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Problematising density: COVID-19, the crowd, and urban life

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ABSTRACT

The COVID-19 pandemic dramatically transformed the fundamentals of city management and everyday life. Density has been at the centre of this transformation. But how were densities managed during the pandemic? What are the political implications? And how did people come to perceive and experience densities? Drawing on research in five British cities – Birmingham, Edinburgh, Liverpool, Manchester, and Newcastle – we argue that the pandemic produced a set of new problematisations of density. Those problematisations brought multiple concerns into connection with density: control and rights, the politics of crowds and protest, differential susceptibility to infection, changing orientations to the urban future, and patterns of social anxiety, trust and blame. We seek to advance research in Geography and Urban Studies on how urban densities are governed and experienced, on the urban dimensions of COVID-19, and on how an attention to density generates insight into the social and political life of cities.

Introduction

The COVID-19 pandemic radically disrupted the management and experience of being together in the city. The presence of densities of people, so fundamental to the history of cities and urban living, was reconstituted and reframed. No longer was the crowded city café, bar, commute, or public square the stuff of urban life, variously bemoaned, dreaded, celebrated, and negotiated. With the pandemic, the introduction of lockdowns and the proliferation of new architectures and behaviours of public health, massing together was not only very often illegal but a source of intense social anxiety and debate. What did the pandemic do to how density was governed, experienced and perceived? And what might be the lessons for geographical and urban research?

Drawing on research in five northern British cities, we argue that the ways density surfaced were multiple, changing, and fractious. Our research aims to highlight how density was perceived, managed, and experienced within a rapidly changing context. It generates insight into how a crisis can shift relations and geographies of density in the city. We examine the social, cultural and political understandings of different expressions of density and how they emerge both in the specific context of the pandemic as well in their longer histories.

From this position, density, and its expression in the crowd, is not simply a question of numbers of people in urban space but thoroughly entangled with all kinds of regulations, norms, politics, histories, and cultural perceptions. Through our empirical research we explore density as a relational phenomenon brought into different kinds of 'problematisation', i.e., the different ways in which it came to be understood, debated, and politicised (Borch, 2012). This includes efforts to manage density and the limits of those efforts, including controversies around policing crowds; concerns with the susceptibility of particular kinds of crowding to infection; and experiences of anxiety and mistrust of others and how they shaped the perception of crowds.

We begin by describing how the pandemic influenced our methodology. Then we situate the research in relevant literature and set out how we advance that. The empirical materials are gathered in two sections. In the first, we look to how density management during the pandemic evolved, with various consequences for the nature of different densities in the short and longer term. This includes a focus on formal management plans, individuals managing the pandemic in cities, policing strategies, and public debate. In the second, we turn to the everyday ways in which people perceived and experienced the densities, and especially crowdedness, in different urban sites. We allow for the tensions and contradictions that surround crowdedness to emerge, where the crowd can be at once longed for yet also a source of growing anxiety and threat.

In these discussions, we work with a broad distinction between 'density' and the 'crowd': density is the number of people in a place, including in the neighbourhood, on the move (e.g., in transit stations), or in city spaces (from public squares, parks and streets to museums, galleries, cafes, bars and restaurants). This includes spaces where density emerged as an important concern in the pandemic, including at workplaces, schools, colleges, and universities. It is important to keep in mind, and we will return to this, that the risks linked to density in the pandemic were shaped by historic urban inequalities, including precarious working conditions (some factory working conditions, for instance) and inadequate housing (overcrowded homes, for example, or insufficient public and green space).

Crowds are particular expressions of higher density, including crowded shops, trams, festivals, sports events, and protests. In the interviews, the crowd surfaces as an especially elastic and potentially disruptive formation, more so than density more generally. This mirrors some of the historical debate on the crowd as unstable and unpredictable, 'as volatile as the city itself' (Sudjic, 2016, p. 207). Indeed, crowd theory, stretching in particular from the conservatist work of Gustave Le Bon (1896) to the more liberatory thought of Elias Canetti (1961), has been preoccupied with how crowds become social and political forces. It has often been portrayed as out of control and subject to 'contagion', whereby participants become caught up in the affective intensities of the moment and temporarily suspend rationale judgment (see, Borch, 2012; McClelland, 1989). In this history, the crowd often emerges as a contaminant of both public order and public health, and, as we will see, that history resurfaces in the COVID-19 pandemic.

We conclude by highlighting three implications for research in Geography and Urban Studies: on the value of conceiving and researching density as a relational problematisation; on the insight a focus on density generates in the social geographies of the city; and on how a focus on density helps us to understand the changing nature of the urban political. While there is, as we highlight below, considerable work on densities across

Geography and cognate fields, notably Sociology and Psychology, there is comparatively little research on how people differently perceive and experience them (H. Y. Chen et al., 2020). In addition, in the growing literature in Geography and Urban Studies on COVID-19 and the city, there is relatively little scholarship on the geographies and debates on density in the pandemic, especially on how different groups experienced and perceived densities and crowds, and the consequences for understanding cities and urban density debates (Boterman, 2020: 14; Hamidi et al., 2020; McFarlane, 2021; Mullis, 2021; Teller, 2021).

