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ABSTRACT

Is the common pressure group and media refrain that 'we are all two pay cheques away from homelessness' justified by the evidence? Drawing on multivariate analysis of two cross-sectional datasets (the 'Scottish Household Survey' and the UK-wide 'Poverty and Social Exclusion') Survey and one longitudinal data-set (the 'British Cohort Study 1970'), this paper provides a systematic account of the social distribution of homelessness in the UK. Informed by a critical realist explanatory framework, our analysis underlines the centrality of poverty, especially childhood poverty, to the generation of homelessness, while also demonstrating the impact of broader labour and housing market contexts, and certain demographic, personal and social support characteristics. These findings reinforce the moral imperative for policy action on homelessness, while at the same time signalling opportunities to target preventative interventions on high risk groups.

Introduction

In a commendable attempt to avoid the 'othering' of those suffering acute forms of disadvantage, such as poverty or homelessness, it is sometimes argued by charities and other progressive voices that these misfortunes 'can happen to anyone' (Marsh, 2016) or (at a stretch) 'almost anyone' (Joseph Rowntree Foundation, 2016). With respect to homelessness specifically, sympathetic politicians, academics and others often rehearse mantras such 'homelessness results from many different causes' and 'homelessness is hugely complex' (see, for example, this recent UK Parliamentary debate, HC Deb 28 October 2016 vol 616 cc540-609).

Well intentioned as they are, such statements can work cumulatively to create the impression that the experience of homelessness is fairly randomly distributed across the population, that its causes are largely unfathomable, and that attempts at prediction and prevention are doomed to failure. But is the risk of homelessness really so widely distributed across the population as to justify the common pressure group and media refrain that we are 'all two pay cheques away from homelessness'? (Fitzpatrick *et al.*, 2011). Or do such 'inclusive'

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narratives, with their implicit appeal to enlightened self interest as a galvanizing moral force, distract from the reality of a profoundly unequal set of risks, and potentially disguise deeper structural and other causes that may be identifiable, and possibly also preventable, should the political will be found?

This paper sets itself the task of addressing these questions via an analysis of the social distribution of the experience of homelessness in the UK. In so doing, it considers the inferences that can be reasonably drawn about the causes of homelessness from data on the characteristics and circumstances of people who have had this experience. It begins by reviewing conceptualizations of the causation of homelessness, considering briefly the classic distinction between structural and individualistic accounts, before going on to argue from a critical realist perspective that these factors can be reconciled in a theoretical framework that allows for evidence-based theorizing and empirical investigation (rather than ideological inclination) to settle the matter of their import.

This conceptual review provides the basis for the research questions pursued in the paper pertaining to the relative impact of a range of potential causal factors in accounting for the incidence and distribution of homelessness in the UK. Such incidence may be measured systematically by asking a standard set of retrospective questions in general household surveys, and this paper draws on the results of such questions asked in the 'Scottish Household Survey' over a run of years, in 2012 in the UK-wide 'Poverty and Social Exclusion' survey, and in 2000 of the British Cohort Study respondents born in 1970 (and so then aged 30). Our exploratory analysis of these data-sets serves to underline the centrality of poverty, especially childhood poverty, to the generation of homelessness, while also demonstrating the impact of broader labour and housing market contexts, and certain demographic, personal and social support characteristics. The concluding section of the paper draws out the implications of this analysis for both our understandings of the causation of homelessness and potential policy responses.

Causation and homelessness

Explanations of homelessness in the Global North have traditionally fallen into two categories: 'individualistic' explanations, which focus on the personal vulnerabilities and behaviours of homeless people, such as mental ill health and addictions, and 'structural' explanations, which locate the causes of homelessness in broader forces such as housing market conditions, poverty and unemployment (Benjaminsen & Bastholm Andrade, 2015; Johnson *et al.*, 2015). This dichotomy has been subject to sustained criticism (Fitzpatrick, 2005; Neale, 1997), not least because of a tendency to conflate individualistic explanations with personal 'agency', and therefore potentially culpability, when there are many individual circumstances that may leave a person vulnerable to homelessness over which they have no control.

In part because of the connotations of 'blameworthiness' implied by many individually focussed accounts, most academic commentators in the UK have historically favoured structuralist, housing market-based explanations of homelessness (Fitzpatrick *et al.*, 2011). However, more recent UK and international scholarship has leaned towards a 'blended' approach that acknowledges the concentration of vulnerable people with support needs in the homeless population, but explains this in terms of their heightened vulnerability to adverse social and economic conditions (Benjaminsen & Bastholm Andrade, 2015). This

hybrid model provides a more rounded explanation of homelessness than prior polarized positions, but has been argued to be unsatisfying at a deeper, more theoretical level (Fitzpatrick, 2005). In particular, the hybrid approach has sometimes been posited on a rather simplistic 'positivist' notion of social causation, that requires both 'necessity' (i.e. homelessness cannot occur unless 'the cause' is present) and 'sufficiency' (i.e. 'the cause' must inevitably lead to homelessness):

> ... the great majority of people in poverty or with mental health, or substance abuse problems, do not sleep rough… It follows that housing shortages, poverty, mental health and substance misuse problems cannot be said to cause rough sleeping (Randall & Brown, 1999, p. 5).

Informed by 'critical realism', this paper dispenses with the deterministic quality of causation implied in this quotation. According to the realist perspective, social causation is *contingent*: given the open nature of social systems, something may have a 'tendency' to cause homelessness without 'actually' causing it on every occasion, because other (contextual) factors may often – or even always – intervene to prevent correspondence between cause and effect (Sayer, 2000). Realist explanations are also *complex*, taking into account multiple (often inter-related and multi-directional) causal mechanisms, and at the same time also allowing for the possibility of a range of quite separate causal routes into the same experience. From this perspective, constellations of inter-related causal factors are likely to 'explain' homelessness in any particular case (Byrne, 1998), and the challenge is to identify common patterns that can be explained by the 'qualitative nature' of recurring antecedents – i.e. *what it is about* these factors that could *tend* to cause homelessness.

