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Ethnic disparities in overcrowding across England and Wales: Postracial patterns or persistent inequalities?

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Abstract

In Britain, ethnic minorities have long been disproportionately likely to live in overcrowded homes and to experience other forms of housing disadvantage. However, in recent years, housing policy across Great Britain has retreated away from acknowledging and seeking to address these ethnic disparities. This study critically assesses the evidence for this policy shift by examining the contemporary magnitude and geography of ethnic disparities in overcrowding across England and Wales. This is achieved by analysing 2021 Census microdata using multilevel logistic regressions. The results show that even after controlling for differences in the demographic and socio-economic attributes of ethnic groups, almost all ethnic minorities have a substantially higher propensity to live in overcrowded homes than comparable White Britons. In addition, while overcrowding is generally more common in places where housing constraints are more acute, ethnic disparities in overcrowding vary geographically in more complex and group-specific ways. Taken together, these findings indicate that longstanding patterns of ethnic housing disparity have not faded away. Greater recognition of these persistent inequalities and renewed efforts to address them thus need to be built back into local and national housing policies.

KEYWORDS

2021 Census, England and Wales, ethnicity, housing disparities, multilevel analysis, overcrowding

1 | INTRODUCTION

The growth of ethnic minority populations and increasing ethnic diversity are reshaping neighbourhoods, towns and cities across Britain. Headline results from the 2021 Census revealed that around 1 in 4 people living in England and Wales and 1 in 3 of those aged under 25 now identify with an ethnicity other than White British (ONS, 2023a).

Yet this growing diversity has been accompanied by the persistence of stark ethnic disparities in many areas of life. While ethnic penalties in education, health and the labour market have been extensively studied and publicly debated, far less attention has often been paid to housing (Shankley & Finney, 2020). This is partly because housing policy across

Great Britain has for some years been largely silent about ethnic inequalities (Robinson et al., 2022). Although the Scottish and Welsh governments have latterly acknowledged the existence of ethnic housing gaps (Robinson et al., 2022), this has not prompted sustained policy action and England's formerly proactive approach has waned as housing policy here took a 'postracial turn' under recent Conservative governments (Robinson, 2024). The hallmarks of this postracial turn have been an increasingly non-interventionist and supply-centric housing policy stance which either ignores ethnicity completely—both in discourse and by failing to collect relevant data—or which portrays ethnic disparities as an unfortunate but fading legacy of historic discrimination that can nowadays be overcome through individual effort (Robinson, 2024). These arguments were broadly endorsed by the UK Government's 2020–21 Commission on Race and Ethnic Disparities, whose terms of reference and report paid scant attention to housing.

Housing is nonetheless crucial for understanding the changing geography of ethnicity in Britain as well as the material disadvantages that many ethnic minorities face. For instance, evidence suggests that the gradual diffusion of ethnic diversity out of urban centres is powered partly by minorities using their resources to obtain the larger owner-occupied homes in more desirable neighbourhoods that tend to be located outside of gateway inner cities (Coulter & Clark, 2019; Finney et al., 2015; Sarre, 1986). This rather positive story is, however, tempered by evidence that entrenched forms of ethnic disadvantage have for many decades been reproduced through the housing system (de Noronha, 2021; Phillips, 2015). Legacies of housing discrimination, a weaker position in labour markets, limited wealth, hostile immigration-related policy and cuts to social security combine to mean that today most ethnic minority groups are more likely to rent, live in cramped poor-quality homes, reside in more deprived neighbourhoods and experience homelessness than the White British majority (Harrison et al., 2023; JRF, 2021; Robinson et al., 2022).

Given this context, this paper responds to Shankley & Finney's (2020) call for renewed research into ethnic housing inequality. It does so by examining contemporary ethnic disparities in overcrowding across England and Wales. The paper focuses on overcrowding for two reasons. First, living in cramped homes damages health, children's educational attainments and increases the risk of family stress and homelessness (Cable & Sacker, 2019; JRF, 2021; Shankley & Finney, 2020; Solari & Mare, 2012). Second, overcrowding in Britain has long been disproportionately experienced by migrants and ethnic minorities (Johnston et al., 2016; Rex & Moore, 1967; Sarre, 1986). It is important to assess the extent to which this remains true even as housing policy moves away from seeking to understand and address ethnic inequalities (Robinson et al., 2022).

More specifically, the paper addresses the following research questions: *how severe are ethnic disparities in overcrowding across England and Wales, how do these vary geographically and to what extent are ethnic disparities in overcrowding due to differences in the demographic and socio-economic composition of ethnic groups?*[1] These questions are answered by analysing 2021 Census microdata using multilevel regressions. This approach is designed to uncover the localised, group-specific patterns of ethnic housing disparity that researchers have long argued are glossed over in public debate and official publications (for example, the UK Government's Ethnicity Facts and Figures website: https://www.ethnicity-facts-figures.service.gov.uk/housing/), which tend to focus on gross differences between ethnic groups at the national level (de Noronha, 2021; Sarre, 1986).

2 | BACKGROUND

2.1 | Overcrowding in Britain

Overcrowded housing has been a British public policy concern for nearly two centuries. In his 1842 (p. 122) Sanitary Report, Edwin Chadwick argued that mass overcrowding harmed the national welfare by causing epidemics as well as 'extreme demoralisation and recklessness' leading to deviant behaviours like drinking, promiscuity and idleness. Improving public health while heading off working-class unrest has ever since been key motivations for state interventions to address overcrowding (Lund, 2017).

Throughout much of the nineteenth and twentieth centuries, state efforts to tackle overcrowding concentrated on clearing slums and increasing housing supply (Lund, 2017). Sometimes, this was accompanied by setting internal dwelling space standards, although Kearns (2022) notes that these have tended to be under-specified, discretionary, tenure-specific and applied only to newly built stock. This supply-side orientation has persisted into the twenty-first century. Responding to a 2020 House of Commons Select Committee's recommendation that a national strategy for tackling overcrowding was needed, the Conservative government countered that this was unnecessary as the 'government's strategy to increase supply and improve affordability is crucial to addressing overcrowding issues' (House of Commons, 2021, p. 13).

Critics have, however, long questioned this assumption that building more homes will automatically eradicate overcrowding. These authors argue that Britain has enough bedrooms but that economic inequality coupled with a shortage of genuinely affordable homes means that the available room space is too unevenly distributed (Odamtten, 2024). In this view, richer households can afford to underutilise large homes (and potentially own additional property) while low-income households are financially constrained to over-occupy small dwellings (Dorling, 2014). This argument fits the headline facts but has largely failed to gain political traction (Odamtten, 2024). This is likely because uneven outcomes are an accepted feature of market-based housing systems and tend only to be seen as problematic when a significant share of the populations' housing situation falls below an accepted baseline standard (as with overcrowding) and/or when the housing system reproduces some kind of widely acknowledged form of social injustice (Robinson, 2024).