Urban Scenes: research and the pandemic

Between December 2020 and May 2021, a period that included national lockdown, stringent restrictions, high-infection levels, and roll-out of the first set of vaccines, we conducted online interviews and surveys with residents, visitors, and local governments across five northern British cities: Birmingham, Edinburgh, Liverpool, Manchester, and Newcastle. We selected these cities based on both our collective knowledge and contacts, the different governance and spatial arrangements of the cities, and the distinct pandemic trajectories these cities have had. Manchester and Liverpool suffered higher levels of infection in the early to middle phases of the pandemic, while Birmingham, Edinburgh, and Newcastle had higher levels later. If Edinburgh's centre can, in 'normal' times, be one of the most crowded in the country, particularly during the summer festival, Newcastle is generally less so.

Our expectation was that key concerns around, for example, crowded public places or forms of transport, would resonate between the cities. That shared concerns would likely be more significant in a pandemic moment than, for example, the fact of being in Newcastle rather than Liverpool (and this indeed was borne out in the research findings). At the same time, we sought to understand what difference geography made to the governing, experience, and perception of densities, including how urban spaces – streets, pavements, neighbourhoods, homes, parks, transit systems, and so forth – became problems or concerns.

Our aim was to understand both how densities are governed by authorities, and experienced, navigated and perceived by residents. We combined both governance and experience for two reasons: first, because in the context of pandemic restrictions they were very intimately and powerfully connected, and second to investigate the moments where governance failed, or was in some way limited in its attempts to structure daily living. The data consists of 28 interviews, approximately 700 survey responses, and analysis of relevant city-based policy documents, media reports, and social media debates. The research was given ethical approval in the University and informed consent measures were carried out with all participants. We conducted the survey first to identify interviewees and interview themes. The open comments section in the survey generated useful commentary on the hopes and anxieties people attach to density. We conducted discourse and content analysis on city Outbreak Management Plans, including how they changed over time, and discussed these plans in interviews with local government officials working on outbreak control, social support, and policing.

We do not claim that the findings are representative of what is a large and multi-faceted set of urban contexts. Surveys, for example, typically generate more questions

than answers, yet the data we collected offers a valuable insight into recurring preoccupations and expectations. Online research does have distinct advantages, particularly for residents who sometimes feel more able and comfortable with committing to an interview from home. But they also reduce the scope for interaction, building rapport, reading the informal signals of feelings of discomfort or interest, and so forth.

The data generated across the cities add up to a series of 'urban scenes' from moments in a changing situation. These urban scenes allow us to explore complex questions of experience and perception that, as respondents were often aware, might change quickly in the weeks and months to follow as events unfold. Our key approach in the interviews was to ask people to take us through their 'pandemic biography', i.e., to go back to March 2020 and explain how they felt about density at that point, or – in the case of local government officials and other authorities – the work they were doing then, and then to describe how and why that might have changed.

Density and the pandemic city: a new problematisation

COVID-19 has been a profoundly geographical crisis, drawing attention not just to aggregate numbers in dashboards and charts but to particular 'hotspot' locations or higher-risk settings, and a significant literature has emerged in Geography and Urban Studies on its impact in cities in terms of health, governance, and economy (e.g., Aalbers et al., 2020; Bratton, 2021; Sparke & Anguelov, 2020).

First, research has focussed on the specific urban nature of disease outbreaks and the consequences for future preparedness, including for health systems, governance frameworks, and global mobility patterns. Connolly et al. (2021) have argued that 'extended urbanisation', including peripheral urban developments and mobility patterns, have increased vulnerabilities to the spread of infectious disease, including zoonotic disease, in the 'expansion of urban settlements in previously forested or agricultural areas' (Connolly et al., 2021, p. 258; Kuebart & Stabler, 2020). Some of this literature has considered the extent to which density might be a factor in higher rates of infection, hospitalisation, and death, and has typically linked increased risks in cities to working patterns, poverty, domestic overcrowding, class, and ethnicity rather than density *per se*. Existing research on density and the pandemic focusses on evaluating the extent to which density drove infection (Boterman, 2020, p. 14; Hamidi et al., 2020; McFarlane, 2021; Moos et al., 2020; Mullis, 2021; Teller, 2021), with little work on how people perceive different kinds of densities and with what consequences.

Second, the literature on changing governance arrangements of COVID-19 in cities draws attention to new forms of experimentalism. This includes faster decision making, moving key functions to digital platforms, enhancing or developing new relationships with civil society or private sector, reconfiguring local-global economic and political relationships, and instigating new mobility arrangements in urban space (Acuto, 2020; Hesse & Rafferty, 2020; McGuirk et al., 2020). These experiments have also involved an intensification of tools of 'crowd control' and biosecure regulation, from robot dogs in Singapore and thermal imaging in China, to enhanced capability for urban spatial management and social and mobility control (B. Chen et al., 2020; McGuirk et al., 2020).

Third, there is the question of how the economic geographies of the city and urbanisation might be changing because of the pandemic. This includes the potential longer-term

impacts of working from home and online trade and retail on city centre economies and housing markets. For example, Florida et al. (2021) argue that while the pandemic is unlikely to shift macroeconomic urban geographies, there could be significant changes due, for instance, to lingering apprehensions of crowds, altered geographies of housing and labour, and a new emphasis on planning, architecture and design to invest in public health.

Across this work, a key question that remains is how the pandemic has been experienced and perceived in cities. The pandemic instigated the greatest de-densification of urban space in global history, prompting debates and anxiety over the future of being together in groups and masses, with concerns ranging from daily apprehensions, tensions and longings through to worries over 'COVID-19 anxiety syndrome' or 'enochlophobia' (fear of crowds). We aim to advance understanding both of COVID-19 and of density in Geography and Urban Studies.

