

COVID-19, city centre streetscapes, and public health signage

Janet Speake*^{a, b}

Maria Pentaraki^b

^aLiverpool Hope University, Hope Park, Liverpool, L16 9JD, UK

speakej@hope.ac.uk

^bSchool of Social Sciences, Education and Social Work, Queen's University Belfast, 6 College Park, Belfast, BT7 1NN, UK.

Abstract

In this paper, we reflect on the changes to cityscapes during the first year of the COVID-19 pandemic. We focus specifically on the relationships between COVID-19 communication, which took place via advertisements and messages located in urban spaces, and contemporary neoliberal politics. Particular attention is given to on-street official government public health communications and their visual impacts and wider socio-economic implications, exemplified through the lens of Belfast, Northern Ireland. We reflect on, first the transitions from pre-pandemic to pandemic streetscape signage and messages, secondly ephemerality in streetscapes under COVID-19 conditions, thirdly the rapidity of change in COVID-19 related public health signage and messages and finally structural constraints of COVID-19 related public health signage. This messaging has also made visible government responses to the pandemic and revealed official (re)emergent concerns (or lack of) for people's health and well-being.

Key words

COVID-19; cityscape; public health messaging; neoliberalism; bricolage; reflective thought piece

Introduction

During the COVID-19 (Coronavirus SARS-CoV-2) pandemic people's everyday lives have been radically changed by the pressures of the pandemic and impacts of government COVID-19 mitigation measures. These unprecedented changes have been reflected in cities and their streetscapes, with some of the most prominent changes globally taking place in the urban cores of large cities. In this paper, we reflect on the emergence of streetscapes in city centres which present and represent the changes to everyday life under COVID-19. The impetus, ongoing motivation, and aims for this study were to better understand the drivers for and impacts of COVID-19 and on-street public health messages on city centre streetscapes. Specific focus is given to COVID-19 related on-street signage, particularly official government public health communications/pandemic containment messages and their socio-spatial impacts and implications. We reflect on the changing cityscape during the first year of COVID-19 (February 2020 to February 2021) through the lens of city centre Belfast, the capital of, and largest city in Northern Ireland.

Our reflections are positioned within the critical tradition of social sciences that aims to unravel systems of oppression and promote progressive social change (Pentaraki 2018, 2019). We also frame our work within context of visual observation and interpretation of the cityscape as text and scripted process (Anderson 2015, Rose 2014, Speake 2017b). We draw on our research interests in urban and social transformation within the context of neoliberalism and urban social justice, (for example, Pentaraki and Speake 2022), informed by our respective discipline backgrounds of human geography and social work *and* our belief in the value of cutting through discipline boundaries in order to attain greater holistic perspective.

Furthermore, our reflections are also informed by our continuous engagement with the 'COVID-19 cityscape' through our daily lives in Belfast city centre throughout the public

health emergency. On-street observations of cityscape transitions in Belfast are interwoven into the wider context of urban transformations during the pandemic. The wider context draws on relevant literature sources and media reports, which focus on urban change, altered streetscapes, and virus mitigation official health messages under COVID-19 conditions. Thus, before we discuss our methods, case study, and policy implications we start by presenting this wider context. In doing this we introduce and explore for the first time within the academic literature, key relationships between: the spatial trajectories of COVID-19; city centres under neoliberalism; and public health on-street signage and messaging.

Spatial trajectories of COVID-19: cities under neoliberalism

The Coronavirus (COVID-19) pandemic is the latest in the long line of global and more localised ‘system shocks’ which have been a feature of cities’ development under neoliberalism. In the late 20th and early 21st centuries these globally resonating shocks have been typically associated with the economic and financial crises of capitalism (e.g. 1983, 2008), warfare and civil uprisings (e.g. 2011). Over this timespan, epidemics and pandemics, such as HIV/AIDS (early 1980s - present), Zika Virus (2014-16), Ebola Virus Disease (1976, 2014-16, 2020), have predominantly affected the Global South (UN-Habitat 2020c, WHO 2020b, 2020c, 2020e). COVID-19 has also revealed that the dominant neoliberal political-economic systems can be challenged (Pentaraki 2022). Fuchs (2020 p. 385) has asserted that this crisis “is a radical confrontation of the individual and society by death”. Moreover, during the pandemic’s march across the globe its brutal effects have been highlighted in cities (UN 2020, UN-Habitat 2020a).

Cities, including city centres have been the spatial anchors and hubs of financialised capital under neoliberalism (Weber 2002, 2010, Theurillat *et al.* 2016). The central cores of large cities have continued to be presented by business and wealthy elites and sections of the

media as the ‘archetypal’ face of capitalism. In an era of hypercompetitive inter-urban rivalry, the products of consumerism, financialisation, and the commodification of tangible and intangible ‘assets’ have been solidified and ‘concretised’ in city centres (Weber 2010, Christophers 2016, Aalbers 2019). With styled-for-status architecture, commercial and residential buildings, many city centres became the epitome of neoliberal capitalism (Spencer 2016, Sklair 2017, Speake and Kennedy 2019a). Although city centres have been impacted by previous system-shocks – global and local, economic and political, COVID-19 in its global reach and impact has scythed through any remaining illusions of the invincibility of neoliberalism. Rapidly, the humanitarian imperative for the preservation of life has challenged the neoliberal capitalist imperative for financial accumulation. The vast majority of people impacted by COVID-19 live in cities (UN 2020). Urban areas have recorded an estimated 90% of cases and the highest death rates (both absolutely and relative to other areas) have been recorded in many of the world’s largest cities (UN-Habitat 2020a, 2020b).

Within cities, the greatest impacts of COVID-19 in terms of mortality have been in densely populated areas with high levels of poverty and socio-economic disadvantage (Florida *et al.* 2020, Harvey 2020, Rose-Redwood *et al.* 2020, Sparke and Anguelov 2020, UN 2020). In many countries, these urban areas of socio-economic disadvantage have also been disproportionately negatively impacted by uneven financialised capitalist development as evidenced during and after previous global politico-economic system-shocks and for whom the cumulative impacts and the conjunction of crises have been severe (Dorling 2019, Blakeley 2020, Nijman and Wei 2020, Sokol and Pataccini 2020). These include the impacts of governmental neoliberal policies such as the implementation of austerity measures, cutbacks in social and welfare spending and the continued roll-back of the welfare state (Pentaraki 2019, 2022, Blackburn 2020, Blakeley 2020, Dodds *et al.* 2020).

These policies present the socio-economic background of immense inequalities under which the impact of COVID-19 has been exacerbated. (Young 2021a, Summers 2022). They have also further increased health and other inequities in terms of class, gender and race and created the context under which COVID-19 flourished (Pentaraki 2022). The most adversely impacted by COVID-19 in terms of mortality and morbidity have been the working class, low paid workers and those on precarious incomes, old, and minority communities. As in the case of other extreme events, the greatest exposure to the hazard, in this case COVID-19 is likely to be among the economically disadvantaged and minority communities who are also most at risk, likely to be most harmed, and be most negatively impacted (Bavel *et al.* 2020, Pentaraki 2013). It is for these principal reasons that the city centre forms the focus of our study, so we now bring into the discussion city centre changes under COVID-19 lockdown conditions.