Tackling overcrowding nonetheless remains an important housing policy objective for several reasons. First, research suggests that overcrowding has adverse consequences for physical and mental health (Addison et al., 2022; Cable & Sacker, 2019; Kearns, 2022; Wilson, 2023). Second, overcrowding undermines social mobility as a lack of privacy, disrupted sleep, heightened family stress and so on damage children's socialisation and educational attainments (Solari & Mare, 2012). Third, housing is a positional good and so overcrowding may generate stigma and internalised feelings of shame that harm psychological wellbeing and induce social withdrawal (Wilson, 2023). This suggests that perceptions of overcrowding informed by peer group comparisons might mediate whether objective quantities of residential space have negative consequences (Sunega & Lux, 2016).

Defining what constitutes overcrowding is a normative judgement and thus is a fraught issue for analysts and policymakers (Lund, 2017). In England and Wales, a statutory definition from 1935 still applies. Under this definition, a dwelling is overcrowded if either two or more opposite-sex individuals aged 10+ who are not partners must sleep in the same room or if the numbers of people per room or per capita floor space breach specified thresholds (for detail, see Wilson, 2023). These criteria set a very low bar, and so today, the statutory definitions are seldom used (Wilson, 2023). Instead, official statistics, the census and government guidance on allocating social housing use the Bedroom Standard. The Bedroom Standard works by first computing how many bedrooms a household requires given its members' ages, sexes and relationships. A separate bedroom is allocated to each (1) married/cohabiting couple, (2) additional adult aged 21+, (3) pair of same-sex adolescents aged 10–20, (4) pairing of one adolescent aged 10–20 with one younger child of the same sex and each (5) pair of children aged 0–9. Any (6) remaining individuals are allocated separate bedrooms. The total number of bedrooms required is then subtracted from the number available to the household. If the result is negative, then the household is deemed overcrowded (Wilson, 2023).

The Bedroom Standard provides a more straightforward and generous way to identify overcrowding than the statutory definitions. However, no account is taken of bedroom floorspace or quality. Moreover, research suggests that public norms around dwelling space may vary and crucially that these have evolved since the Bedroom Standard was developed in the 1960s. Odamtten (2024) notes that sharing during childhood is now viewed less favourably and that many people feel that having a 'spare' bedroom is often essential, for instance for households with elderly/disabled members and for separated parents with shared child custody. This suggests that the Bedroom Standard probably underestimates perceived levels of overcrowding. Support for this view comes from Sunega and Lux (2016, p. 713), who report that over three times as many UK households reported feeling overcrowded in an EU survey than were assessed as objectively overcrowded using a formula akin to the Bedroom Standard.

At first glance, overcrowding as defined by the Bedroom Standard appears a fairly minor issue affecting only around 1 in 20 households (Odamtten, 2024). However, this rate has crept up over recent years. Furthermore, the share of individuals experiencing overcrowding is much higher because overcrowding mostly affects larger households: the 2021 Census recorded 8.4% of individuals living in overcrowded homes and 14.7% of children. Overcrowding is moreover a distributional issue as lower-income households, renters, younger people, migrants and lone parents are disproportionately exposed to overcrowded dwellings along with other forms of residential disadvantage (Odamtten, 2024; Wilson, 2023). Stark housing stock and affordability disparities mean that overcrowding also has a distinct geography with higher rates in London and other large cities (Wilson, 2023).

2.2 | Ethnic disparities

Ethnic housing disparities in Britain are longstanding but how these are understood has changed significantly over time (Phillips, 2015). During the post-war years, overcrowding among newly arrived Caribbean and South Asian migrants

was attributed to cultural patterns of housing preference (Sarre, 1986). This choice-centric perspective was subsequently contested by Rex and Moore's (1967) influential study in Birmingham. Their analysis showed that minorities' residential options were constrained by poverty and racism which, in a time of housing shortage, restricted them to cramped, privately rented inner city housing (Phillips, 2015). Subsequent explanations sought to integrate these two perspectives by stressing that minority households have agency but that their ability to exercise 'choice' is disproportionately bounded by constraints ranging from lower incomes through to discrimination (Sarre, 1986). This insight is important as it highlights how variations in preferences (for example for tenure, neighbourhood amenities or to be part of a supportive local community), restrictions (including a lack of resources but also fears of racial harassment or being 'out of place' in certain neighbourhoods) and constraints (such as the type, accessibility and affordability of local housing stock) both between ethnic groups and within them across space all combine to generate complex but poorly understand patterns of ethnic housing disadvantage (Phillips et al., 2007; Sarre, 1986).

Overcrowding remains a particular problem for ethnic minorities in the 2020s. Recent data show that most Roma individuals live in overcrowded homes while overcrowding is also common for those from Pakistani, Bangladeshi, Black African and Arab backgrounds (Harrison et al., 2023; JRF, 2021). By contrast, overcrowding is less common among the Black Caribbean, Chinese, Indian and especially the White Irish population (Wilson, 2023). Although these aggregate disparities are well documented, few studies have gone further by examining the extent to which differences in the characteristics of ethnic groups—for instance, their demographic structures, migration histories, socio-economic profiles and so on—might contribute to explaining aggregate inequalities in overcrowding. Disentangling these risk factors is vital for better understanding the origins of ethnic disadvantage and so for devising remedial policy (CRED, 2021).

Existing studies suggest that several constellations of factors intersect to disproportionately expose many ethnic minority groups to overcrowding. Crucially, how these factors combine and vary in intensity differs between ethnic groups and across the country in ways that create complex but as yet poorly understood patterns of overcrowding risk (Phillips, 2015). First, Lukes et al. (2019) argue that *histories of migration, settlement, discrimination, and shifting citizenship and immigration policies* have helped create diverse patterns of ethnic housing disadvantage. In the post-war decades, new Commonwealth migrants to Britain were pushed into poor-quality privately rented housing by overt racial discrimination from mortgage providers and Local Authority housing departments (de Noronha, 2021; Lukes et al., 2019; Rex & Moore, 1967). Although these forms of direct discrimination are now illegal, restrictions on migrants' access to social housing and the imposition of mandatory landlord immigration checks (the Right to Rent) have fostered exclusionary racial discrimination in private rental markets (Shankley & Finney, 2020). This exacerbates overcrowding among ethnic groups with more recent histories of immigration as constrained options push new arrivals into cramped conditions at the bottom end of the private rented sector (JRF, 2021). In addition, work by Phillips et al. (2007) highlights how ethnic minorities' housing options may also be perceptually bounded in restrictive ways by a desire for the safety, belonging, amenities and social support provided by living within or nearby to spaces with many co-ethnic neighbours.