In doing so, we are inspired by Christian Borch's (2012) history of 'crowd semantics', the concepts or vocabulary in which society describes crowds. Borch's study is focussed on how crowds come to be understood, differently interpreted, argued over, managed, and controlled. In short, with how crowds are *problematised* over time. Historically, the crowd has been seen, especially by the political Right, as a threat to the social and political order – unless it's a crowd in service of the Right – and an embodiment of larger social dangers (see also, McClelland, 1989; and for a more affirmative story of the crowd, see; Canetti, 1961). This history runs through crowd psychology – launched by Le Bon (1896) and later by Freud (20121921/2012), becoming a focus of debates on the crowd and fascism in the 1930s and 40s – though that particular history is a Western one (and see, H. Y. Chen et al., 2020; Chowdhury, 2019, on Bangladesh; Chowdhury & McFarlane, 2021, on Japan; Gandhi, 2016, on India). Across the 19th and early 20th century in particular, the crowd, including in European colonies (Chakrabarty, 2002), was often portrayed as a threat both to political order and to public health, and this history was enrolled and reframed in the COVID-19 pandemic.

In Borch's terms, the pandemic is a new problematisation of the crowd, or, more accurately, a multiple set of problematisations both historically shaped but specific to the present moment. These problematisations are shaped through histories of social power, inequality and perception of different urban groups and forms of crowding. Research on urban density in Geography and Urban Studies tends to focus on the production and politics of density in place (Kjeras, 2021; H. Y. Chen et al., 2020), yet – as we will argue – the governance, experience and perception of density and the crowd in the pandemic are relational processes formed not just in place but through the larger encounter between places, social histories, unfolding events, politics, and the changing relations of fear, anxiety, and hope that shape perceptions and experiences in a time of crisis.

In what follows, we explore pandemic density problematisations based on our research. These include: efforts to manage density out of existence through controls and policing, even as crowds repeatedly rupture regulatory codes; concerns about the susceptibility of particular kinds of crowding to infection; recurring stories of anxiety and mistrust or of efforts to navigate crowds in the present; and speculations about the future of density and crowds in the city.

Governing density: plans, law, and susceptibility

> 'People should as far as possible avoid crowded areas and gatherings – that includes bars, restaurants and cinemas.' - Scottish Government, March 2020.

> 'If I'm in a crowded or enclosed space, I will wear a face mask.' - Sajiv Javid, UK government Health Secretary, July 2021.

Notwithstanding the different positions between the UK and Scottish governments, in these two quotes we see the journey from the instruction to avoid crowded places, to one of being in crowded places in a new way. This temporal change had implications in cities, as we will show, for both governing densities and – as the next section will discuss – for how crowds in particular were experienced and perceived. Here, we highlight three problematisations that emerged as especially important in governing density: a view of density as a phenomena that had to be *managed out* through controls and policing; a conception of density as a *susceptible social thickness*; and a view of crowds as the *rupture of regulatory codes*.

Before describing these three themes, it is important to begin by stating that the UK's national governance context played an important part in how *urban* governance was pursued. The devolved nature of crisis governance handed considerable power to governments in Scotland, Wales, and Northern Ireland and created political tension around government roles and responsibilities. For example, our respondents in Edinburgh were much more positive about the Scottish government's messaging than Westminster's, which was more often seen as chaotic, contradictory, and uncaring: 'I am not an SNP [Scottish National Party] person,' said one, 'but I think that [First Minister] Nicola Sturgeon has actually handled it very well … she has spoken to us as real people, not just like rabble.' Indeed, a poll for Ipsos MORI (2020) in May 2020 found that while three-quarters of respondents in Scotland said the Scottish Government had handled the crisis well, only a third said the same of the UK Government (Flockhart, 2020).

The first of our three key density problematisations is 'managing out' density. In early June 2020, the UK Government required all upper-tier local authorities to compile an Outbreak Management Plan, later revised in March 2021 (Local Government Association, 2021). In these plans, what's most striking is the limited attention to density. Little mention of it because part of their very purpose was to prevent it. The plans were anti-density machines: follow these guidelines and expectations, and densities won't happen. We see this, for example, in widening pavements or pedestrianising roads 'to accommodate social distancing measures, queueing outside of shops and to make it easier and more comfortable for people to move around' (Transport for West Midlands, 2020, p. 22). Density also featured in relation to 'at risk' people and places, and one response was new spatial architectures and controls on mixing. In Bolton Council's Outbreak Management Plan, for instance, 'complex' populations such as homeless shelters and accommodation for asylum seekers and refugees, were identified as both 'underserved' and those spaces where crowding might arise (Bolton Council, 2020, p. 9).

These plans were not static documents, they needed to interface with quickly changing national legislation, policies and guidance across devolved governments. In the interviews, officials sometimes reflected on the difficulty of implementing national guidance that changed regularly and wondered if this led to a decrease in compliance over time.

