

Figure 4.



However, it appears *less plausible* that Glasgow’s population suffers from a lower ‘sense of coherence’ (shown to be significantly higher among the Glasgow sample compared with the samples from both English cities (Figures 5 and 6)), from the effects of different childhood experiences, or that the population is more associated with other particular ‘values’ that might have adverse impacts on health, such as psychological outlook (e.g. lower optimism: Figure 7), hedonism, and future orientation (‘time preferences’).

Figures 5 and 6 show that ‘sense of coherence’ was significantly higher, not lower, among the Glasgow sample compared with respondents in the two English cities. This was the case across most social classes. The difference between the cities remained even after adjustment for age, gender, social class, ethnicity and other characteristics of the samples.

Figure 5.

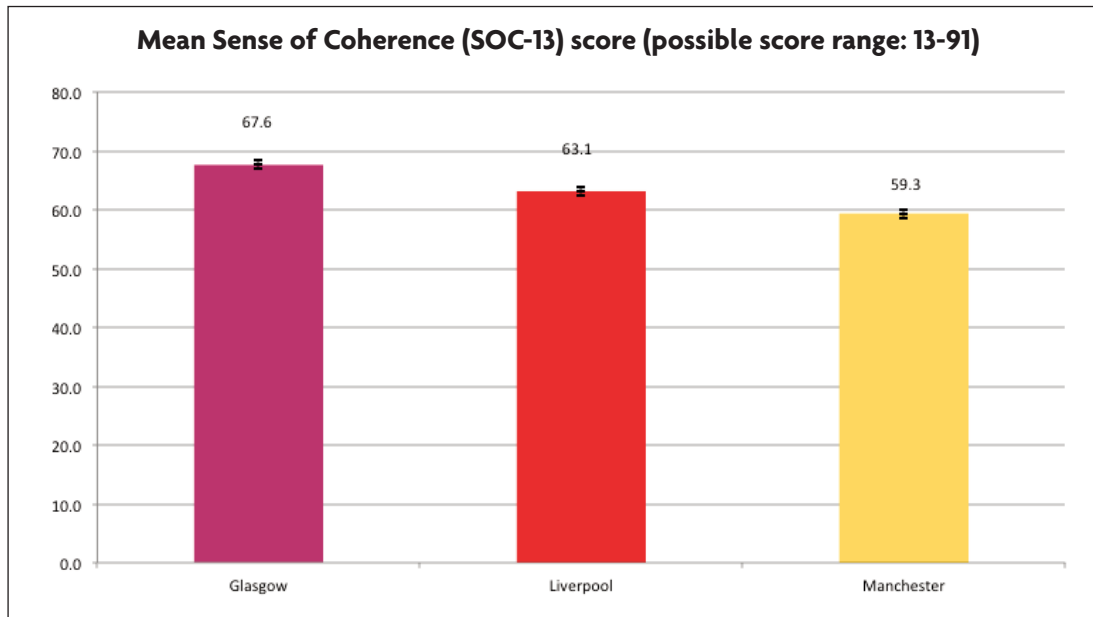


Figure 6.