Ethnic groups that are more established in Britain have, over time, managed to win better access to social citizenship rights, enabling them to improve their housing circumstances (Phillips, 2015). The aggregate effect of these forces is that some ethnic groups with more recent arrival histories and ongoing immigration flows (for example Black Africans) are, in general, more prone to experience overcrowding than those groups with more historic patterns of settlement (such as Black Caribbeans). A complicating factor, however, is that intergenerational continuities in housing are potent and act to transmit disadvantages produced by historic discrimination down the generations, for example as older minorities have accumulated less housing wealth than their White British peers and so have less with which to support their children's home purchases (Robinson et al., 2022).

Economic disadvantage produced in the labour market and social security system is a second factor that bounds the housing options of many ethnic minorities. It is striking that those groups with the lowest rates of pay, highest levels of unemployment and inactivity, the greatest reliance on state benefits and the least advantaged occupational class positions (in particular, Bangladeshis and Pakistanis) experience high levels of overcrowding, while the reverse is true for more economically advantaged minorities such as Indians (JRF, 2021). Economic marginality raises the risk of overcrowding by limiting access to owner-occupation (where there is typically greater choice of dwelling size) and by channelling households either into social housing (where there is a dearth of larger homes) or into an expensive private rental market (Odamtten, 2024). This is a particular issue for the least economically advantaged minority groups who are also the most likely to have large families and live in multigenerational households (CRED, 2021).

The economic marginality of many ethnic minorities is deepened by a greater reliance on an increasingly threadbare social security system (Powell & Robinson, 2019). Higher rates of renting and benefits receipt mean minorities have been

disproportionately affected by post-2010 cuts to social security, including restrictions in housing benefit entitlements, benefit caps and the 'bedroom tax'[2] imposed on social tenants (JRF, 2021). One option in hard times is for households to enlarge to create economies of scale, for example by 'doubling up' into multigenerational or multifamily arrangements and/or through younger adults delaying household formation. This raises the risk of overcrowding, and Clair (2022) estimates that one post-2010 housing benefit cut—restrictions on the Local Housing Allowance payable to lower income private tenants—propelled around 75,000 English households into overcrowding.

A final factor contributing to ethnic minority overcrowding is *the nature of the housing system* and the ways this acts to disproportionately bound minorities' options. Due to historic patterns of migrant settlement, many ethnic minorities live in inner cities where larger homes are scarce and where major problems of housing affordability have emerged in recent years. This, together with the running down of the social housing stock, limits minorities' housing options and leaves them dependent on an insecure and expensive private rental market and/or living in cramped conditions (Johnston et al., 2016; Shankley & Finney, 2020). The deregulation and commodification of urban housing along with welfare retreat and labour market restructuring have thus combined to weaken urban minorities' economic position and housing options (Powell & Robinson, 2019). Although these processes have played out differently in different places in ways which differentially act to constrain ethnic minorities' housing options, as yet little research has considered whether this translates into varied patterns of ethnic disparity in overcrowding risk across the country. This knowledge gap is not new—authors from Sarre (1986) through to Phillips (2015) and de Noronha (2021) have all stressed that devising better policy requires a stronger understanding of local patterns of ethnic housing inequality—and so it is to empirically examining this neglected issue that we now turn.

3 | DATA AND METHODS

3.1 | Dataset and measures

Data were drawn from a 2021 Census microdata file produced by the Office for National Statistics (2023b). This contains census records for a representative 5% sample of the England and Wales population (ONS, 2023c). The microdata contain variables about individuals and their households as well as a Local Authority identifier.

The dataset was initially filtered to retain all individuals usually resident in private households who were aged 25 to 64 and not a student. These filters were applied as many young adults and students have the kinds of multilocational residential arrangements that are poorly captured in census data. In addition, the 2021 Census was conducted during the COVID-19 pandemic when government restrictions were in force and this timing probably had a particularly significant impact on where younger people were enumerated.[3]

The dependent variable was defined using the bedroom occupancy rating generated by ONS. This measure records whether an individual lives in a household with fewer, sufficient or more bedrooms than are required under the Bedroom Standard (see Section 2.1). Overcrowding was coded as a binary variable distinguishing people living in households with insufficient bedrooms (coded 1) from those with adequate or surplus bedrooms (coded 0).

Ethnicity was defined using the ONS classification used in the 2021 Census.[4] The microdata were filtered to retain nine larger ethnic groups encompassing 93.3% of all sampled individuals: White British, White Irish, Other White, Indian, Pakistani, Bangladeshi, Chinese, Black African and Black Caribbean. Those reporting 'Mixed/Multiple' and 'Other' ethnicities were dropped as these are especially heterogeneous groups. Although Gypsy and Roma populations are known to experience acute housing disadvantage (Harrison et al., 2023), the small size of these groups precluded detailed statistical analysis, and thus, they were also set aside.

A second critical variable was geographical location. The 256 grouped Local Authorities in the raw data were collapsed into 128 broader localities by combining contiguous districts when they had similar characteristics and very few sample members of one or more ethnicities. This reduced the prevalence of small cell counts and so allowed better estimation of geographical variation in overcrowding disparities. Most of the collapses involved rural Local Authorities with low population densities, low ethnic diversity and little overcrowding.

Most prior analyses of overcrowding consider one predictor at a time and thus cannot unpick confounded relationships (CRED, 2021). A range of controls known to affect housing disadvantage (see Section 2.2) was thus defined for the statistical modelling (Addison et al., 2022; CRED, 2021; Shankley & Finney, 2020; Wilson, 2023). These comprised demographic attributes (age, sex, disability status, whether living with a partner, whether living in a family with dependent children, whether living in a large household), migration characteristics (whether the individual was born overseas and whether they had a UK/Irish passport[5]) and socio-economic and housing characteristics (whether

the individual had a university degree, a four-category version of occupational National Statistics Socio-Economic Classification (NS-SeC)[6] and housing tenure).

Further sample details are given in Table 1. The table shows major differences in the composition of the nine ethnic groups which likely affect their propensities to experience overcrowding. While the White Irish and Black Caribbean populations have a similar age profile to the White British, the other six minorities are disproportionately youthful. Among the focal ethnic minority groups, UK birth is most common for Black Caribbeans (67.8%), White Irish (50.7%) and to a lesser extent South Asians (~30–40%) while Other Whites are most likely to be recent immigrants and the least likely to hold a UK/Irish passport. Black Africans and Caribbeans are disproportionately likely to be single and all groups apart from the White Irish and Black Caribbean are more likely than White Britons to be in families with younger children (especially Pakistanis, Bangladeshis and Black Africans). Although few White, Chinese or Black Caribbean individuals live in large households, these are relatively common for Indians and Black Africans and especially for Pakistanis and Bangladeshis.