While the policing of density did not figure prominently in the outbreak management plans, it did in media articles. A wordsearch of news media on COVID-19 in GM over 2020 reveals 609 entries for 'police', 168 for 'illegal', and 72 for 'enforcement' and its derivations. In Greater Manchester (GM), a respondent in the police said:

> I think compliance was really good in the first lockdown [. . .], but by the time we got to summer, GM started having its own regulation that the government had imposed on us in terms of tiering systems [where places were placed into categories of restrictions depending on infection levels]. At one time, I think we had four different regulation types across GM, a real patchwork of legislation.

The second key problematisation for governing densities relates to managing it not only *in* place but as a set of connections formed *across* social connections in different urban sites. This is a view of density that we call *susceptible social thickness*, in which officials identify close-knit networks of informal social interaction, particularly amongst lower-income ethnic minority groups, as driving transmission. One example of this is from Tameside, a borough of GM that experienced enduringly high numbers of COVID-19 cases. Public health officials updated the Local Outbreak Management Plan to note that the borough is:

> . . . made up of nine separate towns, all with their own communities and identities, strong links with the immediate community with a large proportion of the residents working within the borough, household support bubbles, high degree of social capital . . . informal childcare bubbles, the potential for social interaction despite lockdown measures being in place, which may be a driver of transmission.

One public health official describes this as not so much a question of overcrowded homes, which was an ongoing concern in the pandemic (McFarlane, 2021), but of 'multigenerational streets':

> One of our working hypotheses is that we have close-knit communities where even if they're not in the same house, they are in the same street. So you know you have multigenerational streets . . . for instance, Hattersley, was one of the slum clearances council estate built, so very kind of close-knit, and not a lot around it, so people [who] got "stay at home" [government messages], they are either going to work, or they're looking after kids, grannies, whatever and just mixing.

The concern, she continued, was not just density, but density plus 'social connection between people within those houses', which she summarised as a 'close-knit community' hypothesis: '[I think] the driving factors we've got are: existing socio-economic inequality, housing condition, a high number of people in a high-risk occupation, and close-knit communities'. A local government official describing GM explained how some residents and areas emerged as more susceptible to infection, especially where there is a higher working-class BAME population with many people who can't work from home. In addition, one official noted that '50% of secondary school people in GM go to school outside of their locality area, because of its tightly packed urban geography,' potentially fuelling infection across social connections. In response, one official talked about the development of an increasingly nuanced 'spatial judgment' during the pandemic, which involved local tracking and intervention, including knocking on doors of those who needed to isolate. In GM, decision-making became centred in an emergency committee, where the mayor – Andy Burnham – was able to use his national and local profile to push for

resources and disseminate messages, including issues like targeting payment to those isolating or supporting rough sleepers into accommodation.

'Close-knit communities' were seen not only as more susceptible to risk due to the social thickness of their relations, but as a problem of police enforcement. Whatever support and restrictions are in place, cities generate different densities that exceed and disrupt regulations and rules (Joyce, 2002; Kishik, 2015). A senior police officer complained that in periods when infections were low, residents saw the police as being overly interventionist, but insisted that they were required to continue to act:

> It feels like we're in a no-win situation, and that manifested itself right from last year when the early legislation came in, you know our officers went to . . . a child's party you know which was an unlawful gathering in a garden . . . there were adults as well, drinking and socialising. And we put it out - rightly or wrongly - on our social media that we'd been there and prosecuted the occupants the adults, and that was probably one of the defining things that started this [criticism], you know that population started going 'how petty that you'd went into a child's party.

This brings us to the third problematisation of governing density: densities as the *rupture of regulatory codes*. As the pandemic unfolded, certain groups and activities were identified as prompting particular problems for governing, including parties, raves, and protests, typically involving younger groups, and sometimes linked to claims around drug consumption and 'irresponsibility'. By spring 2021, 80% of all coronavirus notices – fines for breaking regulations – were given to people between 18 and 39. Outbreak plans were sometimes revised to note the role of young people, especially university students, in contracting and spreading the virus. In local media, the term 'youth' was often accompanied by talk of revellers, flouters, raves, and claims of being selfish or thoughtless – a theme, as we shall see, that was important too for how residents perceived densities.

But the problematisation of density as a rupture was most pronounced in relation to protesting crowds, which typically divided people depending on their political positions and how they balanced the right to protest and the risk of infection. Most significantly, in November 2020, the government temporarily changed the legislation on protests. As one official put it, this effectively 'removed protests as an exemption' and meant that the police were required 'to disrupt those events and prevent them from occurring.' The official explained that this 'was a real challenge, and national policing had lobbied the home secretary and the home office not to make that change to the law, but anyway they did'. He described, for example, their efforts to prevent a protest against the 1% pay raise for National Health Service (NHS) staff, which was viewed as too small:

> We've had a small group who chose to protest in Manchester City centre . . . We contacted the organisers with the greatest of sympathy really, and we said you know 'we don't want to be the ones doing it, but you know these are the rules, you can't protest' and they said 'fine, we're going to social distance, we wear masks' . . . [And we said] 'no that doesn't make any difference, the rules are clear, that if you organise a protest, you will be guilty of an offence and you know you can be issued with a Fixed Penalty Notice for 10,000 pounds' . . . So that got a lot of publicity because you know people's perception was that we were enforcing against the NHS.

He went on to contrast this with other protests where the wider public might feel less sympathy, including 'Kill the Bill' protests against the Police, Crime, Sentencing and Courts (PCSC) Bill (passed by the House of Commons in July 2021), which gives police powers to

ban protests that they determine *might* become violent or 'noisy'. The contrast the official made is itself revealing: some crowds are seen as more legitimate than others. Indeed, the police in Manchester were accused of heavy handedness in their policing of Kill the Bill protests (Britton, 2021).

