Original Research

Associations between health and different types of environmental incivility: A Scotland-wide study

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SUMMARY

Objectives: Concern about the impact of the environment on health and well-being has tended to focus on the physical effects of exposure to toxic and infectious substances, and on the impact of large-scale infrastructures. Less attention has been paid to the possible psychosocial consequences of people's subjective perceptions of their everyday, street-level environment, such as the incidence of litter and graffiti. As little is known about the potential relative importance for health of perceptions of different types of environmental incivility, a module was developed for inclusion in the 2004 Scottish Social Attitudes survey in order to investigate this relationship.
Study design: A random sample of 1637 adults living across a range of neighbourhoods throughout Scotland was interviewed.
Methods: Respondents were asked to rate their local area on a range of possible environmental incivilities. These incivilities were subsequently grouped into three domains: (i) street-level incivilities (e.g. litter, graffiti); (ii) large-scale infrastructural incivilities (e.g. telephone masts); and (iii) the absence of environmental goods (e.g. safe play areas for children). For each of the three domains, the authors examined the degree to which they were thought to pose a problem locally, and how far these perceptions varied between those living in deprived areas and those living in less-deprived areas. Subsequently, the relationships between these perceptions and self-assessed health and health behaviours were explored, after controlling for gender, age and social class.
Results: Respondents with the highest levels of perceived street-level incivilities were almost twice as likely as those who perceived the lowest levels of street-level incivilities to report frequent feelings of anxiety and depression. Perceived absence of environmental goods was associated with increased anxiety (2.5 times more likely) and depression (90% more likely), and a 50% increased likelihood of being a smoker. Few associations with health were observed for perceptions of large-scale infrastructural incivilities.
Conclusions: Environmental policy needs to give more priority to reducing the incidence of street-level incivilities and the absence of environmental goods, both of which appear to be more important for health than perceptions of large-scale infrastructural incivilities.

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Introduction

There is increasing evidence that area of residence is associated with health, independently of individual characteristics such as age, gender or socio-economic status.[1,2] Potential explanations include the distribution of amenities and facilities in an area, as well as how people perceive and interpret the place in which they live.[3,4]

Parallel to the growing public health literature on the importance of place in determining health, there is extensive literature on environmental justice. The term 'environmental justice' was first used in the USA in the late 1970s in response to the disproportionate burden placed on poor Black communities by the location of noxious facilities in their neighbourhoods.[5,6]

In Scotland, the initial public reference to environmental justice was in a speech given in February 2002 by the then First Minister:

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Too often the environment is dismissed as the concern of those who are not confronted with bread and butter issues. But the reality is that the people who have the most urgent environmental concerns in Scotland are those who daily cope with the consequences of a poor quality of life, and live in a rotten environment – close to industrial pollution, plagued by vehicle emissions, streets filled with litter and walls covered in graffiti. This is true for Scotland and also true for elsewhere in the world. These are circumstances which would not be acceptable to better off communities in our society, and those who have to endure such environments in which to bring up a family, or grow old themselves are being denied environmental justice (Jack McConnell, 2002).

This approach to environmental justice encompasses more than proximity to large-scale toxic or infectious environmental health risks, which has been the preoccupation of much previous work on the relationship between environment and health. It draws attention to the potential psychosocial effects of environmental 'incivilities' on human health and well-being. An 'environmental incivility' is any aspect of the environment that people are capable of discerning through hearing, sight, touch or smell, and about which they may be inclined to feel negatively. These perceptions are thought to matter because of their potentially adverse psychological impact on the individual. Hence, it is not solely the objective physical environment that matters, but also people's subjective impressions of and then reactions to that environment. Meanwhile, although it is well established that people living in poorer areas in Scotland are more likely to be exposed to environmental health risks,[7] such as industrial pollution, derelict land, poor river water quality and poor air quality, less is known about whether similar relationships are found when one considers people's perceptions of their local environment.