COVID-19: city centre transitions

At the start of the pandemic impacting their countries and within short periods of time, governments imposed mandatory pandemic precautions including stay-at-home, lockdown, and quarantine measures, aimed at reducing transmission and mitigating the impacts of COVID-19. Multiple types and mechanisms of response were implemented (Cheng *et al.* 2020) but largely focused on practices, as referred to by WHO as encouraging people to ‘Avoid the Three C’s’, that is, Crowded places, Close-contact, and Confined and enclosed spaces (WHO 2020a). To varying degrees of enforcement, during the first, so-called ‘Great Lockdown’ (Blakeley 2020, Sokol and Pataccini 2020) in late 2019/early 2020, governments instructed people to stay at home except for essential shopping, exercise, and work. Those able to work from home, primarily white collar middle-class professional and those enabled to do so by government ‘furlough’ payments (government grants to employers so they could

retain and continue to pay staff during lockdowns) were required to do so. With the exception of key/critical workers the explicit message was stay at home and do not venture out with, in many countries, fines and legal sanctions being imposed for contravention of the rules. Under these conditions city centres became off-limits for many people for several reasons including first, government imposed travel distance limits in for example, Ireland, Italy, France, and Greece. Secondly, they were perceived to be virus contagion hot-spots, medically risky and places not to venture into unless absolutely necessary (Bouffanais and Lim 2020, Kipfer 2020). Thirdly, there was also little reason to visit them since no or few offices, stores, and other amenities were open.

COVID-19 mitigation measures implemented on the national scale have impacted on many city centres in ways which reflected, not only the enforcement of general measures *in* city centres, but also the specificities of socio-spatial and economic characteristics *of* city centres (e.g. UK Government 2020a 2021). All but essential services closed, streets emptied of vehicles, the number of pedestrians fell and streets became quieter. Kimmelman (2020) for example, described New York city as “the great empty” and other commentators have vividly described the silencing (Bland 2020, Stein 2020) and strangeness or eeriness of the city under COVID-19 (Brash 2020).

However, contrary to the dominant media narratives, city centres were not empty voids - people were in city centres (key workers including postal workers, take-away food deliverers, other couriers and some with new niche activities, for example, front of store ‘COVID marshals’ to supervise adherence to physical/‘social’ distancing rules). Key workers became more prominent as the visibility of visitors to the city and commuting workers in commerce and administration dipped due to many city centre functions, such as financial services, being undertaken in diverse locations away from the urban core by employees working at home. As Ghosh (2020) observed, these tended to be people who had always been there but had

previously not been noticed. City centre residents from across the socio-economic spectrum going about their daily lives also became more obvious.

The interruption to the usual neoliberal functioning of city centres revealed clearly who in the global health emergency were the key workers and life/care givers (Harvey 2020, Pentaraki 2022) and who were not, thus challenging the normalised financialised assumptions of value (i.e. making money/capital accumulation) under neoliberal capitalism (e.g. Weber, 2002, Davis 2018). As Harvey (2020) amongst others, has commented, COVID-19 has thrown into sharp relief what and who matters. For city centre residents and those still working there who experienced the imposition of emergency measures in their everyday lives in this setting, has not only created new streetscapes, but also new-everyday lived realities.

Under COVID-19 pandemic conditions, the functional and visual presence of the hegemonic forces of neoliberal capitalism, consumerism, and commodification have been both challenged and reinforced within the cityscape. Transformed streetscapes began to present different forms of influence, similarly driven by politics but focused this time on saving lives. Visually different and strikingly unfamiliar streetscapes emerged. In a rapidly evolving pandemic, streetscapes continued to change during phases of the easing of lockdown and reinstated and/or revised lockdown as ‘circuit-breaker’ measures. These reflected the impact of (1) national and city authorities’ health information campaigns using a multiplicity of communication modes, such as social media and TV along with the matrix of on-street media containing messages for people to, for example, ‘stay (at) home’, ‘shelter-in-place (at home)’, ‘keep safe’, and ‘keep alert’; (2) the provision of place-specific information by essential public services including transport and education. COVID-19 containment measures incorporating social distancing (UN-Habitat 2020d, 2020e). Quarantine and lockdown, lockdown release/easing, and re-lockdown have been implemented within short periods of time at national, regional, and local levels.

Having contextualised city centre transitions during the early stages of the pandemic, including lockdowns we now move on to discussing COVID-19 emergency health measures and the communication of them to the public. We focus on the display of coronavirus mitigation messages through the use of on-street signage, with particular emphasis on those in urban settings.

COVID-19: streetscapes and signage

The cityscape's sign objects (including street signs as well as architectural and landscape features) exist within wider media systems, which comprise economic, technological, and semiotic dimensions. Multiple forms of communication can be harnessed and moulded to serve specific political objectives. This has been exemplified in governments' and other official handling of COVID-19 health messaging in addition to the broad context of the promotion of the neoliberal capitalist agenda such as advertisements for consumer products. All are part of wider representations and signifiers of underpinning power structures within urban everyday life (e.g. Lefèbvre 1991, Soja 1996, Benjamin 2009, Crang 2009). In many cities across the world these recent underpinning power structures have been dominated by neoliberal capitalism (Harvey 2005a 2005b, 2020) and the super-rich/affluent elite (Sklair 2017, Speake and Kennedy 2019a 2019b). The emplacement and entextualisation of signs as Jaworski and Thurlow (2010) observed within the context of linguistic signs, is a discursive ideological act signifying ideological dominance and how each society's 'moral order' (p.5) is shown in the particular spatial order, imagery, and language through which that order is represented. This is illustrated in the case of the form, tone, and messages conveyed in public health emergencies, such as the COVID-19 pandemic (Young 2021a 2021b, Roach Anleu and Sarnatoulas 2022).

City centre streetscapes are full of essential, ephemeral and transient signage, signs and

other symbolic signifiers (Fyfe 1998, Portella 2016), all revealing to some degree the character of the dominant underpinning politico-economic forces. They amply illustrate Harvey's (1996) observation that places are full of symbolic and discursive meanings, which are an outcome of institutionalised economic and social power. Many of the identification, direction, information, and regulation signs (Radwan and Morsy 2016) under neoliberalism serve to inform and advise the urban *consumer* (Zukin 1990). Despite being often perceived as merely micro-design elements of streetscapes, collectively these signs have become a prominent and powerful visual feature within the everyday urban environment.

Signs and signage in their various forms contribute to a street's visual aesthetics and sense of place (Portella 2016). Moreover, in many cities, these have both served to reinforce the forces of neoliberalism. This becomes evident through the dominant signs associated with the promotion of the consumer-orientated character of the city and signifiers of neoliberalism such as advertisements for consumer products and commercial companies existing side-by-side with other signage, such as traffic signs, that has both critical and useful functions in terms of public safety and health as exemplified through traffic signs (Metro-Roland 2016).

In this section, we have explored the spatial trajectories of COVID-19; city centres under neoliberalism; and public health on-street signage and messaging as presented in the academic and wider literature. We now discuss our chosen methodological approach, bricolage. From the outset, using bricolage within the case study setting of Belfast city centre, we were able to inject the reflexivity and flexibility needed to work within, and reflect on, the rapidly changing and uncertain trajectory and impacts of COVID-19 in its first year.

Methodological approach

Given the unprecedented pandemic conditions of 2020-2021, in a fast-changing urban setting, along with the need to gather and synthesise material from a wide range of primary and

secondary information sources, bricolage is our overarching research approach. Moreover, bricolage has been identified by other scholars as an appropriate approach for study of rapidly emerging pandemic related issues (Bueddefeld *et al.* 2021, Fetters and Molina-Azorin 2021).