The PCSC bill represented a 'permanent' policy change – with the caveat that any legislative change is subject to potential changes rather than permanent – beyond the pandemic. The bill catalysed a long-standing political and public debate on the right to protest, driving concerns that it was the latest instalment in a long history of growing police powers to ban protests that *may* cause disruption, including noise and 'static' protest. The bill is in part a product of the Conservative government's view of disruptive 'mobs' – a specific kind of problematisation of the protesting crowd, but with a long history – now linked to movements like Extinction Rebellion and Black Lives Matter. Home Secretary Priti Patel claimed these movements were bringing 'anarchy to our streets' (Siddique, 2021, n.p.). MPs on the Joint Committee on Human Rights criticised the bill, with Labour MP Harriet Harman, the committee's chair, stating: 'One of our most fundamental rights is to protest. It is the essence of our democracy. To do that, we need to make ourselves heard. The government proposals to allow police to restrict "noisy" protests are oppressive and wrong' (Siddique, 2021).

This encounter between pandemic legal restrictions and collective political expression was pivotal to how crowds became politicised during the pandemic, especially through how different crowds came to be viewed and defined, e.g., as groups, marches, protests, or vigils. A particularly poignant example of this was in March 2021, when a young woman, Sarah Everard, was kidnapped, raped, and murdered by a police officer in London. In response to her tragic and horrifying death, thousands of women gathered at Clapham Common in a peaceful vigil to remember Sarah Everard and call for change concerning violence against women. Even though the vigil was held outdoors, with most wearing masks, the police contained and then dispersed what they designated as an 'unofficial gathering' – police had refused to give permission for the event when organisers applied – leading to several arrests and confrontations that led to national condemnation of police tactics (Graham-Harrison, 2021). In late June, a parliamentary inquiry found that the police breached fundamental rights to protest and used disproportionate force. The police partially justified these techniques because this was not, they claimed, a *vigil* but a *crowd*. Notwithstanding the fact that being a 'crowd' does not make this kind of policing somehow acceptable, the point we want to stress here is that different versions of density, with long historical connotations and valuations (vigil, crowd), were being put to work in justifying action, and being set against public health and the right to protest (and see, Kipfer & Mohamud, 2021).

In its report on the event, the All-Party Parliamentary Group on Democracy and the Constitution (APPGDC) (2021, pp. 21, 43) described how the police had claimed that the 'look and feel' of the event changed as the evening progressed, as a 'crowd developed around the bandstand and people began to make speeches.' The police claimed that people were 'whipping up the crowd' and that the crowd 'refused to comply with encouragement to leave' (APPGDG, 2019, pp. 21–22). In contrast, the report described participants as 'generally standing in groups rather than a crowd' (APPGDC, 2021, p. 39). The distinction here between a 'group' and a 'crowd' is used to signal a particular political history: the group as organised and run with thought and order, the crowd as unruly and

disruptive. One participant said they 'didn't see anyone moving forward or gathering closer' (*ibid*. p. 57). Others said that if a crowd emerged, it was only because the police had begun aggressively removing people, so 'social distancing broke down as they [participants] closed around' (*ibid*).

Indeed, the report argues that 'the evidence indicates that [police] action intensified crowding around the bandstand and reduced social distancing', which one police officer described as a response to a 'hostile crowd' (APPGDC, 2021, p. 58). The police actions, the report argued, were 'serving to provoke the crowd', drawing a line between people and further escalating tensions. The police insisted that Clapham Common was too small to ensure social distancing and ease of movement to and from the site, a claim the report refuted.

In interview, a senior policing official in GM reflected on this wider context. 'It did genuinely change the position for policing in terms of protests and vigils,' adding that it was a 'real challenge and dilemma for policing,' that 'these are massively draconian measures . . . [but] these gatherings were still unlawful.' He went on to argue that ultimately the right to life trumps the right to protest:

> We sort of chose to allow vigils, you know, small vigils where it was clear it was a vigil. But at the minute it became clear it was a protest, you know we've had to take action. [. . .] The argument there is the right under articles 9 and 10 under the [UK] Human Rights Act of freedom of speech and freedom to gather should be born in mind regardless of legislation. But then what we've had was Article 2, right to life, which was we are in a pandemic, you know the gathering of people you know in a pandemic is potentially an Article 2 situation, so the Article 2 conditions outweighs the rights in terms of 9 and 10.

While the officer here is equivocal about the powers the police were handed, the politics of policing is largely left to one side in this account. There is little reflection, for example, on the fact that the Sarah Everard vigil was held to mourn a woman who was raped and killed by a serving police officer, and that it was accompanied by a national debate about police harassment against women and outrage over how the police handled the vigil. Instead, this account seeks to legitimise disproportionate policing by pointing to the confusion over the changing regulations and indicating that some crowds – the NHS pay rally for example, – are less of a concern, from a policing perspective, than vigils that might become a 'protest'. The ways in which the police sought to portray the vigil – as a hostile crowd that refused warnings to disperse – mattered for how the national legislation was locally interpreted.