The degree to which people perceive their residential environment to be pleasant or otherwise has been shown to be associated with various health outcomes, including self-rated health[8–14] and health behaviours such as smoking.[15–17] Perceptions of the neighbourhood may also influence health behaviours, such as walking around the local neighbourhood,[18,19] that, in turn, can have an effect on social relationships in the neighbourhood.[20] Residents who perceive higher levels of incivilities are less attached to their neighbourhood, and this is associated with high population turnover,[21] lowered social trust and, in turn, more negative perceptions of the local neighbourhood. In addition, a large body of research[22–25] has found that those who perceive a higher incidence of incivilities also have a greater fear of crime. Fear of crime has been shown to be associated with health and health-related behaviours.[26–30]

The impact of the availability of 'environmental goods', such as somewhere green and pleasant to walk or sit, or places that are safe and pleasant for children to play, has also received some attention. A number of studies have shown positive health benefits of green areas on human health.[31–33] Access to safe play areas is important for a number of child health and development outcomes, including achieving sufficient physical activity, reducing accidents and interacting with others.[34–36]

Infrastructural conditions have, of course, also been implicated. There is continuing debate over the possible health risks associated with living near overhead power lines[37] or telephone masts.[38] Sewage smells may constitute a nuisance,[39] and a key indicator of the quality of the local physical environment is the quantity of derelict land.[40]

To date, most studies of the link between the local environment and health have been restricted to a particular geographic area and/or a small set of perceived environmental conditions. This study aimed to explore the reported incidence, distribution and impact of subjective environmental incivilities across the whole of Scotland. To investigate these questions, a module was designed for insertion in the 2004 Scottish Social Attitudes (SSA) survey. This exercise had two key strengths. First, it collected data on perceptions of large environmental burdens, such as landfill sites, a wide range of everyday street-level incivilities and perceptions of the absence of environmental goods (green spaces and safe play areas). Second, it had national coverage, encompassing different locales, urban–rural differences, and a wide sociodemographic and socio-economic range of respondents.

Methods

Sample design

The 2004 SSA survey was designed to yield a representative sample of adults aged 18 years or over living in Scotland. The sample frame was the postcode address file; a list of postal delivery points compiled by the Post Office. The sample design involved three stages. Firstly, 84 postcode sectors were selected from a list of all postal sectors in Scotland, with probability proportional to the number of addresses in each sector. Prior to selection, the sectors were stratified by region, population density and percentage of household heads recorded as employers/managers (taken from the 2001 Census). The list was also stratified using the Scottish Household Survey (SHS) six-fold classification of urban and rural areas,[41] and sectors within rural and remote categories were oversampled. In order to boost the number of respondents from remote and rural areas further, twice as many addresses ($n = 62$) were selected from the sectors within the three most rural categories (remote small towns to remote rural areas) than were selected from each sector located within the first three SHS urban–rural classifications (cities to accessible small towns). Interviewers called at each selected address and identified its eligibility for the survey. Where more than one household was present at an address, all households were listed systematically and one was selected at random using a computer-generated random selection table. In all eligible households that contained more than one adult aged 18 years or over, interviewers also had to carry out a random selection of one adult to be interviewed using a similar procedure. In total, 2699 addresses proved to be suitable for inclusion in the survey, and within these, 1637 individuals (60.7%) completed the interview. Interviews were conducted using face-to-face computer-assisted interviewing, supplemented by a self-completion questionnaire that was answered by 92% (1514) of respondents to the main interview.

Data were weighted to take account of the fact that not all households or individuals had the same probability of selection for the survey. For example, adults living in large households had a lower selection probability than adults who live alone. Weighting was also used to correct the oversampling of rural addresses.

Variables

Sociodemographic measures

Respondents were aged 18–97 years (mean = 50.15, standard deviation 17.8); 950 were female and 687 were male. SSA respondents were classified, using the National Statistics Socio-Economic Classification,[42] according to their own occupation, rather than that of the head of the household. Each respondent was asked about their current or last job, so that all respondents, with the exception of those who had never worked, were classified.