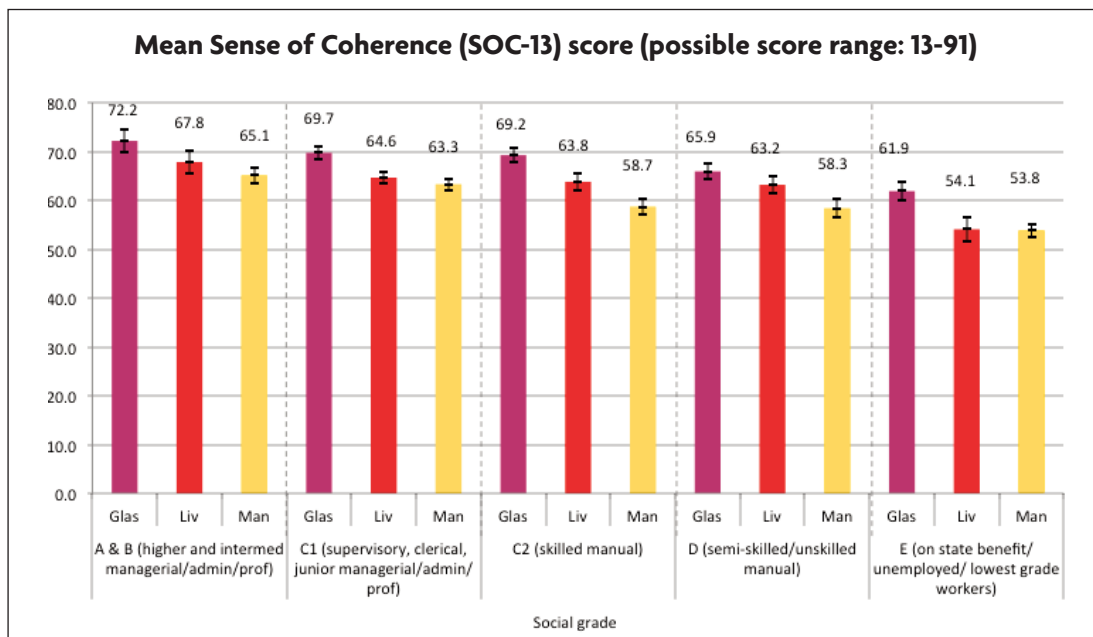
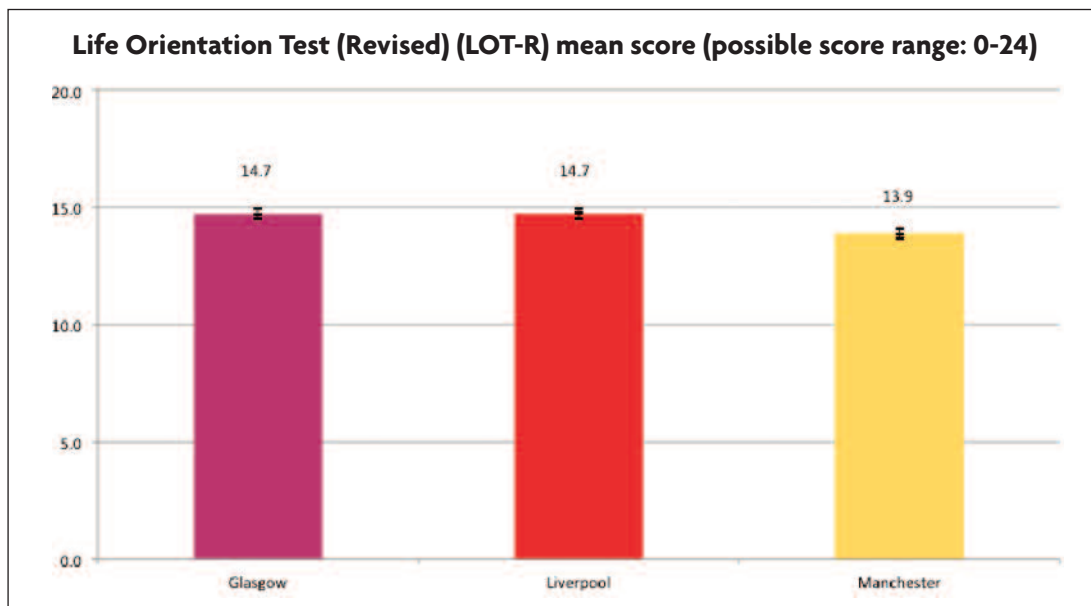


Figure 7 shows a comparison of a frequently-used measure of optimism, the Life Orientation Test (Revised) (LOT-R). This shows that at the city-level, levels of optimism among Glasgow and Liverpool respondents were identical, and significantly higher than among respondents in Manchester. The statistical modelling analyses confirmed that the higher optimism score among the Glasgow and Liverpool samples compared with that in Manchester remained significant after adjustment for other factors in the model.