Meanwhile, for those at the vigil, and indeed for the House of Commons report, this portrayal of the crowd was a wrongful effort to find a justification for aggressive action. This goes to the heart of the politics of crowd problematisations, foregrounding not just the exigencies of the moment but longer histories of loaded constructions of the crowd in the city. The response to the crowd here unfolds in a particular moment in which public health restrictions meet a fraught and horrifying instance of gendered violence, and it would be a mistake to see this case as just another instance of historic state anxieties about the disruptive crowd. At the same time, the suspicion of the crowd and tendency to respond with intolerance is also framed by a state conservativism, powerfully expressed in the government of the day, with a long history in positioning the crowd as a political, social and public health threat.

Crowd perceptions: anxiety, trust, and urban life

The shift in perceptions amongst residents was powerful and marked across the pandemic, especially in relation to indoor places where there is a risk of busy conditions leading to proximities of people that are difficult, if not impossible, to avoid. Table 1 summarises the everyday experience of respondents in Liverpool, Newcastle, and Edinburgh – the three cities where we had the largest survey response – which was largely defined by a problematisation of crowds that revolved around senses and ideas of threat, distrust and negotiation. Only a small minority in each city said they were very comfortable in crowded places in city centres, with the vaccine – far more than social distancing or face masks – easing that a little (at the time of research, the first vaccine roll-out was in full swing in the UK).

In what follows, we spotlight three key density problematisations – *anxiety, trust*, and – albeit a theme that emerged less frequently – *futures*. First, the level of anxiety expressed both in the free-hand survey comments and in interviews was intense and generalised. Density, especially as different kinds of localised crowding, surfaced not just as a gathering of people but as a manifestation of the virus itself. 'Covid is transmitted as an aerosol,' said Andrew, in Liverpool, 'and if you go into a crowd, then it's walking into an aerosol'. For Kevin, also in Liverpool, 'crowds have been shifting from something joyful to something that can potentially be deadly'. In Newcastle the survey responses reflect intensified anxieties, even panic, around crowds, including 'crowds completely freak me out now', and '[I'm] prone to panic attacks if too crowded'. In Edinburgh, it was not uncommon to report feelings of being 'very frightened' by densities, as was the sense that people 'would ever feel entirely comfortable in the city again' because 'the behaviour of

Table 1. Survey findings in three British cities.

City	Respondents	Pre-pandemic	During the pandemic
Liverpool	219 responses. Majority white women aged 55 +	Most said they would visit the city centre once or twice a week, or daily, and only a quarter said less than once a month 65% were either very comfortable or comfortable in the city centre when it was busy or crowded across all venue types. 1 in 5 said they were uncomfortable or very uncomfortable in those situations.	Most no longer used public transport Very few reported being very comfortable in any crowded city centre context, especially in pubs, shops, and transport stations. 80% said it was very important or important to them that social distancing measures were followed The vaccine was the most important factor to change comfort levels, followed by facemasks and screens, outdoor areas, and door staff
Newcastle	120 responses. Majority white women aged 55 +	Most visited the city centre either most days or once/twice per week by walking or metro.	Most no longer used public transport. Very few reported being very comfortable in any crowded city centre context, especially in pubs, shops and transport stations.
Edinburgh	286 responses. Majority white women aged 25–34	Over 50% were very or somewhat comfortable in the city centre when it was busy or crowded. Most respondents described Edinburgh as an especially crowded city, particularly in the tourist summer months and especially during the festival.	Being outside, vaccinated and with face coverings made the most difference in people feeling comfortable in crowded and busy places. The places the respondents were most uncomfortable included transport stations and shops, followed by pubs, bars, cafes, restaurants, museums, galleries, theatres, and cinemas

others in such a densely populated city means I am always on alert when out of the house'.

People reported particularly high levels of anxiety according to vulnerability. Linda, in Liverpool, described crowded sites as creating an 'a state of anxiety': 'I'm 68, and my husband is 70, and he has some heart problems . . . I lost two friends to Covid last week, and it was tragic because they're the next generation down, so they have left a 9-year-old daughter, so that's really knocked me for six.' For respondents who had a history of anxiety or depression, anxiety was intensified: 'I used to be uncomfortable before the pandemic anyway, because of anxiety/social anxiety. The pandemic has made it worse.'

In the accounts residents gave across all cities, anxiety was closely linked to particular space-times. In Liverpool, for instance, one survey respondent wrote that 'the biggest barrier for me is using public transport – mixing with people in a confined space.' One of the consequences was that people developed new ways of navigating urban space and time. For most, the pandemic had transformed much of the city centre space – if they went to the city centre at all – into a pre-planned and strategic navigation of avoiding busy sites. Trips out were described as an 'ordeal' or as 'a bit of an operation'. In Newcastle, one survey respondent described a common theme of looking at spaces anew as sites of negotiation: 'As long as there is room indoors to have space, I am okay. Floor directions outdoors are pointless as often not taken notice by many, and street wardens often ignore the public going the wrong way'.

Concerns were sometimes linked to a sense of territoriality over the local neighbourhood. In Liverpool, one survey respondent said: 'I feel more possessive over my neighbourhood. I live near Sefton Park, which is consistently very busy with a wide catchment area, and I resent people driving to the park'. Anxiety is also projected onto the vulnerabilities of others, for example, as empathy. 'I'm not overly concerned about the risk to myself', said Jill in Liverpool, 'but just very conscious about the way other people get anxious and stressed and so conscious that when it's very crowded, tensions are likely to be running high in the people around me.'