Bricolage comprises “the combination of multiple-methods, empirical materials, perspectives and observers in a single study” (Denzin and Lincoln 1994, p. 2). The researcher-as-bricoleur (creator of the bricolage and negotiator of methodology) is an integral component of bricolage in that it allows them to be proactive (Bueddefeld *et al.* 2021) and use their own knowledge and understanding of the research context to “inform the creation/construction of the methodology” (Speake and Kennedy 2019b, p. 249). Bricolage is pragmatic and reflexive (Kincheloe *et al.* 2011), enabling the researcher to ‘fine-tune’ their approaches during the research process (Pratt *et al.* 2022). The use of available research tools in specific, individualised, and iterative ways, means that it is an approach which is responsive to change and has an “openness to spontaneity” (Freeman 2020, p. 6).

In adopting an interpretivist bricolage approach, we used various operational information collection methods to gather detail and depth (Teddlie and Tashakkori 2009, Speake and Kennedy 2019b) relating to wider contextualisation, and our detailed spatial focus, the Belfast city centre case study. Using a case study provides the setting for exploring dynamics relating to that setting, from which to both gain knowledge and understanding about that setting and inform other settings Goossens (2011). As such, case study is frequently utilised in urban and planning, health, and social work research and a logical choice to incorporate into our bricolage.

In terms of assembling the bricolage, we were motivated by the many synergies generated between our everyday lives in Belfast city centre before and during the pandemic *and* our academic research interests. Specifically, these are urban development, regeneration, and

visual culture (Speake 2017, Speake and Kennedy 2019a b), and social justice, gender-based violence, politics of austerity, disaster, and COVID-19 (Pentaraki 2013, 2019, 2022). We also draw on our co-authored research on urban social justice, the urban economy, and social and political responses to crises (Speake and Pentaraki 2017, Pentaraki and Speake 2022). Much of our work, including this study, transcends the perceived boundaries of our respective subject disciplines of human geography and social work, and demonstrates our belief in the intrinsic value of adopting, variously, trans-/cross-/inter-interdisciplinary approaches in the study of complex, socio-political and urban issues (see also Petts *et al.* 2008, Grant and Thompson 2018, Mills and Speake 2021).

In its use of bricolage, this study has at its core, the researchers' discussion, discourse, and the collation, examination, and interpretation of information gathered from range of sources. Primary sources included in-situ qualitative, field-based visual observation and interpretation and synthesis of secondary sources, both academic literature and 'grey' literature such as reports published by relevant international organisations (such as the World Health Organisation) and government departments and agencies (predominantly Northern Ireland related). In traversing disciplinary compartmentalisation, we drew on materials from multiple, relevant discipline areas, notably, public health, urban planning/development, sociology, social work, and human geography. Appropriate ethical clearance for our study was granted by the relevant university committee.

Our primary information gathering utilised critical visual methods, grounded in the visual observation and interpretation of cityscape as text and scripted process (Rose 2014, Anderson 2015, Speake 2017a 2017b, Speake and Kennedy 2019a 2019b). This approach incorporates the semiotics and symbolism of the visual and material representations of urban life through visualisations of urban places and spaces and the use of photographic images. Centrally, critical visual methods focus on the subjective nature of knowledge and the ideologically,

politically and socially constructed nature of images and their interpretation (Speake 2017a).

As a field-based technique, visual methods are widely used, particularly within the social sciences (Rose 2014 2016, Moze and Spiegel 2022). Cities are frequently the settings for the application of critical visual research methods (Tormey 2013, Yap 2021), the interrogation of the influences and impacts of visual objects and for observers to explore how they themselves look, see and interpret them (Speake 2017a). Images are everywhere and they matter (Spencer, 2011, Rose 2014). To date, critical visual methods have been utilised in a small number studies on COVID-19 cityscapes (Kipfer 2020, Young 2021a 2021b, Roach Anleu and Sarantoulas 2022).

Our city centre observations were made from home and work settings as well as short journeys mostly on foot, within the inner core of Belfast city centre (within approximately 1 km radius of Belfast City Hall). Such locational immersion during the pandemic, especially lockdowns, provided an on-the-spot opportunity to develop detailed insights into the impacts of COVID-19 emergency health measures and signage on the cityscape. Using bricolage enabled us to gather information through variegated visual methods in a reflexive, proactive and non-systematic way. It also facilitated fine-tuning the research process as the pandemic evolved.

Visual changes in the cityscape considered ranged from microscale (such as changing on-street COVID-19 related health messages on billboards and electronic display boards and emplacement on pavements), through the range of intermediate scales (for example, the emergence the empty administrative and retail property and reconfigured roads and pavements), to the macroscale (exemplified by the cumulative, intertwining effects of multiple closure of offices, shops and reconfigured streets on the city centre overall). Such changes were observed and recorded through notetaking and photos to facilitate interpretation and synthesis within our own and wider literature framings. Thus informed, though ensuing

discussion and dialogue, we were able to identify key facets of cityscape transformation, on-street COVID-19 health messaging and their impacts/implications, all within the overarching context of bricolage.

Having presented our methodological approach, we move on to present background on our case study, Belfast city centre, Northern Ireland.

Belfast case study

In this section, we explore the character of and impacts of city centre on-street COVID-19 related public health signage and messages illustrated with examples from our chosen case study, city centre Belfast, Northern Ireland, during the first year of the pandemic.

COVID-19 and Belfast

Belfast is the administrative capital, economic and cultural hub, and largest city in Northern Ireland with an estimated population in 2019 of 343,542 (Northern Ireland Statistics and Research Agency [NISRA] 2020a) and an estimated city centre population of 3,460 (NISRA 2020b). In 2020, during the early waves of COVID-19, Northern Ireland recorded proportionally lower numbers of cases and deaths than many areas of the UK, although both the numbers of cases and deaths accelerated during the autumn/winter of 2020/21. In Northern Ireland on February 27, 2021, exactly one year after the first recorded positive case of COVID-19, there had been a cumulative total of 111,357 recorded cases of COVID-19 and 2,052 COVID-19 deaths including 21,096 cases and 379 deaths in Belfast Local Government District (Department of Health 2021a). Intense pressures have been placed on public health services and especially hospitals during early 2020 and winter 2020/21 and government COVID-19 measures have included a gamut of approaches including strict lockdown. There have been three extended periods of lockdown (March 23, 2020 to May 28, 2020; October

16, 2020 to December 11, 2020; December 27, 2020 to April 12, 2021) with intervening lock-down easing particularly in June - September 2020.

In Northern Ireland, there has been a coordinated response to the COVID-19 public health emergency by the Northern Ireland Executive (which has responsibility for the major public health services and, for example, education and policing), and the UK Government (with responsibility for national policy and non-devolved matters, such as foreign policy, social security and defence) (Institute for Government 2020).

Within this context we now consider the key features of COVID-19 related public health messages and signage which were emplaced in the streets of Belfast city centre during the initial phases of the pandemic, particularly during the first lockdown of March to May 2020.

COVID-19: on-street public health emergency information signage and messages

In Belfast, as elsewhere, a panoply of high-tech and simpler, more traditional approaches were used to convey information and instructions using visual images and linguistic mechanisms. On-street COVID-19 related official public health communication utilised a wide range of signage. The most obvious of these included public road signs, posters, advertising billboards, digital and electronic displays, place names, public signs on government buildings and signs on commercial premises.