With regard to the potential link between poverty and homelessness, for example, critical realists' primary focus is not on the question *what proportion of poor people are homeless?* but rather *what is it about poverty that could cause homelessness?* While the most obvious 'generative mechanism' linking poverty and homelessness is the difficulties low income people can face in paying for market housing rationed by price (Quigley *et al.*, 2001), the interaction between poverty and a range of other 'social dislocations' associated with homelessness has also been posited to play a role (Fitzpatrick *et al.*, 2011; McNaughton, 2008). Poverty has been shown to have a strong causal effect on both physical and mental health (Marmot & Bell, 2012), for example, and emerging evidence of the spatial concentration of the most serious forms of drug misuse and chronic offending in the UK point to the structural origins of these problems in processes of deindustrialization and associated entrenched forms of poverty (Bramley *et al.*, 2015). This all suggests that there is unlikely to be a straight 'either/or' between structural and individual causes of homelessness, but rather a complex interplay between the two. For the critical realist, however, such a statement marks not the end but the beginning of the analytical journey. Understanding the nature of these interactions, including the relevant direction(s) of causation, and the relative dominance of different generative mechanisms, is precisely the territory within which intellectual effort requires to be expended.

We also know that family and other 'anchor' social relationships – argued to be an especially important 'buffer' to homelessness (Johnson *et al.*, 2015; Lemos, 2000; Tabner, 2010) – can be put under considerable strain by the stressors associated with poverty in the household (see Johnsen & Watts, 2014; Pinderhughes *et al.*, 2007). There is also now extensive international evidence on the interrelationship between poverty and domestic violence (Fahmy *et al.*, 2016), which in turn is a key trigger for homelessness amongst women and children (Hutchinson *et al.*, 2015). Thus people facing poverty may find their social as well as

material capital depleted, while also being more likely to experience personal circumstances that lay them open to homelessness, again reinforcing the potential interconnectedness between structural and more personal or interpersonal causes of homelessness.

Another central tenet of realist theory is that the world is structured, differentiated and stratified, with no one strata assumed to be logically prior to any other with regard to social causation. This is a crucial point with respect to the causation of homelessness, wherein the dominant 'blended' position implies that structural causes are somehow more 'fundamental' than individual factors (Fitzpatrick, 2005). In contrast, a realist theoretical framework allows for the possibility that the balance of underlying causal factors may vary between different homeless groups, with structural causes more important in some cases and individual causes more important in others (see also Johnson *et al.*, 2015). For example, quantitative research on statutorily homeless families in England has indicated that this form of homelessness is far less strongly associated with individual support needs than appears to be the case with rough sleeping or single homelessness (Fitzpatrick & Pleace, 2012).

It may also mean that the balance between structural and individual factors varies between countries, or indeed between regions and other locales within countries. At the national level, for example, it has been hypothesized that countries with benign social and economic conditions – well functioning housing and labour markets and generous social security policies – will have a low overall prevalence of homelessness, but that a high proportion of their (relatively) small homeless populations will have complex personal problems (Stephens & Fitzpatrick, 2007). The reverse has been posited to hold true (high prevalence/lower proportion with support needs) in countries with a more difficult structural context. The available evidence tends to support this hypothesis (Shinn, 2007; Toro, 2007). For example, Toro *et al*'s (2007) international telephone survey provides some support for the first part of the hypothesis, finding that 'lifetime homelessness' was significantly more prevalent in the UK and US – both countries with relatively high levels of poverty and income inequality – than in Belgium, Germany and Italy. Milburn *et al*'s (2007) cross-national comparison of risk-taking behaviours amongst homeless young people in the US and Australia found that, as predicted by the second part of the hypothesis, young homeless people in Australia (with its relatively strong welfare system) were a more vulnerable group than their peers in the US (with its much narrower welfare safety net). Likewise, Benjaminsen & Bastholm Andrade (2015) found that Denmark, with its robust welfare state, had levels of shelter use that were substantially lower than those in the US, but also that the 'transitionally homeless' in Denmark were more likely than those in the US to suffer from mental illness and substance misuse (see also Benjaminsen,2016).

European Commission-funded comparative research also supports the proposition that 'welfare regimes' impact profoundly on the scale, causes and nature of homelessness (Stephens *et al.*, 2010). It further suggested that housing market conditions may have a more direct effect on homelessness than labour market change (Stephens *et al.*, 2010; see also Bramley *et al.*, 2010; Busch-Geertsema & Fitzpatrick, 2008). In the US, area-level studies have consistently found that the volume of homelessness is determined largely by housing market conditions, particularly rent levels and vacancy rates (Quigley *et al.*, 2001), whereas studies taking individuals as their level of observation have tended to find weaker housing market effects and stronger effects for personal characteristics, defined to include poverty (O'Flaherty, 2004). More recent research in Australia which has, crucially, managed to link longitudinal individual-level data with area-level data, found that median market rents were

positively related to entries into homelessness, with the effect both statistically significant and sizeable (Johnson *et al.*, 2015). Interestingly, though, this Australian study also found that local housing and labour market conditions had less influence on the (already heightened) propensity to experience homelessness of those with 'risky behavioural traits', such as recent incarceration or drug use. Thus, there are good reasons to suspect that housing market factors may 'trump' labour market factors in the generation of homelessness, other things being equal, but the matter is far from settled in the UK at least.

Through an analysis of three large-scale UK surveys, this paper seeks to address the following research questions arising from this overview of the existing evidence, as framed from a critical realist perspective:

- is the experience of homelessness randomly distributed across the UK population or concentrated amongst certain groups?
- what is the relative role played by individual, social support and structural factors in accounting for any patterns found, and what can we discern about their causal interrelationships?
- with regard to the structural factors specifically, what is the relative contribution of housing market, labour market and poverty-related factors?
- does the balance between all of these factors vary between different localities and social groups?

Data sources

We draw on three complementary sources of quantitative data on experiences of homelessness in the UK. While all three data-sets have strengths and weaknesses for our present purposes, in combination, they allow us to explore the contribution of a wide array of the potential causal factors identified in the literature review above, including *individual-level factors* (e.g. demographic characteristics; personal vulnerabilities (such as mental or physical ill health); and 'behavioural' issues (such as substance misuse and involvement in the criminal justice system)), *social support factors* (e.g. household and family structure); and *structural factors* (e.g. local labour and housing market conditions, and poverty at both household and area levels). A brief description of each data-set and how it contributes to our analysis is now given.

First, the Scottish Household Survey (SHS) is an annual cross-sectional survey of a representative sample of around 10,000 private households. It includes a wide range of socio-economic variables, and in a number of waves asked a randomly chosen (adult) household respondent: 'Have you ever been homeless, that is, lost your home with no alternative accommodation to go to?' Those who answer in the affirmative were asked whether they had had this experience in the past two years. The SHS provides the best and fullest resource available for profiling homelessness anywhere in the UK at present, particularly with respect to sample size and linking individual and area-based attributes. Its main limitation, other than the fact that it covers Scotland only, is that it contains relatively limited data on some health and social issues hypothesized to be related to homelessness. In order to boost sample sizes, eight waves of SHS data which include the homelessness questions have been used for the main analysis (the years 2001–2007 and 2010) comprising 100,861 records of which 99,603 were usable. In all 5.1% of those surveyed reported having been homeless, yielding a total of 5091 homeless cases for analysis.