In socio-economic terms, Table 1 shows that Pakistanis, Bangladeshis and Black Caribbeans are the least likely to hold degrees (as are White Britons). These groups are also less advantaged in occupational class terms as compared with the Indian, Chinese and White Irish. Indians, along with Pakistanis, Chinese and White Irish, have high rates of owner-occupation, while Other Whites rely heavily on the private rented sector and approximately 1/3 of Black and Bangladeshi individuals live in social housing. All minorities are more likely than the White British to live in London, where affordability pressure and a lack of large socially rented dwellings boost overcrowding.

3.2 | Methods

The analysis begins by describing overall disparities in overcrowding and how these vary geographically. Multilevel logistic regressions are then used to disentangle whether ethnic disparities remain after controlling for group attributes. For these models, individuals are considered level one units ($n = 1,421,570$) nested into level two areas ($n = 128$) that are hypothesised to have contextual effects on the probability of overcrowding. Statistical power for the models is enhanced by the large number of individuals and overcrowded persons per area (respective minima = 3184 and 158).

Random intercepts logistic regressions are first used to gauge overall levels of ethnic disparity (after controlling for group composition) and how strongly overcrowding risk varies across localities. The equation for this regression is:

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_{0j} + \beta_1 \text{White Irish}_{ij} + \beta_2 \text{Other White}_{ij} + \beta_3 \text{Indian}_{ij} + \beta_4 \text{Pakistani}_{ij} + \beta_5 \text{Bangladeshi}_{ij}$$

$$+ \beta_6 \text{Chinese}_{ij} + \beta_7 \text{Black African}_{ij} + \beta_8 \text{Black Caribbean}_{ij} + \gamma' Z_{ij}$$

$$\beta_{0j} = \beta_0 + u_{0j}$$

$$\left[u_{0j}\right] \sim N\left(0, \Omega_{\mathrm{u}}\right) : \Omega = \left[\sigma_{u0}^2\right],$$

where $\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right)$ is the log-odds of overcrowding for individual i in area j, the focal predictors consist of ethnicity dummies (with White British the omitted reference) and γ is a vector of coefficients for the individual-level control variables Z (see Table 1). The model intercept has two components: a fixed grand intercept β_0 and an area-specific random term u_{0j} capturing how each area's intercept deviates from the grand average (Rasbash et al., 2023). The u_{0j} are assumed to follow a normal distribution with a mean of zero and an estimated variance σ_{u0}^2.

A series of additional models are then estimated which allow for random coefficients on each ethnic dummy in turn. For example, the equation for the model with a random Other White coefficient is:

$$\log\left(\frac{\pi_{ij}}{1-\pi_{ij}}\right) = \beta_{0j} + \beta_1 \text{White Irish}_{ij} + \beta_{2j} \text{Other White}_{ij} + \beta_3 \text{Indian}_{ij} + \beta_4 \text{Pakistani}_{ij} + \beta_5 \text{Bangladeshi}_{ij}$$

$$+ \beta_6 \text{Chinese}_{ij} + \beta_7 \text{Black African}_{ij} + \beta_8 \text{Black Caribbean}_{ij} + \gamma' Z_{ij}$$

$$\beta_{0j} = \beta_0 + u_{0j}$$

TABLE 1 Sample characteristics.

Variable (column %)	White British	White Irish	Other White	Indian	Pakistani	Bangladeshi	Chinese	Black African	Black Caribbean
Age 25–34	23.5	19.9	32.4	25.9	31.1	31.2	26.8	26.2	21.8
Age 35–44	22.1	21.8	36.2	34.4	34.3	35.1	31.3	30.7	20.4
Age 45–64 (reference)	54.5	58.3	31.4	39.7	34.6	33.7	41.9	43.1	57.9
Male (ref=female)	49.3	50.2	46.8	49.2	49.9	50.2	41.9	46.0	45.3
Disabled (ref=not disabled)	17.9	15.9	7.3	8.6	13.7	15.2	6.2	8.4	17.1
Born in UK (reference)	96.7	50.7	6.4	36.2	41.1	31.2	19.1	14.4	67.8
Arrived before 2011	2.5	35.5	44.2	40.9	41.4	51.6	53.4	62.0	27.1
Arrived since 2011	0.8	13.8	49.4	23.0	17.6	17.2	27.5	23.6	5.1
UK/Irish passport (reference)	88.9	95.3	19.5	72.4	80.6	79.9	63.4	62.2	85.8
Other passport	0.9	1.4	78.3	26.8	18.1	19.0	34.8	33.7	10.5
No passport	10.2	3.3	2.2	0.9	1.3	1.1	1.8	4.1	3.7
Single (ref=couple)	32.9	36.3	32.4	27.9	31.0	28.8	32.3	50.1	62.9
Dependent children (ref=no)	35.9	30.5	41.1	47.9	58.4	63.7	40.1	52.2	32.7
Large household (6+) (ref=no)	2.7	2.5	6.2	11.5	31.9	29.5	3.7	14.1	4.7
No degree (ref=has degree)	63.0	42.9	48.7	40.3	62.1	67.6	38.0	44.5	60.5
NS-SeC 1–2 (reference)	40.4	57.2	37.8	48.7	25.6	22.6	48.2	35.0	34.8
NS-SeC 3–4	24.8	22.1	24.1	19.9	25.6	22.6	20.1	19.2	24.1
NS-SeC 5–7	29.5	16.6	34.1	22.7	25.2	30.0	23.2	33.3	31.2
Never worked/unemployed	5.3	4.1	4.0	8.6	23.6	24.8	8.6	12.5	9.9
Owner-occupied (reference)	68.6	65.0	37.5	71.5	66.0	44.6	68.0	26.7	43.3
Social rent	14.5	11.8	9.1	4.3	11.6	32.2	6.7	40.4	37.8
Private rent	16.9	23.3	53.4	24.2	22.4	23.3	25.3	32.9	18.9
London (ref=not London)	8.0	34.0	36.3	36.0	19.7	51.1	35.7	48.5	55.1
N	1,111,327	14,112	121,248	53,275	38,620	15,585	11,978	37,246	18,179

$$\beta_{2j} = \beta_2 + u_{2j}$$

$$\begin{bmatrix} u_{0j} \\ u_{2j} \end{bmatrix} \sim N(0, \Omega_u) : \Omega = \begin{bmatrix} \sigma_{u0}^2 & \sigma_{u02} \\ \sigma_{u02} & \sigma_{u2}^2 \end{bmatrix}.$$

In this model the 'Other White' coefficient has a j subscript as it is allowed to vary by area. β_{2j} is thus composed of two parts: the fixed average Other White coefficient β_2 and an area-specific deviation u_{2j} from this average. Here, σ_{u2}^2 denotes the between-area variance of the Other White coefficient while the σ_{u02} parameter captures the covariance between the area-level random intercepts and random coefficients (Rasbash et al., 2023, p. 137). All models were fitted in Stata v18.5.