Studies have shown the position/geolocation of on-street messages plays a vital role in the transmission of information, with observers, such as Jaworski and Thurlow (2010) asserting that position to be as important as display and words. Strategically placed for maximum visibility, public safety and health messages as spatial interventions, tended to be located on, for example, major thoroughfares, busy pedestrian intersections, street corners, and at bus stops and taxi ranks, in line with usual notice placement practice for key signs (Radwan and Morsy 2016). As we observed, this was also the case in the positioning of COVID-19 related

signage.

During lockdowns, electronic and digital displays, and large display spaces at bus-stops and prominent public places as well as essential stores such as pharmacies, became dominated by health emergency-related messages. Instead of conveying a range of commercial advertisements, many strategically placed electronic displays showed a looped sequence of only COVID-19 health messages. Out of lockdown, but with virus mitigation measures still in place, electronic displays carried a mixture of health and commercial messaging.

Some of the most distinctive features of on-street COVID-19 public health communications were associated with social distancing. These included the widespread emplacement of signage directly printed, painted, or stuck on to floors, pavements, and roads which specifically show safe distancing limits (Figure 1 a - c). Many were improvised. Also, the use of barriers, bollards, and instructional signs on streets communicated the presence of increased space for the social distancing of pedestrians (Figure 1 d - f).

(Figure 1- at end of article)

The key communicative functions of COVID-19 related health signs and messages conform with the communication functions of signs, which comprise direction, information, instruction, warning, prohibition and other symbolic functions including directional flow signs, such as one-way systems (Schuster *et al.* 2017). This signage issued by public authorities, including COVID-19 related signage, constitutes a ‘top-down’ flow category (Schuster *et al.* 2017) of message transmission, from official government bodies, which are presented through on-street interventions designed to inform and instruct. The ‘top-down’ flow approaches of official government COVID-19 related health messaging have

predominated throughout the pandemic.

It is clear to us that it is national political action and government orchestration of information resources, including public information messages, which push and cajole people towards the adoption of ‘authorised/official and appropriate’ behaviours and lifestyles (WHO 2020a 2020d). These are underpinned by national and local public information campaigns (including those presented on-street) which highlight the necessity to contain, stall, reverse, and ultimately eradicate the spread of COVID-19 (WHO 2020d). These have included a range of public health measures focused largely on infection containment and social-distancing (UN-Habitat 2020d, WHO 2020a, WHO 2020d). The interventions, as presented in public information messages, have been sustained (Collins *et al.* 2020) and aimed at raising awareness, educating, persuading, and perhaps coercing people to adapt to new conditions and alter behaviours. Such motivations have been identified in a broader context of risk management (Walaski 2011), health (Schuster 2012, Schuster *et al.* 2017), sustainable environmental practice (Cox 2013, Hansen 2018), disaster management (Nguyen *et al.* 2016, Velez *et al.* 2017) and risk communication (Renn 2010, WHO 2020d).

Under COVID-19 conditions, public authorities’ emergency management and risk communication have aligned with the elements of ‘nudge theory’ (Heath *et al.* 2019), which set out to inform and remind individuals of risks identified by government and other public authorities (WHO 2020a d). These have reflected scientific evidence related to infection control and World Health Organisation (2020a 2020d) guidelines on social distancing, hand-washing, and face covering. In the UK and Northern Ireland, a noticeable feature of such communication is that it is individuals, rather than the wider community collectively, who have been instructed and to behave in proscribed ways.

The UK Government and the devolved legislatures in Northern Ireland, Scotland, and Wales have focused on these facets of virus mitigation in their campaigns. Strap lines have

included ‘Stay home. Keep distance. Wash hands’, introduced in May 2020 in Northern Ireland, but later revised in November 2020 to ‘Keep distance. Wear face covering. Wash hands’ (see NIDirect/Téidíreach (2020)). The following have also been used ‘Hands Face Space’ (UK September 2020) (see UK Government 2020b), ‘Stay alert, control the virus, save lives’ (UK May 2020), and during the early 2021 strict lockdown, ‘Stay at Home’ (UK February 2021). Using a different approach the campaign ‘Act like you’ve got it [COVID-19]’ (UK mid-December 2020) aimed to remind individuals of their own responsibility to follow guidance.

Figure 1 shows examples of COVID-19 communications displayed on-street in central Belfast during periods of lockdown and lockdown easing in 2020 and lockdown in early 2021 in which there is clear focus on the individualisation of responsibility: ‘Thank you. You are saving lives by staying at home’ (UK May 2020) (Figure 2(a)); ‘Don’t spread coronavirus. Limit your contact with others’ (Northern Ireland November 2020) (Figure 2(b)) and “Every mind matters. Now more than ever. For simple steps to look after your mental wellbeing search Every Mind Matters. Stay Home, Protect the NHS. Save Lives” (UK May 2020) (Figure 2(c)).

(Figure 2 – at end of article)

Focus on the individual’s responsibility for combating Coronavirus has been a feature of official UK and Northern Ireland messaging and signs. However, as in other health-related emergencies (Kelly and Hornik 2016), the messages are presented and actively promoted by government as egalitarian and for the benefit and health of society at large. Government has used such messaging to invoke what McGregor (2020, p.3) terms “symbolic solidarity” and to call on the people’s motivation of nurture and caring for others, mutual aid, and

cooperation (Hargreaves and Logie 2020, McGregor 2020).

The use of symbolic solidarity in UK and Northern Ireland Coronavirus containment messages displayed in Belfast have included the following ‘Stay home. Protect the NHS [National Health Service]. Save Lives’ (UK-wide March 2020) (Figure 2(c)) and ‘We all must do it to get through it’ (Northern Ireland May 2020) (Figures 2 (a,b,e)). In terms of protecting more vulnerable people solidarity messages have included: ‘I wear one [a mask] for granny’ (Figure 2(e)), ‘I wear one for dad’, and ‘I wear one for everyone’ (Northern Ireland summer 2020). The Northern Ireland Executive’s campaign has also included similar messages on posters for display by stores for example, ‘You must wear a face covering on these premises. Wear one for everyone’.

However, as we reflect upon further in the next section, COVID-19 related health messages and signage also present less than subtle alternative messages and realities which reinforce existing social disparities and inequalities (Rose-Redwood *et al.* 2020). Moreover, it has become increasingly evident that there are spatial dimensions related to COVID-19 official information messages and signage notably place-specific lockdown, quarantine, and social distancing measures. Measures taken to combat COVID-19 and their associated signage have had repercussions on urban centres, including the visual and aesthetic transformation of streetscapes and other everyday spaces and places. They have also reinforced the message that everything and everyone is socio-spatially interconnected.

COVID-19 and on-street health information messages: Reflections on emerging socio-spatial issues

The roll-out and implementation of COVID-19 related public health messaging have been intended to inform and help individuals keep safe and well. However, on the basis of our observations, interpretations, and reflections, we contend that in a city centre context like

Belfast, there have been some concerning and challenging socio-spatial issues emerging from the use of COVID-19 related signage and their messages. These include: first, transitions from pre-pandemic to pandemic streetscape signage and messages; secondly, speed of change in COVID-19 related public health signage and messages; thirdly, transience and ephemerality in signscapes and streetscapes under COVID-19 conditions and, finally, structural constraints of COVID-19 related public health signage COVID-19 signage.