Second, the Poverty and Social Exclusion survey 2012 (PSE) is a UK-wide representative data source which includes questions on people's experience of homelessness worded in almost precisely the same way as those in the SHS, but with a follow-up question about the past five (not two) years. The value of this survey derives from the fact that it covers the whole of the UK, and includes an especially wide range of measures of poverty and social exclusion, including issues pertaining to the sorts of health and social support needs often thought to be linked to homelessness. Its limitations include the smaller total sample size, which for this analysis amounts to 4119 individual adults in England and Scotland allowing for missing data on relevant variables (for technical reasons we could not expand this analysis to Wales and Northern Ireland). It is also worth noting that the variables we managed to link to the survey at locality or neighbourhood level were more limited within PSE than SHS. The proportion of PSE respondents who reported homelessness was 9.3%, yielding a total of 383 homeless cases for analysis. The higher proportion of respondents reporting homelessness, compared with the SHS, likely reflects a combination of the main focus being on England, where rates appear higher than elsewhere in the UK (Fitzpatrick, Bramley, et al., 2013), the more recent date (2012), given rising trends in homelessness since 2010 (Fitzpatrick et al., 2016), and possible differences in the question response (it being contained within a 'self-completion' section).

The retrospective questions on homelessness contained in the SHS and PSE yield considerable insights on social distribution, as we will demonstrate below, but their cross-sectional nature limits the extent to which we can draw causal inferences from any relationships identified. This is because we cannot be sure that contemporary characteristics are the same as they were *before* the episode(s) of homelessness, or how far back in time the causal processes go, making the issue of 'direction of causation' in particular difficult to tackle. Moreover, these large-scale household surveys are best suited to investigating *past* rather than *current* experience of homelessness because they do not generally capture people living in temporary accommodation or those sleeping rough.

In order to address these limitations we draw on a third data-set, the British Cohort Study (BCS) which provides systematic data from birth to younger adulthood on every individual born in England, Scotland and Wales in one specific week in 1970. In the year 2000, BCS70 cohort members were asked about homelessness experiences up to age 30. The homelessness question wording was slightly different to that of the SHS/PSE: 'Since 1986/1991 [i.e. the last wave in which they participated], has there been a time when you were homeless, by that I mean that you had to move out of a place and had nowhere permanent to live?' We have assembled a data-set linking these age-30 observations with key information from age 10 (childhood), age 16 (teenage years and transition to adulthood) and age 26 (early adulthood), which has enabled us to capture many of the potential causal and longer term risk factors discussed in the opening section of this paper, and also to address uncertainties around the direction of causation. However, the BCS70 data accessed contained only general geographical location variables – regions and urban/rural character – which limits our ability test specific hypotheses about area-level effects. The data are also more dated than the other sources, being now 16 years old (the homelessness questions were not repeated in later waves)[1]. But it is a uniquely rich source with a vital longitudinal dimension not found in other data-sets. The proportion of BCS70 respondents who reported homelessness was 6.3%, yielding a total of 505 homeless cases for analysis out of 8014, but allowing for missing data (particularly from earlier waves) for some explanatory variables the usable sample for modelling was 7633.

Taken together, these three data sources allow us to conduct important exploratory work on the research questions above, without claiming at this stage to be able to offer definitive answers to all of them. Ideally, that would require contemporary longitudinal data, covering all domains of interest including homelessness, from a large-scale national sample, offering systematic linkage between individual-level and area-level data. This we do not have in the UK at present (but see Johnson *et al*, 2015 on Australia). However, by triangulating insights from across these three (imperfect) data sources, we believe we can offer firm findings on some of the questions we have posed, while offering preliminary indications and pointers for future research on the remainder.

The Scottish household survey

As noted above, in all 5.1% of adults living Scotland over our analytical period said that they had ever been homeless, with more than a third of them (1.8% of all SHS respondents) saying that this has happened to them in the previous two years. The descriptive profile of those affected has been discussed previously in the *Homelessness Monitor* series (see Fitzpatrick *et al.*, 2012, 2015). It indicates that the overall prevalence of past experience of homelessness is almost exactly the same for men and women, and that there is a clear relationship between younger age groups and the likelihood of having *recently* experienced homelessness, consistent with long-standing evidence from the UK and elsewhere in Europe that homeless people tend to be young (Quilgars *et al.*, 2008; but see Johnson *et al.* (2015) for a different age profile in Australia). SHS data confirms the well-established vulnerability to homelessness of lone parent households (mainly female) and to a lesser extent single person households (particularly male) (Burrows, 1997). There is a strong relationship between past experience of homelessness and current net household income shown in the SHS, and an even stronger relationship with living in households that report financial difficulties. Working age adults who are unemployed, sick or disabled were much more likely to report past homelessness.

We used the standard logistic regression model to try to predict the odds of someone reporting having 'ever been' homeless, but followed three stages in analzsing and presenting the results.

(a) First, we tested all variables which might plausibly be associated with past homeless experiences, and eliminated the clearly insignificant ones (not significant at 10% level – a level chosen to reflect the exploratory nature of the analysis and the main emphasis on groups of variables rather than making strong inferences about particular variable effects). This gave rise to a 'basic model'.

(b) Second, we divided the variables into conceptually driven blocks (informed by the literature review) and entered these blocks sequentially into the model to see which make the most incremental contribution to explaining the incidence of past homelessness experiences.

(c) Third, we set up hypothetical but plausible cases ('vignettes') of adults within households who have an above-average likelihood of having experienced homelessness, and examined the effect of variations in the values of key variables representing the labour and/or the housing markets on the predicted probability of homelessness experience for these cases.

Basic Scottish model results

These results for the basic model are presented in Table 1 below. In keeping with the stratified and differentiated world view intrinsic to critical realism, the variables in the model were divided into four main blocks: demographic (DEM), poverty (POV), labour market (LM) and housing market-related (HM). They were also distinguished by the level at which they apply, which can be either individual or household level (IND) or area-level, including small neighbourhood area ('datazone') (SA) or local authority district area (for selected housing and labour market variables) (LA).

The demographic results are broadly in line with expectations, with 'ever homeless' experience less likely for older and younger adults (the latter because of shorter exposure time), and those living in multi-adult households, while being positively associated with single and lone parent households and disability.

Table 1. Logistic regression model for adults reporting having ever experienced homelessness, Scotland 2001–2007 and 2010 (Scottish Household Survey).