4 | RESULTS

4.1 | Patterns of ethnic disparity

A glance at the data confirms that there are large ethnic disparities in overcrowding around the national rate of 6.6%. Only 3.5% of White Irish and 3.6% of White British adults live in overcrowded homes, but this rises to 7% among Chinese adults and 13–14% among Black Caribbeans, Other Whites and Indians. Black Africans, Pakistanis and Bangladeshis are by far the most likely to experience overcrowding, with the rate for Bangladeshis (35.6%) around 10 times higher than for White Britons.

Figure 1 breaks down these national averages by examining how levels of overcrowding among the White British population and ethnic disparities in overcrowding both vary geographically. To do this, each panel of Figure 1 plots the White British overcrowding rate for each area (x-axis) against how strongly the local rate for each ethnic minority deviates from this value (y-axis). Positive deviations indicate that the focal minority is more likely to experience overcrowding than White Britons, while negative deviations denote the reverse. Overcrowding is a particular problem in London (where the highest rates of overcrowding among White Britons are found), and so, symbology identifies areas in the capital.
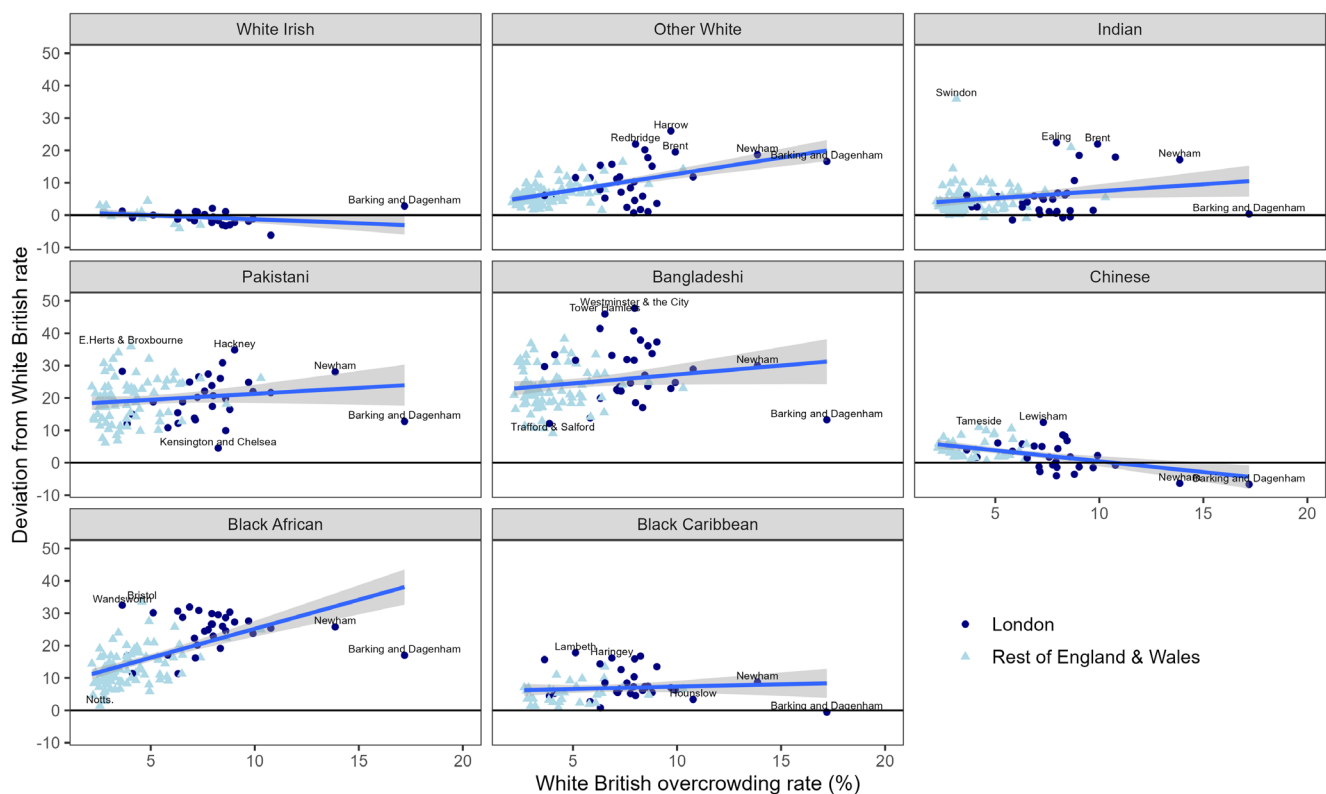

FIGURE 1 Ethnic disparities in overcrowding across areas. Points suppressed if based on small cell counts ($n < 5$).

Three broad clusters of pattern can be discerned in Figure 1. The first consists of the White Irish and Chinese for whom overcrowding rates are *consistently very similar* to the local prevalence of overcrowding among White Britons. The second cluster consists of Indian, Pakistani, Bangladeshi and Black Caribbeans who have *consistently higher* levels of overcrowding than White Britons. The disparity is generally weakest for Indians whose overcrowding rates closely track the local White British level except in a few hotspots like Brent, Ealing and Swindon. Black Caribbean levels of overcrowding tend also to be only slightly higher than the local White British rate except in a handful of Inner London boroughs with larger disparities. By contrast, local overcrowding rates for Pakistanis and Bangladeshis are consistently much higher than local White British rates. Finally, a third cluster consists of Other Whites and Black Africans whose rates of overcrowding *pull away* from the local White British value as the latter increases. This signals that disparities between these two groups and White Britons are largest in areas of housing pressure where overcrowding is generally more common, particularly in London. Overall, Figure 1 provides initial evidence that ethnic disparities in overcrowding vary by group and also—at least for some groups—across space.

4.2 | Random intercepts model

Table 2 presents a random intercepts logistic regression of overcrowding which tests whether ethnic disparities persist after controlling for group attributes.[7] The answer is emphatically yes: with the exception of White Irish, all ethnic minorities are *ceteris paribus* more likely to live in overcrowded homes than their White British peers. This disparity is smallest for Chinese, Other White and Black Caribbean individuals but is much stronger for the South Asian (especially Pakistani and Bangladeshi) and Black African groups. Given that the model includes extensive controls, these estimates support recent studies' conclusions that the postracial turn of housing policy has not been driven by evidence that ethnic penalties no longer exist (Robinson, 2024; Robinson et al., 2022).