Transitions from pre-pandemic to in streetscape signage and messages

Public service COVID-19 related announcements and messages became prominent street features during lock-down measures, particularly during the first strict lockdown in early 2020. We noticed that many of the messages on information spaces in key locations changed quickly (often overnight) and the combined impact was a marked shift in the emphasis of communication from commercial advertising to information displayed with the purpose of safeguarding health and lives. In this vein, we also reflected on how that messages managing the behaviour of individuals no longer displayed consumer products for purchase but government social distancing edicts (see also Young 2020).

The COVID-19 related government communications were displayed on both existing information sites and new signs in new locations (such as novel social distancing markers on pavements). We reflected that a discernible consequence was that the quantity and prominence of familiar commercially oriented and corporate on-street signage was reduced substantially and was to us, as long-term observers of cityscape, strangely disorienting, even though we understood the background to these transformations. In Belfast, streets under COVID-19 conditions (especially during the first lockdown) had a very different appearance and aesthetic to pre-pandemic times. The familiar city centre now looked unusual and strangely alien to us. Its new unfamiliarity highlighted how ubiquitous, normalised, and

almost ‘invisible’ consumer messaging in pre-pandemic streetscapes had become (see Iedema 2003 for a wider discussion of the invisibility of consumer messaging), to the extent that streets looked odd when consumer messaging was reduced or even absent. It was evident to us that the suspension of the usual and familiar, as a consequence of COVID-19 related on-street communications, had disrupted and challenged the dominant and normalised public visual discourse associated with the consumption of products (Schroeder 2004, Portella 2016). This brought to the forefront of our reflections just how swiftly the ‘old’ neoliberal order of consumption orientated streetscape signage could be changed.

Speed of change in COVID-19 related public health signage and messages

A pronounced feature of the transient streetscape under COVID-19 conditions has been the propensity for signage and messages to change quickly, in the light of a rapidly altering health-related scenarios, governments’ policy changes and amended, reoriented instructions (Sutton *et al.* 2020). The consequence of regulation and policy change presented a switch-back of instructions, which were hard to keep track of. In January 2021, it was reported that in the UK since the introduction of COVID-19 mitigation measures in March 2020, there had been 64 policy changes (Syal 2021) with 14 updates on urban spaces and managing COVID risk since May 13, 2020 (UK Government 2021). In Northern Ireland, as at February 27, 2021 there had been 12 major updates on the original health protection regulations of February 11, 2020 (Department of Health (2021b)).

In the COVID-19 cityscape, the latest signage often existed side-by-side with, or was superimposed on, older different messages like a palimpsest (de Certeau 1980/1984, Jaworski and Wei 2020). For us, as for others navigating city streets, this was muddling, with the potential hinder safe health practices (Shep 2015). The most confusing examples related to messages about social distancing and wearing face coverings/masks. In Northern Ireland, as

elsewhere, there has been mixed and sometimes conflicting guidance about where indoors or outdoors to wear masks or other face coverings (Collins *et al.* 2020). Similarly, in relation to social distancing, we have noticed that residual 2 m distancing signs/floor markings can still be clearly visible even when superseded by 1.5 or 1 m, or no social distancing limits. Such swift changes in official policy and in the subsequent public instructions indicate the need to ensure and maintain clear, unambiguous and up-to-date messages and signage. It is not only matter of installing new on-street communications and notices but also of removing previous ones, even if at a later date policy may require the reinstatement of earlier messages.

Ephemerality in streetscapes under COVID-19 conditions

The phases of lockdown, lockdown release, and further/other virus ‘circuit breakers’ have created in Belfast, as elsewhere, strikingly different, unfamiliar, and rapidly changing streetscapes. We have seen the ephemeral place making of COVID-19 in several signage and spatial contexts. This has been exemplified through the emplacement of temporary COVID-19 on-street signage and modifications to the built environment such as reconfiguration of the roads to enable safe(r) social distancing, installation of hand sanitiser dispensers in public spaces, and changing instructions for the safe(r) use of street furniture like benches and litter bins.

There were also signage changes associated private sector businesses utilising adjacent public space such as pavements and roads (usually officially sanctioned), to secure new or additional outdoors space for customers (Beckett 2020). In Belfast, during the first lockdown (March to May 2020) when restaurants, bars and cafés and hotels were closed, impromptu new outdoor café and seating areas were set-up outside the few still open essential stores and supermarkets.

A range of other ephemeral features materialised, such as temporary bicycle lanes and short-term lets of vacant stores to retailers selling pandemic related, in-demand products like hand sanitisers and face masks. Large car parks were used for COVID-19 testing, such as at the Odyssey Arena, Belfast waterfront and displayed highly visible pandemic signage. Existing hospitals, including the Belfast City Hospital, were repurposed temporarily to specifically treat COVID-19 patients.

All of these interventions have made fleeting (some short-lease retail outlets) or more prolonged contributions (new cycle ways and many of the new outdoor eating/seating areas) to transforming the cityscape's signage, appearance, aesthetics, and atmosphere through periods of lockdown and lockdown release. As such, they are yet more examples of urban 'pop-ups' or transient cityscape features (see Harris 2015, on 'pop-up' geographies and Caramaschi 2020, on transient installations in San Francisco, USA).

Over time, some of these streetscape changes may become less transient. There been calls by the private sector for the retention and/or expansion to private outdoor seating/eating areas and other commercial 'pop-ups'. However, measures need to be taken to ensure that 'privatisation' of public space does not occur by stealth. In the long term, the impacts of COVID-19 related place making on future city centre planning and design for us, as for others, remains unclear. However, there is now an opportunity for city planners and others involved in scripting and enacting urban change to learn from the experiences of COVID-19 to ensure that cities, including city centres, are more prepared for future pandemics (see Bereitschaft and Scheller 2020, Honey-Rosés *et al.* 2020, Nathan 2021). Crucially, COVID-19 has exemplified and reinforced that city centres and their streets are evolving and ephemeral environments that are a perpetual work in progress.

Structural constraints of COVID-19 related public health messages

Official COVID-19 related signage and messages, which have been prominent in city centres have been intended to be motivational exhortations to individuals to practice government instruction and advice. The emphasis has been on changing people's individual behaviour. However, reflecting on these and the wider socio-economic and political context, there are serious issues which undermine the effectiveness of government public health instruction and advice to protect everyone's health *equally*. These issues resulted in the content and presentation of COVID-19 related public health messages having uneven and unequal consequences. Such public health messages were relevant to our and other middle-class people's lives who have been able to work from home, own a car and have a safe family home in terms of physical and emotional space. However, it was not the case for all. The initial general lockdown messages, although much needed to stop the spread of the infection, could not be followed by everyone, due to uneven socially shaped experiences of lockdown and varied capacity of people to enact them due to a raft of socio-economic factors. Our reflections on the main structural constraints of COVID-19 health messages follow, as seen through the lens of some of the key messages, namely, first, stay at home, wash your hands, wear a mask, keep your distance, and secondly, stay at home, be safe.

Stay at home, wash your hands, wear a mask, keep your distance

...but how effectively could everyone do it?