Description	Level	Block	Coeff. B	Sig.	Exp(B)
Aged under 25	INDIV	DEM	−0.349	0.000	0.71
Aged 25–34	INDIV	DEM	−0.077	0.064	0.93
Aged 50–64	INDIV	DEM	−0.550	0.000	0.58
Aged 65+	INDIV	DEM	−1.610	0.000	0.20
Single person hhd <65	INDIV	DEM	0.265	0.000	1.30
Lone parent hhd	INDIV	DEM	0.696	0.000	2.00
Multi adult hhd	INDIV	DEM	−0.178	0.009	0.84
Sick/disabled indiv	INDIV	DEM	0.404	0.000	1.50
Income-related benefits	INDIV	POV	0.508	0.000	1.66
Financial difficulties (1)	INDIV	POV	0.687	0.000	1.99
Low income % popn (2)	SA	POV	0.015	0.000	1.02
No qualifications	INDIV	LM	0.343	0.000	1.41
Occup routine/service	INDIV	LM	0.174	0.000	1.19
Occup unskilled/unclassif	INDIV	LM	0.174	0.000	1.19
Household with 2+workers	INDIV	LM	−0.418	0.000	0.66
Hhd unemployment rate	INDIV	LM	0.476	0.000	1.61
Access index (3)	SA	LM(A)	0.003	0.003	1.00
Unemployment rate %	LA	LM(A)	−0.140	0.000	0.87
Social renter	INDIV	HSG	1.106	0.000	3.02
Private renter	INDIV	HSG	0.797	0.000	2.22
Number of rooms	INDIV	HSG	−0.224	0.000	0.80
Apartment dwelling	INDIV	HSG	0.222	0.006	1.25
Social renting %	LA	HSG(A)	0.012	0.000	1.01
Private renting %	SA	HSG(A)	−0.625	0.013	0.54
Net need aff hsg % hhd (4)	LA	HSG(A)	0.102	0.001	1.11
Constant			−2.528	0.000	0.08
Model summary			R^2	R^2	χ^2
		−2 L L	Cox/Snell	Nagelkerke	(25 df)
		32,076.9	.078	.236	8118.9

Notes: (1) Household has some financial difficulties or is in deep financial trouble: (2) Scottish Indices of Multiple Deprivation (SIMD) 'Low Income Score', based on % of population claiming income-related benefits; (3) SIMD 'Access to Services Score', based on time to reach selected services (a ruralitymeasure); (4) Annual need for affordable housing, based on house prices, modelled incomes and demography, less social sector lettings supply.

The following variables were tested but omitted as insignificant at the individual/household level: female; and several indicators of affluence; ethnicity; pensioner household types; household size; overcrowded households. Excluded area factors include: 'city' dummy; population sparsity; employment rates; median earnings; household incomes and house price level or change; house price: income ratios; vacancies and social relet rates; as well as certain 'SIMD' neighbourhood indicators include the 'education' and 'health' scores. (Some area variables were excluded because of multicollinearity problems and because they clearly overlapped with other included variables.).

A cut-off of 0.225 on the predicted homelessness probability value yields a number of predicted positives close to the observed total (5200), with correct positive predictions then representing 30% of actual homeless number.

From the review of existing evidence, we expect to find relationships with poverty and this is clearly confirmed in the next block, where highly significant effects can be seen from two individual-level indicators and one area-level indicator of income-related poverty. The latter suggests that there may be some 'area' poverty effects operating in the generation of homelessness, but these are not as strong as the individual/household-level (see also Kintrea, 2009).

Labour market variables have effects broadly in line with expectations, apart perhaps from the negative effect of higher local rates of unemployment (this apparent paradox is addressed below). Housing-related variables also have effects in line with expectations, although it should be noted that the very strong association with being a social renter is boosted by the 'selection effect' of the statutory homelessness system, which often routes people accepted as legally homeless by their local authorities into social tenancies (Fitzpatrick *et al.*, 2012, 2015). While private renters are also more likely to have experienced homelessness, at area-level a larger stock of private rental accommodation seems to reduce homelessness risks (possibly because it indicates a greater local availability of readily accessible accommodation options). The housing affordability variable included – net need for affordable housing – has a positive effect, in line with the international literature about housing market pressure and shortage driving homelessness (Johnson *et al.*, 2015; Quigley et al, 2001).

Blocks of variables

The results so far suggest that there are significant effects on homelessness from demographics, poverty, labour and housing markets and that these are to some degree independent of or additional to each other. A firmer test of this proposition is to enter the blocks of variables into the model one after another, and see whether each block makes a net addition to the overall explanatory power of the model.

We ran a sequence of models, the first with just one token variable, the next with the demographics, then adding poverty, labour market and housing in turn. Within the labour market and housing blocks, we distinguished between sub-blocks of individual/household effects on the one hand, and area-level effects on the other. It can be argued a priori that this sequence is the best representation of the ordering of these influences, given that poverty is particularly strongly emphasized in the literature (Johnsen & Watts, 2014), has a clear interrelationship with labour market position, and may reflect factors going further back in people's lifecourse, whereas housing is more contingent. Nonetheless, we checked our findings by running the blocks of variables in different sequences. All of the key results are presented in Table 2.

The demographic variables are treated as prior in all sequences and account for the largest share of explanation in the SHS models (the largest reduction in -2xLog-Likelihood), at 38% of the overall explanation. Poverty and (individual-level) labour market each account for about a quarter of the explanation, if taken next in sequence, with (individual-level) housing factors accounting for less at just under 10% when added afterwards. With respect to both the labour and housing market variables, but especially the latter, the area-level sub-blocks contribute relatively little.

If the housing market variables are entered first they account for 30% of the explained variance, explaining more than either of the other two blocks when they are entered first,

Table 2. Comparison of performance of models including blocks of variables in sequence, Scotland 2001–2007 and 2010 (Scottish Household Survey).