The extent of anxiety in the pandemic is contested in psychological research. Two reviews illustrate this. In one, reviewing 9000 studies in 17 countries, anxiety was identified as the most prevalent psychological impact of the pandemic, followed by depression, especially amongst poorer groups, those at higher risk of contracting the disease, those in 'frontline' occupations (nurses in particular), and those suffering from social isolation (Luo et al., 2020). This review echoes reports of 'COVID-19 anxiety syndrome', a condition that mimics the symptoms of post-traumatic stress disorder and obsessive-compulsive disorder, and which led to some not leaving their homes or fixating on emerging symptoms (Nikčević & Spada, 2020). Importantly, it was not only older groups, who might feel more vulnerable, with higher anxiety levels. For example, Greater Manchester Combined Authority (2021) conducted surveys that indicated that 16–24-year-olds are most likely to report consistently higher needs for support in all areas, ranging from mental health to financial support.

In the second review – of 25 studies – it was found that while anxiety was a consistent consequence of lockdowns, the levels were overall low and not uniformly detrimental (Prati & Mancini, 2021). Indeed, most people showed psychological resilience and, in some cases, reported a positive effect on well-being and life satisfaction (*ibid*). Our findings reflect this to some extent in relation to the experience of urban space. For example, for

some people the *de*crowded areas of the city centre took on a new significance. Some talked about the city centre being 'quiet and refreshing' during lockdown. This was particularly common in Edinburgh, a city that can be especially busy in the summer. 'I've lived here all my life', said one, 'I have found the city centre overcrowded with tourists for years now, it has been nice to have a break from them during Covid'. Another said she 'was rediscovering the city centre'. But for the most part, our findings are in line with the first rather than the second.

Anxiety is connected to a second key crowd problematisation in the responses: *trust*. Reflecting on the beginning of the pandemic, respondents often expressed a feeling that a majority followed the restrictions and 'cared for each other and shared a common goal'. Later, though, there was a sense that this relational social care was fraying. There was a repeated use in surveys and interviews of phrases like 'selfish', 'non-compliant, 'irresponsible', 'not to be trusted', 'lack of care,' and people being 'cavalier'. In Newcastle, a respondent complained of increasing numbers of 'public gatherings of large crowds' as the pandemic continued. Concerns over trust were closely linked to proximity. In Liverpool, Jane said: 'We went to Legoland in August [2020] with my youngest, and I remember having to constantly turn round and ask people to move back, like when you are in queues.' Other respondents echoed this: 'I've been to the park when it's really busy and as long as people aren't breathing down your neck or walking side by side, it's really okay'. In Liverpool, Alex reflected: 'When Liverpool won the [league], and there was that big party on the Albert Dock with tens of thousands of people . . . It just adds to that level of distrust that I have about people in my community.'

Younger people were often seen as especially unreliable or even irresponsible. Children and teens, playing in the streets and no longer in schools due to lockdowns, and students travelling around the country, were perceived as tending to crowd: 'It tends to be young people; I immediately think of one word: super-spreaders!' Sometimes, this view was wrapped up in more general perceptions of 'unruly' younger people. In Edinburgh, for example, a few respondents pointed to an increase in graffiti and incidences where stones were thrown at buses as evidence that young people were not abiding by the laws. Another respondent in Edinburgh connected youth to blanket claims about national identities, complaining about 'a big population of Spaniards and Polish people, and they are not following the rules . . . especially the young ones'.

At other times, prejudices were attached to socioeconomic groups, especially working-class residents who were sometimes portrayed as careless. In Liverpool, one interviewee said: 'There are particular socioeconomic groups that are still having the house parties that are still saying you know "Covid isn't going to affect me," and being quite blasé.' Some would explicitly compare the 'types' of people found in budget supermarkets to art galleries and museums: 'Some cultural venues have people from a different demographic shall we say, and some of those demographics are more likely to follow the rules than others.' At the same time as blame was attributed to others, some respondents defended *their* gatherings as safe, such as one New Year's Eve neighbourhood party in Newcastle: 'I think that people driving past must have thought oh god look at them, that's a crowd. But we were thinking we are two metres away or bubbled into household groups, so we are perfectly safe.'

These perceptions of different social groups, and the tendency to project blame onto others while excusing your own behaviour, are historically shaped, just as perceptions of

protest described earlier are. At play in these responses is not just a concern about people violating the pandemic rules, but a sense that certain 'types' of people are more likely to crowd and put others at risk. The crowd of classic and typically conservative crowd theory, where particular kinds of peopled crowds are socially coded as a threat to political order, ungovernable, prone to risky behaviour and even on the verge of becoming the 'braying mob' (Borch, 2012; Canetti, 1961).

And yet, there are limits to this explanatory frame. While mistrust and blame were recurring themes, they also sometimes bumped up against empathy and care. A respondent in Liverpool commented that while he 'resents' people visiting his local park, 'I appreciate this ignores that I'm privileged enough to be able to afford to live in walking distance to the park.' Others had similar reflections. In Edinburgh, one commented: 'I have been in quite a lucky position that I got my own house, I don't have any financial worries, I have access to a garden. I got access to a park very, very close to me.' In these reflections, being 'privileged' is presented as an acknowledgement of how the pandemic was differentially experienced, and tempered discourses of broken social trust.