The control variable estimates in Table 2 are as expected. Overcrowding is more likely for men than women and for younger adults as opposed to those aged 45–64. Recent immigration and not having a UK/Irish passport predict overcrowding, validating Lukes et al. (2019)'s argument that immigration and race intersect to shape housing disadvantage. Singles are more likely than couples to experience overcrowding, which is also more common for families with children and especially for large households. Individuals without a degree, with less advantaged social class positions, and renters (particularly in the social sector) are also disproportionately prone to live in overcrowded homes.

The level two intercept variance at the base of Table 2 indicates that there is a modest amount of unexplained geographic variation in the risk of overcrowding once individual-level predictors are accounted for. To better understand this spatial patterning, Figure 2 maps the intercept residuals after collapsing them into five categories based on their direction, magnitude and whether the 95% confidence interval includes 0. Figure 2 shows that much of northern and western England plus Wales has negative residuals. This indicates that in these areas, people have, all else being equal, a below-average likelihood of overcrowding. Weak positive residuals (denoting places where the risk of overcrowding is above average) are found in and around London as well as in cities of the Midlands and southern England such as Birmingham, Brighton, Luton, Leicester and Southampton. The strongest positive residuals, meanwhile, are in western Outer London and in the more disadvantaged arc of boroughs stretching from Enfield in the north through Haringey and Hackney and out into the old East End as well as south of the Thames. Overall, this patterning hints that more severe housing pressures in London and southern cities may exacerbate overcrowding, which is less evident in northern and Welsh cities where housing is on average more accessible.

4.3 | Random coefficients models

Table 3 shows the results from seven multilevel logistic regressions of overcrowding where the ethnic minority coefficients are sequentially allowed to vary across areas. These models control for the same variables as in Table 2 but as the fixed parameters barely change, these are not shown. Instead, Table 3 presents the estimated variance of the level two random intercepts, the variance of the ethnic coefficients and the covariance between these two parameters. If the covariance is positive, then above-average ethnic coefficients (denoting a stronger than average local disparity in overcrowding propensity between the focal minority and White Britons) tend to occur in areas with above-average intercepts (identifying places where overcrowding is generally more common). A negative covariance indicates that above-average ethnic coefficients (stronger ethnic disparities) tend to pair up with below-average intercepts (denoting places where

TABLE 2 Binary logistic random intercepts model of overcrowding.

	Odds Ratio	Std. Err.
Level 1 (individual) fixed effects		
Constant	0.005	0.000
Ethnicity (ref=White British)		
White Irish	0.779	0.036
Other White	1.551	0.060
Indian	2.089	0.123
Pakistani	2.872	0.133
Bangladeshi	2.969	0.201
Chinese	1.340	0.083
Black African	2.230	0.083
Black Caribbean	1.443	0.052
Age (ref=45–64)		
25–34	1.312	0.017
35–44	0.971	0.013
Male (ref=female)	1.081	0.009
Disabled (ref=not disabled)	0.861	0.012
Migration (ref=born in UK)		
Before 2011	1.290	0.034
Since 2011	1.560	0.048
Passport (ref=UK/Ireland)		
Other	1.401	0.039
None	1.395	0.023
Single (ref=couple)	2.628	0.041
Dependent children (ref=no)	2.467	0.051
Large household (ref=no)	15.148	0.465
No degree (ref=has degree)	1.380	0.020
NS-SeC (ref=NS-SeC 1–2)		
3–4	1.425	0.019
5–7	1.781	0.025
Never worked/unemployed	1.726	0.033
Tenure (ref=owner-occupied)		
Social rent	2.591	0.076
Private rent	1.689	0.045
Level 2 (area) random effects		
Intercept variance σ^2_{u0}	0.163	0.016
N areas	128	
N individuals	1,421,570	
AIC (null=645,374)	480,237	

overcrowding is less common). The variance of the level two random intercepts varies little across the models, and as these are virtually identical to the Figure 2 values, these are not discussed any further.

The variance of the ethnic coefficient residuals varies by group. For Black Caribbeans, the variance is small, indicating that across the country this group has a slightly higher likelihood of overcrowding than White Britons. The variance is moderate for Other Whites, Pakistanis, Bangladeshis and Black Africans and strongest for Chinese (albeit imprecisely
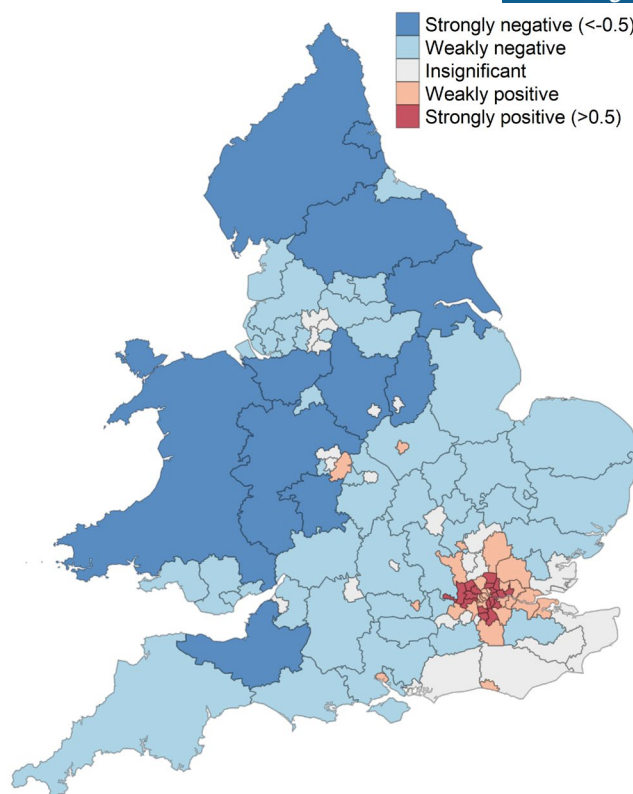
FIGURE 2 Area intercept residuals of overcrowding propensity across England and Wales. The figure uses boundary data from the Office for National Statistics licensed under the Open Government Licence v.3.0. Contains OS data © Crown copyright and database right [2024].

estimated) and especially Indians. The latter result fits with Figure 1 and indicates that there is strong geographic variation in how much more likely Indians are to experience overcrowding than White Britons.

Table 3 also shows differences in the covariance between the intercept and ethnic coefficient residuals across groups. The covariance is negligible for Other Whites, negative for Asians and positive for the Black groups. These patterns indicate that the higher probability of overcrowding among Asians as compared with White Britons is especially pronounced in places where overcrowding is rare. This disparity, meanwhile, closes as levels of local overcrowding increase. By contrast, Black–White British disparities intensify in places where overcrowding is more prevalent.