Step	Blocks included	χ^2	Deg Frdm (no of Vars)	−2 Log Likelihood	Reduction in −2LL	Pseudo R^2 Nagelkerke	% of total Redn LL
1	One variable	36.7	1	40,878.9		0.001	
2	DEM	4413.5	8	36,502.1	4376.8	0.128	37.8
3	Add POV	6460.7	11	33,735.0	2767.1	0.189	23.9
4a	Add LM (Indiv)	6832.8	18	33,362.9	3139.2	0.200	27.1
4b	Add LM (Area)	7009.4	20	33,186.3	176.6	0.205	1.5
5a	Add HSG (Indiv)	8090.7	22	32,105.0	1081.3	0.235	9.3
5b	Add HSG (Area)	8118.9	25	32,076.9	28.1	0.236	0.2
	Alternate Sequence B						
3	Add HSG	7132.3	15	33,081.0	3421.1	0.208	29.6
4	Add POV	7845.6	18	32,350.2	730.8	0.228	6.3
5	Add LM	8118.9	25	32,076.9	273.3	0.236	2.4
	Alternate Sequence C						
3	Add LM	5499.0	15	34,714.3	1787.8	0.162	15.5
4	Add HSG	7605.6	22	32,607.7	2106.6	0.221	18.2
5	Add POV	8118.9	25	32,076.9	530.8	0.236	4.6

Notes: All increments in chi-square are significant at 0.1% level. Nagelkerke Pseudo-R-Square statistic is a rescaling of Cox & Snell R-square (itself a generalization of R-squared in OLS regression, based on 1 minus the ratio of the Likelihoods of the null model to the fitted model) with values between 0 and 1 (Allison, 2013). The final column shows the preferred measure of contribution to the model's explanation, the percent share of the total reduction in −2x Log Likelihood.

particularly labour market (16%), but also poverty (24%), underlining housing's independent effect.

This test appears to show that all three blocks of (non-demographic) variables make an independent contribution to explaining homelessness, but at the same time much of this explanation is overlapping. We can say that housing-related factors explain between 10 and 30%, or that poverty explains between 5 and 24%, but those are fairly wide margins. Equally important is the finding that, within the housing and labour market blocks, the individual/household level sub-blocks contribute most of the explanation and the additional area-level sub-blocks factors explain relatively little (but see further below).

However, it is also possible that the broader housing and labour market factors impact differently on distinct groups, for example single people versus families, in line with our opening conceptual discussion (see also Johnson *et al.*, 2015). In order to further elucidate these potentially varying impacts on different groups, we engaged an additional approach to presenting the model results, as now outlined.

Simulated impacts for individual cases

We set up a selection of illustrative cases ('vignettes') of individuals at higher than average risk of homelessness, and simulated the effect of certain changes in key sets of housing and labour market variables. This exercise is particularly intended to further tease out the independent influence, if any, of 'area' effects on propensities to have experienced homelessness, given the greater challenge in identifying such effects when using micro-level data (O'Flaherty, 2004).

We consider four illustrative cases in Table 3, all of them assumed to be in the 25–34 years old age bracket:

A. A single adult working full-time in a semi-routine occupation, and living alone in a two-room private rented flat in a neighbourhood with a lot of private renting;
B. A lone parent working part-time in a semi-routine occupation, and living in a three-room social rented flat;
C. An adult living with their parents in a four-room social rented house, with no qualifications and currently unemployed;
D. A single person with a long-standing illness who is not currently working and has no qualifications, living in a three-room social rented flat.

We start using the general model (see Table 1) to predict the probability of such a person having experience homelessness, assuming that the area contextual variables for housing, labour market and poverty took average values for Scotland. These are the base probabilities, shown in the first row of Table 3. While the general population of Scotland faced a 5.1% chance of having ever experienced homelessness, for people like Case A it would be 11.3%, for Case C 22.0%, Case B 48.0% and Case D 55.9%. The very high probabilities for Cases B and D underline the fact that, for certain groups, having experienced homelessness is approaching a 'norm'.

Scenarios 1 and 2 change the contextual situation in relation to first the labour market (and associated poverty levels), and second the housing market. Both sets of changes are 'adverse' – increased unemployment/poverty in Scenario 1, and heightened housing market pressures in Scenario 2 – and as expected both somewhat increase the probabilities of having

Table 3. Impact on probability of experiencing homelessness of selected scenarios on four illustrative cases of individuals, Scotland 2001–2007 and 2010 (Scottish Household Survey).

	A	B	C	D
	Single	Lone Parent	Parents	Single
	Working	Pt wk	Unem	Sick/Dis
Scenario	Priv rent	Soc rent	Soc rent	Soc rent
Baseline probability ever homeless	0.113	0.480	0.220	0.559
1. High unem/pov	0.162	0.545	0.268	0.622
2. High hsg mkt pressure	0.130	0.520	0.249	0.598
3. Low hsg mkt pressure, high unem/pov	0.127	0.515	0.244	0.593
4. Low hsg mkt press, high unem/pov + *in work*	0.437	0.630	0.244	0.593
5. High hsg mkt pressure, low unem/pov	0.156	0.573	0.290	0.648
6. High hsg mkt pressure, low unem/pov + *out of work*	0.156	0.573	0.092	0.358

experienced homelessness for all illustrative cases. The results presented in Table 3 suggest that labour and housing market contexts have similar order of magnitude effects on homelessness propensities, but that adverse labour market/poverty conditions have somewhat bigger effects. It should be noted that the degree of alteration of the contextual variables is similar in each case (moving from the mean towards but not as high as the maximum).

However, things may get more complex if we envisage simultaneous changes in the labour market/poverty and housing spheres, which could have offsetting effects. Such potentially offsetting effects are quite likely in reality, with high housing market pressures often accompanying low levels of local unemployment and vice versa. Moreover, individuals' personal situations might alter in response to these changes in context. In particular, they might gain or lose employment.

Scenarios 3–6 below attempt to capture these more complex variations. The results indicate that, where individuals' personal economic circumstances are held constant, adverse changes in the housing market outweigh any positive labour market changes (compare the results for Scenario 3 and Scenario 5). This finding supports the contention that the 'area' effects of housing markets are generally greater on homelessness than those of labour markets. However, the results for Scenarios 4 and 6 indicate that changes in personal economic status – i.e. cases A and B losing employment in Scenario 4, and Cases C and D gaining employment in Scenario 6 – have a far more powerful impact on propensity to have experienced homelessness than any of these area effects, reinforcing this message from earlier stages in the analysis.

These vignette results seem to us interesting but preliminary, as these simulations are based on a model without interaction terms. The possibility that particular factors would influence distinct groups differently in varying contexts, remains open to further investigation (see also Johnson *et al.*, 2015).

The Poverty and Social Exclusion Survey

We then sought to extend this analysis to include England too using the UK-wide PSE. Our aim was to replicate the basic modelling approach used in the SHS analysis insofar as possible but, as discussed above, the PSE differs from the SHS in pertinent ways. In short, the PSE offers more scope to explore the effects of previous experiences of poverty, major life events and health conditions, as well as certain 'behavioural' factors, but fewer opportunities

to investigate locality effects. It should also be noted that the dependent variable used in this analysis is slightly different to that used in SHS as it encompasses those who said they had ever had to 'sleep rough' or 'live rough', or had to stay in emergency or temporary accommodation (e.g. hostel, shelter, B&B), as well as those self-identifying as 'homeless'.