Figure 7.

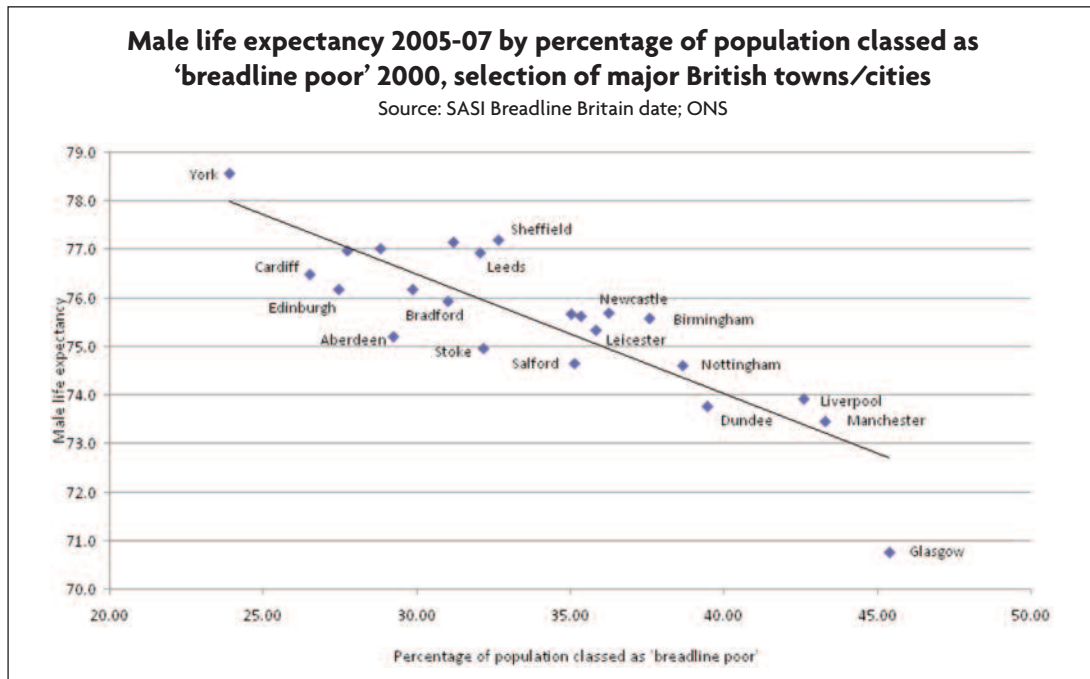


It is probably *still unknown* whether the ‘anomie’ hypothesis holds true: the data suggest it is unlikely, but whether this kind of population survey is the best means by which to examine the hypothesis is unclear; similarly, it is probably fair to say that data weaknesses impair our ability to assess the evidence of the impact of political effects (albeit some evidence of more negative perceptions of the 1980s did emerge from the Glasgow sample), differences in social mobility, and higher levels of materialism. Further research is required to clarify the importance of some of these factors.

What remains beyond doubt and speculation is the sheer scale of the ‘excess’ level of mortality and poor health in Glasgow (and other parts of Scotland) compared with elsewhere in the UK, the impact that it has on individuals and communities alike in terms of shortened and wasted lives, and the urgent need, therefore, to understand and address this situation – the ultimate aim of this continuing programme of research. This, however, must be alongside, not in place of, efforts to reduce poverty and deprivation, the fundamental drivers of poor health in any society. This is highlighted in Figure 8, showing both the impact of poverty on life expectancy, as well as Glasgow’s ‘outlier’ status in relation to health.

Figure 8 shows male life expectancy plotted with a measure of poverty for British towns and cities.

Figure 8.



RESEARCH TEAM

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Most of all, however, sincere thanks are due to all the survey respondents in Glasgow, Liverpool and Manchester for giving up their time to complete the questionnaire.

FULL REPORT

The full report can be accessed via the GCPH website: <http://www.gcph.co.uk>

The report should be cited as follows:

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