The geography of the coefficient residuals from the Table 3 models is mapped in Figure 3. These residuals tell us whether the local 'effect' that ethnic minority status has on the likelihood of overcrowding is stronger (positive residuals) or weaker (negative residuals) than average. Put differently, strong positive residuals in Figure 3 are found in places where disparities in overcrowding between the focal minority and White Britons are particularly pronounced. Strongly negative coefficient residuals, meanwhile, denote places where such disparities are weaker than average.

Figure 3 shows that the higher general likelihood of overcrowding among the White Other group is attenuated in some northern cities and in parts of Inner London (where the residuals are negative) but is stronger than average around London and in some more rural counties of southern England like Dorset, Norfolk and West Northamptonshire (where the residuals are positive). By contrast, above-average (i.e. positive) Indian coefficient residuals are found in NW England, West Yorkshire, parts of west London and in some cities of ethnic concentration like Leicester and Swindon. Weaker than average (negative) Indian coefficient residuals are meanwhile found in areas around London. Similar patterns are evident for Pakistanis and Bangladeshis (not shown), although positive Pakistani coefficient residuals are also found around the West Midlands and in north Cambridgeshire. Finally, positive coefficient residuals for Black Africans and Caribbeans in London indicate that the probability of overcrowding for these groups is especially elevated above that of White Britons in the capital. In summary, ethnic disparities in overcrowding are not only stark but also vary in intensity across England and Wales in ways that differ by group.

TABLE 3 Random coefficient estimates of ethnic disparities in overcrowding.

	Other White		Indian		Pakistani		Bangladeshi		Chinese		Black African		Black Caribbean	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Level 1 (individual) fixed effects	X		X		X		X		X		X		X	
Level 2 (area) random effects														
Intercept variance σ^2_{u0}	0.166	0.016	0.166	0.016	0.171	0.016	0.165	0.016	0.164	0.016	0.157	0.015	0.161	0.016
Variance (ethnicity) σ^2_{uk}	0.047	0.007	0.130	0.034	0.048	0.011	0.061	0.016	0.085	0.028	0.044	0.012	0.020	0.008
Covariance σ_{u0k}	−0.004	0.009	−0.033	0.015	−0.057	0.011	−0.042	0.016	−0.043	0.020	0.039	0.010	0.042	0.014
N areas	128		128		128		128		128		128		128	
N individuals	1,421,570		1,421,570		1,421,570		1,421,570		1,421,570		1,421,570		1,421,570	
AIC (null=645,374)	480,013		479,876		480,101		480,156		480,221		480,159		480,227	

Note: X = included as per Table 2. No White Irish model is shown as the random coefficient = 0. AIC for random intercepts only = 480,237.
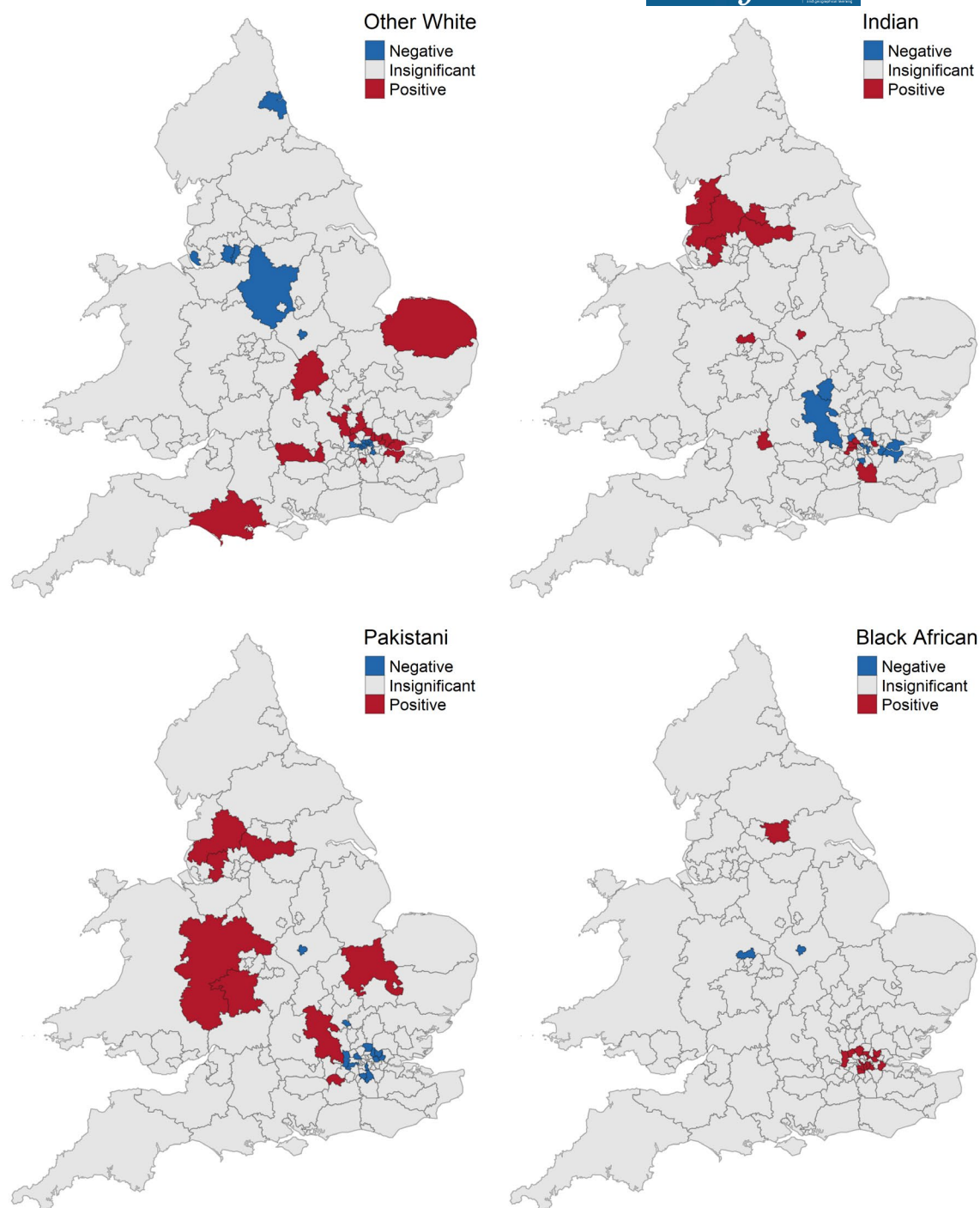
FIGURE 3 Area coefficient residuals for ethnic disparities in overcrowding. Estimated from Table 3 models where White British is the reference category. Maps for Bangladeshi, Chinese and Black Caribbean not shown. Bangladeshi coefficient is only negative in Barking and Dagenham, Enfield, Luton, Newham and Redbridge and positive in Tower Hamlets. Chinese coefficient is only negative in Ealing and Newham and positive in Greenwich. Black Caribbean coefficient is only positive in Barking and Dagenham, Ealing, Hackney, Haringey, Harrow, Lambeth, Lewisham and Newham. The figures use boundary data from the Office for National Statistics licensed under the Open Government Licence v.3.0. Contains OS data © Crown copyright and database right [2024].