Table 4 shows the best fitting logistic regression model, organized in a similar fashion to the SHS model reported in Table 1, but with an additional 'health & life events' (HLE) block and detailed variations in the other blocks. As can be seen, although fewer variables are included as significant, the overall fit of the PSE model is slightly better than the SHS model, probably because of the inclusion of these life events and health factors and because of the powerful influence of some poverty indicators included in the PSE (see below).

Within the demographic block, the age variables have similar effects as in the SHS analysis, with additional negative effects for married adults and Asian households (see also DeVerteuil, 2011), possibly supporting the social buffers to homelessness point made in the literature review (Tabner, 2010). PSE includes a rich set of income-related, material deprivation-based and subjective poverty measures, all of which were found to be significantly and positively related to risks of homelessness experience, though neighbourhood deprivation was found not to be significant. One clear labour market effect in line with expectations is that living in a 'working' household reduces risks. Housing effects associated with rental tenures have similar effects as in the SHS model, while the area-level affordability factor is represented by relative house price (homelessness odds 1.5 times higher for doubling the

Table 4. Logistic regression model for adults reporting having ever experienced homelessness, England & Scotland 2012 (UK Poverty and Social Exclusion Survey).

Variable description	Level	Block	Coeff B	Sig.	Exp(B)
Aged 25–34	IND	DEM	−.431	.018	.650
Aged 65 & over	IND	DEM	−.601	.002	.548
Married	IND	DEM	−.344	.016	.709
Asian hhd repres	IND	DEM	−1.221	.002	.295
Income-related benefits	HH	POV	.319	.074	1.376
Hhd with 3+ material depriv's	HH	POV	.346	.016	1.414
More often lived in poverty	IND	POV	.379	.000	1.460
Working household	HH	LM	−.520	.054	.594
Working individual	IND	LM	.592	.027	1.808
Months unemployed	IND	LM	.009	.019	1.009
Part time emp't rate	LA	LM	−.071	.058	.932
Social renting hhd	HH	HSG	1.042	.000	2.834
Private renting hhd	HH	HSG	.773	.000	2.167
Relative house price	TTWA	HSG	.418	.014	1.519
General health scale	IND	HLE	.241	.001	1.273
Major health problem	IND	HLE	.306	.078	1.357
Criminal record	IND	HLE	1.306	.000	3.692
Constant			−4.030	.000	.018
Model summary		−2 Log	R^2	R^2	χ^2
		Likelihood	Cox/Snell	Nagelkerke	(17 df)
		1925.9	0.140	0.304	621.9

Notes: Level – as Table 1 except HH = household; TTWA = Travel to Work Area. Block – as Table 1 except 'HLE' = Health and Life Events.

The following variables were tested but omitted as insignificant: aged under 25; female; lone parent, single or multi-adult household type; mixed or 'other' ethnicity; long-term sickness/disability; neighbourhood deprivation decile; having income below 60% of median before housing costs; no qualifications; household with 2+ workers; area ILO unemployment rate; log of population sparsity; current housing affordability problem; recently lost job; been in prison.

A cut-off of 0.16 on the predicted homelessness probability value yields a number of predicted positives close to the observed total, with correct positive predictions then representing 36% of actual homeless number.

Table 5. Comparison of performance of PSE models including blocks of variables in sequence, England & Scotland 2012 (UK Poverty and Social Exclusion Survey).

Blocks included	χ^2	Deg Frdm (no of Vars)	−2 Log Likeli-hood	Reduction in −2LL	Pseudo R^2 Nagelkerke	% red'n in −2LL
One variable	1.175	1	2550.4		0.001	
DEM	138.1	4	2413.5	−136.9	0.071	21.9
Add POV	468.8	7	2079.6	−333.9	0.233	53.5
Add LM	501.3	11	2047.1	−32.5	0.248	5.2
Add HSG	553.4	14	1995.0	−52.1	0.272	8.3
Add HLE	621.9	17	1925.9	−69.1	0.304	11.1
Alternate sequence						
Add HLE	355.9	7	2192.7	−220.8	0.179	35.4
Add POV	543.4	10	2004.5	−188.2	0.268	30.1
Add LM	576.7	14	1971.1	−33.4	0.283	5.3
Add HM	621.9	17	1925.9	−45.2	0.304	7.2
Add HM after DEM	393.6	7	2157.9	−255.6	0.197	40.9
Add LM after DEM	297.5	8	2254.0	−159.5	0.151	25.5

average price). Three additional variables relating to health and life events are included in the model, with effect of a criminal record being particularly strong.

Table 5 presents a similar analysis to that in Table 2 of the effects of including successive blocks of variables on the various measures of model performance. We find that the demographic variables account for under a quarter (22%) of the explained variance in the model. This time the poverty block makes the largest contribution, accounting for over half (54%) if entered next (even if added last it contributes 12%). The labour market variables, if entered next, make a modest increment to the explanation (about 5%). The housing market variables make a comparable but slightly larger impact in terms of this criterion (8%). Health and life events (not included in SHS model) makes a further significant (but not dominant) addition to the explanation (11% if added last in the sequence). As in the SHS analysis, if blocks are added earlier in the sequence their contribution is larger. In particular, housing could account for up to 41% if added after demographics, health and life events 35%, or labour market 26%.

To sum up, PSE is a survey which contains richer measures of both poverty and health/life events than SHS. Thus, while it finds similar impacts from housing and labour markets as we did with the SHS, this time poverty in particular but also life events seem to have more important effects on homelessness. Housing seems to account for somewhat more than the labour market. But again the general picture is one where the level of overlap between all of these blocks is high, reflecting their underlying interconnectedness.

The British Cohort Study

As noted above, there are limitations in the causal interpretation that can be put on the models generated from the cross-sectional data supplied from the SHS and PSE, not least because of our inability to investigate the temporal nature of any relationships identified. The BCS70 data on homelessness experiences over a period of approximately 10–15 years (from around age 16/20 to 30) amongst those born in 1970 enables us to address that limitation.

The analytical approach applied to the BCS data is similar to that employed on SHS and PSE, utilizing logistic regression and entering blocks of variables in sequence, but we modify the structure of blocks to reflect the distinct temporal logic allowed by the longitudinal structure of the data. The final model is shown in Table 6, with the individual variables organized in blocks in the preferred order of entry, while the results of the sequential entry of these blocks into the model are presented in Table 7. We discuss each block in turn, highlighting the role of particular variables as appropriate, and the overall 'performance' of each block in accounting for the explained variance.