The first issue identified in our discussions concerned the middle-class orientation apparent in these messages and on-street signage. Whilst recognising the relevance of these messages to our own lives, for some urban residents these instructions have been difficult and impossible to comply with (Megahed and Ghoneim 2020). This was illustrated in the case of instructions to people to make space, wear a face covering and wash their hands (Figures 2d e). For example, advice to follow space-related instructions in order to practice physical

distancing assumes people have sufficient funds to be able to afford suitable housing accommodation (Health Foundation 2020, Mendes 2020).

Overcrowding can result in higher COVID 19 infection rates (Bambra *et al.* 2021). People on lower-incomes or who are unemployed, predominantly those from ethnic minorities (due to the intersection of class disadvantage with racism), tend to live in higher density urban localities and overcrowded, multiple generation household dwellings, in which there is greater virus exposure. Many are employed as key workers, who also have a higher risk of COVID-19 exposure (Bambra *et al.* 2021), and have occupations where working from home was not possible (despite messages to do so, see Figure 2a)

The advice to practice physical distancing also assumed that people did not need to use public transport, or that they could afford to have, and use, private transport or were able to walk to their destination(s). Moreover, many people on low incomes were neither able to restrict the number of journeys made for work, nor limit the number of other trips, for example if they did not have sufficient income/savings to draw on to limit the number of shopping trips to meet their basic needs (Weill *et al.* 2020).

Similarly, instruction to use a face covering (Figure 2e) assumed funds to buy or make masks or other face coverings, and be medically able to wear them. The instruction to wash hands fully and regularly assumed sufficient access and money for hand sanitisers, soap, and water. For many people on low incomes, one or more of these instructions were likely to be unable to be carried out (Honey-Rosés *et al.* 2020, Ülkeryıldız 2020, Valentino-DeVries *et al.* 2020). This suggests a lack of alignment between the messages and people being able to engage in safe practices Hargreaves and Logie (2020). The capacity of all to carry basic health promotion advice has been undermined by structural inequalities. Unless these structural inequalities are accounted for and addressed, not everyone's health and well-being is promoted.

So, despite calls for individuals to follow instructions and use space responsibly and to (re)shape and (re)enact their lives for their own and collective good (e.g. to save their own and others' lives, for the benefit of health services and key workers), the consequences of official actions and messages have been uneven and unequal in protecting people's health. This was the case, not only because being able to follow official public health directives is connected to intersecting structural inequalities, such as class, gender, 'race', and ethnicity, but also because health outcomes in general are socially, economically and politically determined (Bambra *et al.* 2021; Cardona 2021, Marmot *et al.* 2010).

Stay at home, be safe

... but home is not a safe space for all

While people were instructed to shelter at home to protect themselves from the contagion of COVID-19, for many home was not a safe place. We knew this from our professional and academic experience (Pentaraki and Speake 2020). A frequent topic of our discussions was on why was this widely available knowledge missing from the health promotion messages during the first lockdown? We knew that confinement at home was reinforcing another pandemic; the shadow pandemic of violence against women and girls, as highlighted by Phumzile Mlambo-Ngcuka, the Executive Director of UN Women (UN 2020).

Research and expert commentaries confirm that survivors of domestic abuse face double risks during pandemics, the risk of the COVID-19 pandemic *and* the increased risk of abuse (Pentaraki and Speake 2020, Piquero *et al.* 2021). Confinement at home with the perpetrator intensifies the harm enacted to survivors of abuse. It also makes it harder to seek help and escape round-the-clock contact and surveillance by the perpetrator (Pentaraki and Speake 2020). In the first lockdown, this was ignored by the state, but was later addressed. However, during the first phase of COVID-19, in Northern Ireland 12 women were killed by their

partner (Hewitt 2021), a high number relative to its population size of 1.9 million. This raises the critical question of whether some of their lives would have been saved by earlier acknowledgement that home is not a safe place for everyone.

Overall, our observations and reflections about the structural constraints of COVID-19 related public health messages have been reinforced by evidence in the wider scholarly literature. It was clear from the start that infection and mortality rates suggested an unequal impact of the pandemic and the inequity of pandemic control. Mortality and infection statistics from countries across the world, including Northern Ireland, reflected class, age, gender, and ethnicity-based inequalities (Bambra *et al.* 2021, Department of Health 2020, Nwosu and Oyenubi 2021). Government officials correctly emphasised science in their response and health messages but a holistic approach was missing, as the social determinants of health outcomes were not accounted for (Marmot *et al.* 2010, Bambra *et al.* 2021). We often discussed if the unequal impact of the pandemic could have been prevented and lives saved.

How did we come to have public health guidelines, messages and on-street signage which did not account for the intersecting inequalities in the lives of people?

There have been suggestions that the COVID-19 government decision-making bodies, primarily comprising virologists, epidemiologists, and politicians (Rajan *et al.* 2020), could be held responsible for a lack of knowledge related to the intersecting structural constraints faced by various groups in society to enact these guidelines, messages, and signage. If the issue was principally one of lack of representation, there then needs to be a more inclusive representation (including professions such as social workers, human rights lawyers, urban planners, and community groups) who can implement an intersectional approach to health. This approach acknowledges the impact of intersecting structural inequalities and the need to

address them. This may go some way to combatting the ‘tyranny of the urgent’ (Smith 2019, p. 355) and may provide an inclusive way of addressing *everyone’s* needs from the onset of any extreme event.

However, we suggest that the chosen messages and their emphasis on individuals’ behaviour without a socio-economic understanding is an ideological act embedding the dominant neoliberal values. Governments operating under principles of neoliberalism have largely held individuals responsible for their own health, to comply, self-surveille and thereby, by extension, to be responsible for the outcomes of emergency health policy (Bambra *et al.* 2021, Cardona 2021, Arrieta 2022). Thus, a degree of symbolic transfer for epidemic control from the state to the individual was implied (see also Hargreaves and Logie 2020, Roach Anleu and Sarantoulis 2022). However, as epidemiologists’ research evidences, the health of a nation and hence of a city depends on socio-economic and political conditions (Marmot *et al.* 2010, Wilkinson and Pickett 2009) rather than individual behaviour. However, these conditions have rapidly deteriorated across the world during recent decades (Wilkinson and Pickett 2009, Pentaraki 2018, 2019, Oxfam 2021). Since the 2008 financial crisis, these have been further worsened through the imposition of austerity measures (Pentaraki 2018, 2019, Arrieta 2022).

Hence, messages targeting individual behaviour are not enough. Multiple interventions in the socio-economic environment are also needed, which we argue should be informed by critical health and social sciences’ emphasis on social justice and equity (Wilkinson and Pickett 2009, Marmot *et al.* 2010, Pentaraki 2018, Bambra *et al.* 2021). This form of intervention is also part of social work’s holistic and “person in environment” approach (Pentaraki 2013, p. 770). Interventions should also be informed by WHO’s holistic definition of health, which states that health is not merely the absence of disease or infirmity but a state of complete physical, mental and social well-being (WHO 1948). In order to achieve this

state of health the reduction of inequalities is needed, as epidemiologists Wilkinson and Pickett (2009) have successfully evidenced. Proposals towards this end within the context of COVID-19 have been made by Bambra *et al.* (2021) and Oxfam (2021) amongst others.

Overall, our reflections have identified the challenging intersecting socio-spatial issues emerging from COVID-19 related signage and their messages within the city context. It also became clear to us that some of these issues, particularly relating to the impacts of socio-economic inequality and structural constraints, offer considerable scope for further action and study as the trajectories of the COVID-19 pandemic and its aftermath unfold.