5 | DISCUSSION AND CONCLUSIONS

Overcrowding signals that people cannot access suitable housing. In Britain, overcrowding has long disproportionately affected ethnic minorities and helped generate ethnic inequalities in life chances. Yet despite these longstanding issues and the growing diversity of England and Wales, housing policy across Great Britain no longer expresses much concern

about ethnic inequality (Robinson, 2024; Robinson et al., 2022). Instead, policy has lately been silent about the potential structural causes of ethnic disparities which are either ignored, downplayed in favour of class-based narratives or instead are viewed as a waning legacy of past discrimination that individuals can now transcend (Robinson, 2024). This postracial shift is problematic as over the last 15 years ethnic minorities have been disproportionately exposed to housing pressures stemming from social security cuts, restrictive immigration-related policies, mounting problems of urban housing affordability and state retreat from the provision and regulation of housing (JRF, 2021; Powell & Robinson, 2019). In consequence and in response to calls for renewed analysis of ethnic housing inequalities (Shankley & Finney, 2020), this article sought to shine a fresh spotlight on contemporary ethnic disparities in overcrowding and, in particular, how these might vary across England and Wales in ways which have long been overlooked (Phillips, 2015; Sarre, 1986). It also sought to assess whether gross ethnic disparities in overcrowding can be 'explained away' by differences in groups' demographic, socio-economic and locational attributes.

The findings suggest two conclusions. First, it is vital to reiterate that there are very stark ethnic disparities in overcrowding in England and Wales. The magnitude of these disparities is such that while ethnic minorities comprise around ⅕ of the adult population, they account for over ½ of all adults living in overcrowded conditions. Moreover, even after controlling for differences in attributes (including factors like household size and socio-economic status), all ethnic minority groups except the White Irish have a higher likelihood of living in overcrowded conditions than White Britons (especially Bangladeshis and Pakistanis). These patterns are longstanding, and it is troubling that housing policy neither evinces concern nor seeks to tackle them (Robinson et al., 2022). Furthermore, the model estimates show that disparities in socio-economic status and citizenship rights (for instance possession of a UK/Irish passport) are an additional indirect pathway through which many ethnic minority groups come to be disadvantaged in the housing system. Ethnic inequalities stretching beyond housing thus translate into residential disparities in ways which demand greater policy attention.

A second conclusion is that ethnic disparities in overcrowding are spatially varied. Multilevel models show that individuals have a higher probability of overcrowding in pressurised urban housing markets in southern England as compared with northern cities and more rural and peripheral areas. This reiterates that overcrowding is a response to constrained local housing options (Johnston et al., 2016). London is a locus for overcrowding, and this is where Black Africans and Caribbeans appear especially likely to live in cramped conditions *vis-à-vis* White Britons. These patterns are particularly notable since London is where overcrowding among White Britons is also most common. By contrast, the elevated probability of overcrowding for Pakistanis is most apparent in the north-west (where White British overcrowding levels are low) while hotspots of overcrowding among Indians are evident in specific cities like Leicester and Swindon. Taken together, these geographically varied patterns suggest that local interventions are required to tackle the specific forms of residential disadvantage and ethnic housing disparity that are observed in different parts of the country.[8]

Finally, it is important to reflect on this study's limitations. One limitation is that relying on a cross-sectional snapshot of census data makes it impossible to scrutinise ethnic and geographical disparities in transitions in and out of overcrowding over the life course. This requires longitudinal data, which should become available when 2021 Census data are attached to the ONS Longitudinal Study. In addition, this research used the Bedroom Standard to quantify overcrowding. This approach has advantages: the Bedroom Standard is a de facto official measure and validation assessment indicates that it has similar associations with socio-economic and health variables as other measures of overcrowding (Cable & Sacker, 2019). However, the Bedroom Standard probably underestimates perceived overcrowding, and there is no way to assess this or to test whether space norms vary across groups in ways which might shape their housing preferences. Further examining these possibilities and more deeply unpacking what unexplored factors are producing observed ethnic disparities in overcrowding (which might include *inter alia* (in)direct discrimination, ethnic variations in wealth and/ or differentially bounded processes of housing search) should be a priority for future research using survey data and qualitative methods. In addition, while geographical patterns of overcrowding and ethnic disparity have been documented, it has not been possible to fully explain these results. Addressing this by integrating local housing stock and market data to explore which groups are most impacted by which forms of local housing constraint, as well as exploring interactions between the determinants of overcrowding (for instance, the intersections between ethnicity, family status and social class), should thus be targets for future work.

DATA AVAILABILITY STATEMENT

The 2021 Census microdata used in this work can be accessed through the UK Data Service (https://ukdataservice.ac.uk/). The boundary files used for the maps are available from the Office for National Statistics (ONS: https://geoportal.statistics.gov.uk/).

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ENDNOTES

[1] In this study, ethnicity is measured using the ethnic categories employed in the 2021 Census. See Catney et al. (2023, p. 64) for a sustained discussion of the categories and how these were determined ahead of census delivery.

[2] A reduction in housing benefit support payments for working-age social tenants who are assessed as having surplus bedrooms.

[3] Online teaching at universities and workplace closures may have motivated many younger adults to return to the parental home or to delay leaving.

[4] Question 15 of the individual questionnaire asked people to 'tick one box to best describe your ethnic group or background'. Respondents were provided with 19 options. In this study, the label 'White British' is applied to the first option covering all those identifying as 'White: English, Welsh, Scottish, Northern Irish and British' (Welsh was listed before English in Wales).

[5] The UK and Ireland are part of a Common Travel Area guaranteeing unrestricted reciprocal freedom of movement, residence, work, electoral participation and access to social welfare.

[6] NS-SeC distinguishes managerial, administrative and professional occupations (NS-SeC 1–2) from intermediate (NS-SeC 3–4) and routine/manual occupations (NS-SeC 5–7). The long-term unemployed and those who have never worked are assigned to a separate category.

[7] All coefficients are precisely estimated and are statistically significant under conventional thresholds.

[8] For instance, in the 1980s–90s, local housing associations catering specifically to minority groups played an equalising role in the English housing system (Robinson, 2024).

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