Demographics (DEM): this refers to essentially 'fixed' individual attributes (gender, ethnicity) rather than particular living arrangements or health status, which may be reflected in later blocks relating to different life stages. It is noteworthy that females have a greater risk of homelessness, and so too do some ethnic minority groups (mixed, 'other'). This (narrow) demographic block accounts for less than 2% of the explained variance.

Childhood poverty (CPOV): this is represented in the model by three variables, two measured at age 10 (living in rented housing, and lack of consumer durables) and one at age 16 (household income per head). All show higher risks of homelessness. This block of variables appears to be the largest single contributor to explanation in this model, accounting for 52% of the explained variance.

Table 6. Logistic regression model for experience of homlessness between ages of 16 and 30 in British Cohort Study 1970, Great Britain 1970–2000.

Variable description	Block	Coeff B	Sig.	Exp(B)
Female	DEM	.195	.059	1.215
Mixed ethnicity		.843	.070	2.324
Other ethnicity (incl Chinese)		.820	.056	2.271
In rented housing age 10	CPOV	.298	.005	1.347
Propn consumer durables lacked age 10		.415	.052	1.514
Household income £/wk/head age 16		−.003	.047	.997
Living in rural area age 16	GEOG	−.411	.008	.663
Living in northern English regions age 16		−.326	.005	.722
Living in Scotland age 26		−.745	.004	.475
Ever in care by 16	TEXP	.630	.001	1.877
Excluded from school age 16		.884	.012	2.420
Serious drug use age 16		.896	.006	2.450
Not living with both nat parents at 16		.510	.000	1.665
Accident, hosp or nervous prob at 16		.281	.054	1.325
Mother malaise score high at 16		.336	.044	1.399
Left full-time education later	ADEC	−.079	.002	.924
Any unemployment up to age 26		.302	.013	1.353
In rented housing as sep hhd age 26		.790	.000	2.204
Living with parents age 26		−.758	.001	.469
Long term illness/disability age 26	AFLE	.345	.023	1.412
In a relationship age 26		−.870	.000	.419
Has own natural children age 26		.448	.001	1.565
Constant		−1.642	.000	.194
Model Summary	−2 Log	R^2	R^2	χ^2
	Likelihood	Cox/Snell	Nagelkerke	(22 d f)
	3222.3	0.042	0.112	324.7

Notes: Variables tested but omitted from final model include: DEM: Black, Asian ethnicity; CPOV: Free School Meals at 10; father low social class at 10; low income, renting, OR; parents with no qualifications at 16; father/mother not work or unemployed at 10; no male household head at 10; small accommodation, no car at 10; father/mother limited education; GEOG: inner urban council estate at 10; City, London, Wales, N. Ireland at 16; TEXP: truanted, convicted or cautioned at 16; malaise score at 16; ADEC: never had full time job by 26; Special Educational Need at 16; no or low qualifications at 16; left education at 26. AFLE: malaise score at 26; accident or assault by 26.

A cut-off of 0.15 on the predicted homelessness value yields a number of predicted positives close to the observed total, with correct positive predictions then representing 22% of actual homeless number.

Table 7. Comparison of Performance of British Cohort Study 1970 Models including blocks of variables in sequence, Great Britain 1970–2000.

Block	χ^2	deg frdm	−2 Log Likeli-hood	Increment to −2LL	Pseudo R^2 Nagelkerke	Share of total reduction 2LL
One Variable	1.97	1	3767.5		0.001	
DEM	10.90	3	3758.6	−8.9	0.004	1.6%
CPOV	69.30	6	3477.7	−280.9	0.024	51.5%
GEOG	101.40	9	3445.6	−32.1	0.036	5.9%
TEXP	180.30	15	3366.7	−78.9	0.063	14.5%
ADEC	267.50	19	3279.6	−87.1	0.093	16.0%
AFLE	324.70	22	3222.3	−57.3	0.112	10.5%

Geography (GEOG): we have only very limited locational variables available in this analysis but, nonetheless, we can discern two expected effects in the reported model associated with location aged 16 – that homelessness risk was significantly less in rural areas, and that it was also significantly less in northern English regions and in Scotland, where housing markets were (and remain) less pressured. These geographical factors account for 6% of the overall explanation.

Teenage experiences (TEXP): the richness of the cohort data means that we were able to test the influence of a wide range of teenage experiences and 'behavioural' factors which previous research has associated with homelessness compounded by other 'complex needs' in adulthood (Bramley *et al.*, 2015; Fitzpatrick, Pawson, *et al.*, 2013), although some of these have been measured over the whole of childhood (e.g. 'ever in care'). Particularly important in terms of statistical significance, because it affected a third of the sample, was the increased homelessness risks associated with 'not living with both natural parents at 16', but more powerful in terms of heightened odds ratios were 'excluded from school' and 'serious drug use', followed by 'ever in care', although these are less common experiences, affecting only 1–3% of the cohort. It is also interesting to note that a measure of the parent's (mother's) mental state ('malaise') shows a significant positive relationship with homelessness. Although a lot of variables come into this part of the model, highlighting strong associations with a range of support and behavioural issues, it should be noted that the share of overall explanation accounted for by this block is moderate at 15%.

Adult economic situation (ADEC): this block includes educational, labour and housing market factors experienced up to age 26, which will be closer to or contemporaneous with the homelessness experience. Factors increasing the risk of homelessness here include having ever experienced unemployment and living in rented housing. 'Protective factors' which reduced the risk included leaving full-time education later, and living with parents at age 26. Together these more contemporaneous economic (dis)advantage factors account for 16% of the explained variance.

Adult family and life events (AFLE): this final block includes relationships with partner or children, and long-term illness/disability (including mental health conditions). Again, there was further evidence that being in a relationship appears to be a strongly protective factor. However, having children (relatively young) increases the risk. Part of the impact of this latter factor, and the significantly heightened risk associated with disability and long-term illness, may arise because these circumstances can trigger or reinforce poverty, going beyond the poverty markers already accounted for in the previous blocks. This final block of variables accounts for 11% of the explained variance.

Differences in the temporal set-up and the variables available mean that direct comparisons between the BCS and the SHS or PSE models is not possible, but the cohort analysis clearly reinforces the messages from the two cross-sectional/retrospective analyses about the significant effects of poverty, employment, tenure, family relationships, and health and disability. In particular, the availability of the childhood poverty indicators in BCS, and the powerful role they play in predicting adult homelessness, indicates that this is indeed very often a precondition for homelessness. Furthermore, the clear temporal sequencing of the blocks in the cohort model means that there is much less ambiguity about the assignment of explanation to particular blocks.