Conclusion

This reflective piece, by drawing on materials covering a range of scalar levels and utilising a bricolage approach, discusses emerging socio-spatial outcomes of COVID-19 public health-related messages. First, the transitions from pre-pandemic to pandemic streetscape signage and messages, secondly the rapidity of change in COVID-19 related public health signage and messages, thirdly the ephemerality of streetscapes under COVID-19 conditions and finally the structural constraints of COVID-19 related public health signage.

We report that the emergence of modified streetscapes under COVID-19 and the prominence of official public health signs and messages have served to re-emphasise urban streetscape as a neoliberal political space. Official government COVID-19 signage in all its forms is a highly visible representation of political power and its regulation through the information conveyed. The messaging is clear inscription of political processes in action, in which the image and its use of space are a way of evidencing and reinforcing the ruling elite's political legitimisation.

We also identify how, during the first year of the COVID-19 pandemic, city centres, the political and economic hubs of neoliberalism, were transformed within short periods of time

as quarantines and lockdown/virus circuit-breakers have been enforced through government diktats. We report too on how the previously dominant visual presence of capitalistic consumerism in its multiple forms in city centre streets have been temporarily diminished and suspended. However, we argue that through public health messaging, neoliberal values of individual responsibility have been reinforced. Thus, what might have seemed a break from neoliberal capitalism has been just another expression of it. As we consider the ways forward, the reflected upon structural constraints indicate the need for urgent change.

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Notes on contributors:

Janet Speake PhD, is a Visiting Scholar in the Department of Social Sciences, Education and Social Work, Queen's University Belfast, Northern Ireland. Her areas of research expertise include the contemporary transformation of urban areas, spaces of affectivity and the impacts of location based technologies. Much of her research explores the synergistic interfaces that operate when working within an interdisciplinary context.

She is a retired Associate Dean for Postgraduate Research and Associate Professor of Geography and currently an Honorary Research Fellow at Liverpool Hope University, Liverpool, UK.

Maria Pentaraki

Maria Pentaraki PhD, is a lecturer in social work at Queen's University Belfast, Northern Ireland. Before that she held academic posts in England and Greece where she was also the Head of one of the largest social work departments. She has a wide range of research interests such as gender based violence, international social work, social work practice under austerity. She has been actively involved in the women's and peace and justice movement throughout her life and has served as a European Commission independent gender violence expert for Greece.

References

- Aalbers, M. B. 2019. Financial geography III: The financialization of the city. *Progress in human geography*, 3, 595-607. doi:[10.1177/0309132519853922](https://doi.org/10.1177/0309132519853922)
- Anderson, J., 2015. *Understanding cultural geography: Places and traces*. London, UK: Routledge.
- Arrieta, T., 2022. Austerity in the United Kingdom and its legacy: Lessons from the COVID-19 pandemic. *The economic and labour relations review*, 10353046221083051. doi:[10.1177/10353046221083051](https://doi.org/10.1177/10353046221083051)
- Bambra, C., Lynch, J. and Smith, K. E., 2021. *The unequal pandemic: COVID-19 and health inequalities*. Bristol, UK: Policy Press.
- Bavel, J., et al. 2020. Using social and behavioural science to support COVID-19 pandemic response. *Nature human behaviour*, 4 (5), 460-471. doi:[10.1038/s41562-020-0884-z](https://doi.org/10.1038/s41562-020-0884-z)
- Beckett, A., 2020. Covid-19 has pushed Britain outdoors – but will the habit stick? *The Guardian*. Available from: <https://www.theguardian.com/commentisfree/2020/aug/14/covid-19-has-pushed-britain-outdoors-but-will-the-habit-stick> [Accessed 14 August 2020].

- Benjamin, W., 2009. *One-way street and other writings*. J. A. Underwood, Trans. Original work published 1928. Harmondsworth, UK: Penguin Books.
- Bereitschaft, B. and Scheller, D., 2020. How might the COVID-19 pandemic affect 21st century urban design, planning, and development? *Urban science*, 4 (4), 56. doi: [10.3390/urbansci4040056](https://doi.org/10.3390/urbansci4040056)
- Blackburn, P., 2020. *Austerity – COVID’s little helper*. British Medical Association. October 8. Available from: <https://www.bma.org.uk/news-and-opinion/austerity-covid-s-little-helper> [Accessed 2 November 2020].
- Blakeley, G., 2020. *The corona crash: How the pandemic will change capitalism*. London, UK: Verso.
- Bland, A., 2020. No one is here: Is Covid draining the life from the City of London? *The Guardian*. Available from: <https://www.theguardian.com/society/2020/sep/23/no-one-here-covid-19-city-london-shops> [Accessed 23 September 2020].
- Bouffanais, R. and Lim, S. S., 2020. Cities—try to predict superspreading hotspots for COVID-19. *Nature*. July 10. Available from: <https://www.nature.com/articles/d41586-020-02072-3?fbclid=IwAR0sBBZEdksWA1V1AV7Z2i-2unZL4J2ivRA93pFGd-hpi8JtM3vRBbEh4Lg> [Accessed 11 July 2020].
- Brash, J., 2020. Shutting down the postindustrial shop floor: The high line and biopolitical production in pandemic time. *City & society*, 32 (2). doi: [10.1111/ciso.12275](https://doi.org/10.1111/ciso.12275)
- Bueddefeld, J., *et al.*, 2021. Methodological bricolage and COVID-19: An illustration from innovative, novel, and adaptive environmental behavior change research. *Journal of mixed methods research*, 15 (3), 437-461. doi: [10.1177/15586898211019496](https://doi.org/10.1177/15586898211019496)
- Caramaschi, S., 2020. Design actions for the global gaze. Evolution and contradictions of temporary installations in San Francisco’s public space. *Planning theory & practice*, 21

(5), 748-766. doi:[10.1080/14649357.2020.1850847](https://doi.org/10.1080/14649357.2020.1850847)

Cardona, B., 2021. The pitfalls of personalization rhetoric in time of health crisis: COVID-19 pandemic and cracks on neoliberal ideologies. *Health promotion international*, 36 (3), 714-721. doi:[10.1093/heapro/daaa112](https://doi.org/10.1093/heapro/daaa112)

Cheng, C., *et al.*, 2020. COVID-19 government response event dataset (CoronaNet v. 1.0). *Nature human behaviour*, 4 (7), 756-768. <https://www.nature.com/articles/s41562-020-0909-7>

Christophers, B., 2016. For real: Land as capital and commodity. *Transactions of the institute of British geographers*, 41 (2), 134–148. doi:[10.1111/tran.12111](https://doi.org/10.1111/tran.12111)

Collins, A., Florin, M. V. and Renn, O. (2020). COVID-19 risk governance: drivers, responses and lessons to be learned. *Journal of risk research*, 23 (7-8), 1073-1082. doi: [10.1080/13669877.2020.1760332](https://doi.org/10.1080/13669877.2020.1760332)

Cox, R., 2013. *Environmental communication and the public sphere*. London, UK: Sage.

Crang, M., 2009. Visual methods and methodologies. In: D. DeLyser, S. Herbert, S. Aitken, M. Crang and L. McDowell, eds. *The Sage handbook of qualitative geography*. London, UK: Sage. 208-225.