Across these accounts, density problematisations, and especially those linked to crowds and crowdedness, surface in different ways. In some cases, they *amplify* risk; at other times, they are caught up in *projections* of pre-existing perceptions and, in some cases, prejudices, towards particular social groups. At other moments still, they are a wilfully disobedient force, a *rupture* of regulatory codes. Density emerges as an unstable relation, understood through a complex and dynamic entanglement of anxiety, prejudice, civic care and obedience, and changing as the pandemic itself intensified and calmed over time.

While anxiety was generalised in the responses, it was also uneven. Set against this larger dominant density problematisation of anxiety and trust was another: one of hope and excitement. While this came up less often, there was a longing for crowds in some responses. In Edinburgh, although most respondents complained about the crowded summer festival, a few looked forward to it returning, with one insisting they enjoyed the festival '*because* it was so busy'. One person wrote in a survey response: 'Can't wait for the busy streets to return, it's terrible seeing the city and shops all empty,' while another wrote: 'I want all this over or at least under control and the crowds back!!!' In Liverpool, Louise captured some of this in interview when talking about how she missed a dense city centre:

> I love the buzz of it. I love the atmosphere. Like especially at Christmas, but this time we couldn't go to pantomimes or nothing like that . . . I love the bustle, like how it was, like the hotels and restaurants and everyone out . . . I just can't ever imagine those days coming back, really.

Finally, one additional, albeit less commonly discussed, problematisation that emerged in the research was to do with speculations on densities into the *future*. Having spent over a year being told to avoid densities and often being anxious about them, for many respondents there may be legacy issues linked not just to fear of infection or of passing on the virus but to density itself. In Newcastle, one survey respondent reflected on a wider theme of uncertainty into the future: 'I can't imagine being in a crowded Eldon Square [shopping centre] or large store when this is over. It will take a lot of getting used to.' Matt, also in Newcastle, reflected: 'What's the perception of what is safe anymore? . . . Have we

changed generally as a society?' Sarah, in Liverpool, said that despite vaccinations, 'you still don't know how long they're going to be protected for … I feel I'll always be sanitising.' Bill, in Newcastle, was mindful of how uneven the return to crowded situations might be: 'It could be like the roaring 20s, you know, in the 1920s … I suppose some people want to go to a cellar bar in the city centre and jump around to jazz or whatever.' Yet, for many of the people we spoke to, there was too a sense of hope. One respondent said he worried about 'current crowds' but was looking forward to 'future crowds'. The vaccine was understood by most as a pathway to at least some 'normality', where density is no longer threatening but rather denotes fun, excitement and the bustle of urban life.

Conclusion

A focus on density problematisations offers insight both into how the pandemic has impacted urban life, and the larger question of being together in the city. Our research set out to examine how these problematisations are shaped in both the governance of the pandemic, and the experience of inhabiting the city. By bringing governance and experience together, we were able to see where governance struggled to manage densities – whether in relation to protest or in everyday movements and socialities – as well as the ways in which people questioned whether and how others might 'follow the rules'. In closing, we identify three consequences for research in Geography and Urban Studies.

First, a focus on density can generate insight into the *social geographies of the city*. We have seen how encounters with density are shaped in specific spaces and times, and how attending to that can reveal how governing, politics and perception takes shape in the city, including in managing public health, politicising protest, establishing boundaries, attaching hopes, and projecting concerns. The different ways in which density is problematised is a barometer of the city's larger social geographies, where problematisations offer insight into how people think the urban social ought to be managed, sifted and sorted, and of what people expect from one another. Attending to perceptions of density can become a means for investigating urban freedom and civic life, and how people think they ought to operate.

Second, there are implications for understanding the links between density and *urban politics*. The crowd, for example, is fundamental to the wider nature of the political as the making, challenging, and remaking of collective identifications, where perception, emotion, affect and passion matter as much as reason, debate and consensus (Borch, 2012). We have shown how a focus on perceptions of crowds and crowdedness can reveal everyday contestations over urban space, form the politics of protest to perceptions of social groups. As we saw in the discussion of protests, changes to the politics of crowd protest do not only relate to the pandemic moment. Instead, the PCSC bill instigates permanent change by handing new powers to the police to prevent crowds that might become disruptive, mobilising long-held conservative views of the 'mob'. There are implications here not just for the right to assemble and protest but for urban democracy and liberalism. This and other density problematisations explored here go the heart of how cities are managed, contested, and lived. They are both historically shaped and of the moment, disclosing important insight into the politics of the city.

Finally, third, there are consequences for *how density is conceived and researched*. Density is both *formed* and *interpreted* relationally, yet research on urban density tends to focus on the

site of densification alone, or on particular aspects of it (Kjeras, 2021; McFarlane, 2020). Density is brought into being in different ways, differently connected to particular spaces, times, and groups, and understood not just 'in' place but through entanglements that connect here and there, past, present, and future, inherited forms of social power, and changing pandemic circumstances. It follows that understanding the production, management, and experience of densities would benefit from a relational methodology that investigates different connections, actors and sites, rather than the site of density alone. This includes, in our case, speaking to local government and other officials alongside residents located in different parts of the city and across several cities, examining the range of interpretations attached to density, and connecting these to policy documentation and reports in the media and social media. In other research projects, it might mean methods such as follow-alongs tracing how people or objects become entangled with density-in-sites, or participatory mapping exercises in which urban actors map densities and their different significances.

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