Again, we can use vignettes to illustrate the implications of this model, taking examples at either end of the spectrum to demonstrate just how unequally the chances of having experienced homelessness in the UK by age 30 are distributed.

- First, take a white male who had a relatively affluent childhood in the rural south of England, an unproblematic school career, went to university and graduated at 21, who was living with his parents at age 26, with no partner relationship and no children. His predicted probability of homelessness by age 30 is 0.6%.
- Second, take a mixed ethnicity female, who experienced poverty as a child, was brought up by a lone parent, left school or college at 16, had spells of unemployment, and was living as a renter with no partner but with her own children at age 26. Her predicted probability of homelessness by age 30 is 71.2%.

While cases with the extremely high predicted probability of this second vignette are, thankfully, rare, these examples serve to demonstrate just how widely the risks of homelessness vary, and how for some people the odds are overwhelmingly stacked against them coming through young adulthood unscathed by homelessness.

Concluding remarks

While, as realists would insist, statistical associations ('empirical regularities') cannot in themselves establish causation (Sayer, 2000), they can suggest inferences about likely causal relationships when underpinned by a meaningful qualitative rationale (Pickvance, 2001). Such a rationale is what we sought to establish in the opening conceptual section of the paper, in order to provide a coherent framework within which one could make sense of the statistical homelessness patterns investigated using the SHS (for Scotland) the PSE (for England and Scotland), and the BCS70 (for Great Britain). A range of research questions arose from this review of existing literature, and our statistical analysis has, we would argue, provided firm findings on some of them, while offering relevant insights on the remainder, subject to further modification under deeper investigation.

First, it has made clear that, in the UK at least, homelessness is *not* randomly distributed across the population, but rather the odds of experiencing it are systematically structured around a set of identifiable individual, social and structural factors, most of which, it should be emphasized, are outside the control of those directly affected. Note that the resultant 'weighted possibility' (Williams, 2001) of homelessness for some systematically disadvantaged groups is so high that it comes close to constituting a 'norm'. Conversely, for others, the probability of falling into homelessness is slight in the extreme because they are cushioned by many protective factors. At the very least, this evidence comprehensively

refutes the myth that 'we are all two pay cheques away from homelessness' (Fitzpatrick *et al.*, 2012). This is a seriously misleading statement, as demonstrated by the evidence from the PSE and BCS in particular.

Our analysis also emphatically underlines the centrality of poverty to the generation of homelessness (see also Johnsen & Watts, 2014). The longitudinal data offered by the BCS70 enables two particularly pertinent points to be made in this regard. First, experience of (childhood) poverty very often predates, and is a powerful predictor of, (adulthood) homelessness. This provides strong grounds for arguing that the primary direction of causation is most likely to be from poverty to homelessness, without of course discounting the possibility that the experience of homelessness itself will then reinforce vulnerability to (adult) poverty. Indeed, such complex and multi-directional feedback loops are precisely what a critical realist causal interpretation of homelessness would lead us to expect (Fitzpatrick, 2005). Second, the BCS70 data demonstrate that, while that a range of health and support needs and behavioural issues, particularly in the teenage years, do significantly contribute to the risks of homelessness in young adulthood, their explanatory power is less than that of poverty.

In line with our initial conceptual discussion, the key protective factor that appears to operate to prevent homelessness amongst people who may otherwise be at risk is the availability of social support networks. The protective effect of having a partner and/or living in a multi-adult household, including being able to live as an adult child in the family home, emerges from across all three data-sets, and provides backing for the family as a 'buffer' to homelessness claim (see also Johnson *et al.*, 2015). However, again, it should be noted that the relationship between these 'social support' factors and homelessness is generally weaker than that with material poverty and economic status.

Our analysis further reveals that, even once one takes into account an individual's personal material and social circumstances, the wider context within which they live still matters. In particular, the odds of becoming homeless vary according to the local labour and housing market conditions, albeit that these additional 'area' effects are considerably weaker than individual- and household-level effects (though this may in part reflect the micro-level data being used, see O'Flaherty, 2004). Analysis of both SHS and PSE, including our preliminary vignette analysis, would tend to support the contention that housing market pressures have a more direct effect, in line with the international literature (Quigley *et al.*, 2001). At the same time, however, it is also reasonable to argue that the longer term economic weakness of some regions and localities is then reflected in their higher levels of poverty, which as emphasized above becomes the key mediating factor then reflected in homelessness.

Overall, therefore, this paper lends support to a predominantly structural analysis of homelessness, without discounting the possibility of wholly individualistic causation in specific cases, whilst also still recognizing the potentially protective impact of strong social support networks (see Johnson *et al.*, 2015 for broadly similar findings in the Australian context).

These empirical findings, coupled with our critical realist stance on social causation, reinforce the moral imperative for policy action to prevent homelessness, given its *predictable* but far from *inevitable* nature. The profoundly uneven distribution of risks identified in this paper can be marshalled to develop policies that target vulnerable groups, while being quite clear that such policies can never be expected to predict with perfect accuracy

all those who would otherwise become homeless: such a deterministic 'straw man' view of causation is firmly rejected by the critical realist stance adopted in this paper. Countervailing protective factors, like social support, can always, thankfully, intervene and prevent actual homelessness occurring even in cases where a number of (mutually reinforcing) generative mechanisms are present. But the identification of these causal tendencies should draw our attention to areas where the greatest need for intervention lies (Fitzpatrick *et al.*, 2015). It is abundantly clear from our analysis that action on addressing child poverty ought to be an overriding policy priority in this field (Joseph Rowntree Foundation, 2016), albeit that strong associations between homelessness and adverse teenage experiences signal another critical intervention opportunity (Watts *et al.*, 2015). Given the coincidence between some forms of homelessness and other very poor outcomes in adulthood, such as chronic offending and substance misuse, that are also expensive for the public purse (Bramley *et al.*, 2015), such upstream preventative measures could ultimately prove highly cost-effective, though that of course remains an empirical proposition to be tested.

It is also important to qualify these comments by observing that the models used in this paper have been essentially linear additive, assuming a similar layering of effects for different groups, and not incorporating interaction effects. While this has been an effective research strategy at this exploratory stage, there is clearly scope for further investigation of more complex models. There are important opportunities emerging to take this agenda further through analysis of other UK birth cohort studies (1958 and 2000), and also the UK Longitudinal Survey and Survey of English Housing, as well as through data linkage between such surveys and key administrative data-sets covering homelessness itself and health, social security, criminal justice, social care and education. We believe that the types of analysis exemplified in this article provide pointers for potential routes which could be explored further, particularly the structuring/blocking of variables and the use of simulated vignettes, with considerable scope for exploration of interactions and differential effects between groups and areas.

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