Davis, A., 2018. Defining speculative value in the age of financialized capitalism. *The Sociological review*, 66 (1), 3-19. doi:[10.1177/0038026117711637](https://doi.org/10.1177/0038026117711637)

De Certeau, M., 1984. *The practice of everyday life* (S. Rendall, Trans.). Original work published 1980. Berkeley, CA: University of California Press.

Denzin, N. K., and Lincoln, Y. S., 1994. *The SAGE handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.

Department of Health, 2020. COVID-19 in Northern Ireland Coronavirus related health Inequalities. Available from:

<https://www.health-ni.gov.uk/publications/coronavirus-related-health-inequalities>

[december-2020](#) [Accessed 30 December 2020].

Department of Health (2021a). Covid-19 in Northern Ireland. Daily dashboard charts & Graphs, 27 February 2021. Information Analysis Directorate. Department of Health. Available from <https://www.health-ni.gov.uk/sites/default/files/publications/health/doh-db-270221.pdf> [Accessed 28 February 2021].

Department of Health, 2021b. COVID-19 legislation. Available from: <https://www.health-ni.gov.uk/covid-19-legislation> [Accessed 30 June 2021].

Dodds, K., *et al.*, 2020. The COVID-19 pandemic: Territorial, political and governance dimensions of the crisis. *Territory, politics, governance*, 8 (3), 289-298. doi:[10.1080/21622671.2020.1771022](https://doi.org/10.1080/21622671.2020.1771022)

Dorling, D., 2019. *Inequality and the 1%*. London, UK: Verso Press.

Fetters, M. D. and Molina-Azorin, J. F., 2021. Special issue on COVID-19 and novel mixed methods methodological approaches during catastrophic social changes. *Journal of mixed methods research*, 15 (3), 295-303. doi:[10.1177/15586898211029100](https://doi.org/10.1177/15586898211029100)

Florida, R., Rodriguez-Pose, A. and Storper, M., 2020. Cities in a post-COVID world. *Papers in evolutionary economic geography*, 20. <http://econ.geo.uu.nl/peeg/peeg2041.pdf>

Freeman, C., 2020. Multiple methods beyond triangulation: collage as a methodological framework in geography. *Geografiska annaler: Series B, human geography*, 102 (4), 328-340. doi:[10.1080/04353684.2020.1807383](https://doi.org/10.1080/04353684.2020.1807383)

Fuchs, C., 2020. Everyday life and everyday communication in coronavirus capitalism. *tripleC: Communication, capitalism & critique. Open access journal for a global sustainable information society*, 18, 375-399.

Fyfe, N.R., 1998. *Images of the street: Planning, identity, and control in public space*. London, UK and New York: Routledge.

Ghosh, R., 2020. *Rethinking the city: urban experience and the COVID-19 pandemic*.

April 7. Available from: <https://www.versobooks.com/blogs/4648-rethinking-the-city-urban-experience-and-the-covid-19-pandemic> [Accessed May 2020].

Goossens, V., 2011. Power, stakeholders and the theory of planned behaviour: Understanding stakeholder engagement in an English seaside context. Unpublished PhD Thesis, University of Hull.

Grant, M. and Thompson, S., 2018. Reflective praxis: Accelerating knowledge generation through reflecting on our research and practice. *Cities & health*, 2 (2), 91-95.
doi:[10.1080/23748834.2019.1598711](https://doi.org/10.1080/23748834.2019.1598711)

Hansen, A., 2018. *Environment, media and communication*. Abingdon, UK: Routledge.

Hargreaves, J. R. and Logie, C. H., 2020. Lifting lockdown policies: A critical moment for COVID-19 stigma. *Global public health*, 15 (12), 1917-1923.
doi:[10.1080/17441692.2020.1825771](https://doi.org/10.1080/17441692.2020.1825771)

Harris, E., 2015. Navigating pop-up geographies: Urban space–times of flexibility, interstitiality and immersion. *Geography compass*, 9 (11), 592-603.
doi: [10.1111/gec3.12248](https://doi.org/10.1111/gec3.12248)

Harvey, D., 1996. Cities or urbanization? *City*, 1(1-2), 38-61.
doi: [10.1080/13604819608900022](https://doi.org/10.1080/13604819608900022)

Harvey, D., 2005a. *A brief history of neoliberalism*. Oxford, UK: Oxford University Press.

Harvey, D., 2005b. *The new imperialism*. Oxford, UK: Oxford University Press.

Harvey, D., 2020. Anti-capitalist politics in the time of COVID-19. *Jacobin*, 20 March.
Available from: <https://jacobin.com/2020/03/david-harvey-coronavirus-political-economy-disruptions> [Accessed 30 April 2020].

Health Foundation, 2020. *Better housing is crucial for our health and the COVID-19 recovery*. Available from:
<https://www.health.org.uk/publications/long-reads/better-housing-is-crucial-for-our-> \

[health-and-the-covid-19-recovery](#) [Accessed 29 December 2020].

Heath, R. L., Lee, J. and Lemon, L. L., 2019. Narratives of risk communication: Nudging community residents to shelter-in-place. *Public relations review*, 45 (1), 128-137.

doi: [10.1016/j.pubrev.2018.12.004](https://doi.org/10.1016/j.pubrev.2018.12.004)

Hewitt, R., 2021. *Domestic violence warning after murder of Caoimhe Morgan in North Belfast*. Belfast telegraph, 20 December. Available from:

<https://www.belfasttelegraph.co.uk/news/northern-ireland/domestic-violence-warning-after-murder-of-caeimhe-morgan-in-north-belfast-41166265.html>

[Accessed on 8 June 2022].

Honey-Rosés, J., *et al.* 2020. The impact of COVID-19 on public space: a review of the emerging questions. *Cities and health*. doi:[10.31219/osf.io/xf7xa](https://doi.org/10.31219/osf.io/xf7xa)

Iedema, R., 2003. Multimodality, resemiotization: Extending the analysis of discourse as multi-semiotic practice. *Visual communication*, 2 (1), 29-57.

doi: [10.1177/1470357203002001751](https://doi.org/10.1177/1470357203002001751)

Institute for Government, 2020. Coronavirus and devolution. Available from:

<https://www.instituteforgovernment.org.uk/explainers/coronavirus-and-devolution>

[Accessed 30 December 2020].

Jacobson, M., 2020. Social equity considerations: An imperative in a time of a

pandemic. *Governing*. Available from: <https://www.governing.com/community/social-equity-considerations-an-imperative-in-a-time-of-pandemic.html>

[Accessed 30 March 2020].

Jaworski, A. and Thurlow, C., 2010. *Semiotic landscapes: Language, image, space*.

London, UK: A. & C. Black.

Jaworski, A. and Wei, L., 2020. Introducing writing (in) the city. *Social semiotics*. 31 (1), 1-

13. doi:[10.1080/10350330.2020.1827934](https://doi.org/10.1080/10350330.2020.1827934)

- Kelly, B. J. and Hornik, R. C., 2016. Effects of framing health messages in terms of benefits to loved ones or others: An experimental study. *Health communication*, 31 (10), 1284-1290. doi:[10.1080/10410236.2015.1062976](https://doi.org/10.1080/10410236.2015.1062976)
- Kimmelman, M., 2020. The great empty: *The New York Times*. Available from: [https://www.nytimes.com/inter- active/2020/03/23/world/coronavirus-great-empty.html](https://www.nytimes.com/interactive/2020/03/23/world/coronavirus-great-empty.html) [Accessed 30 March 2020].
- Kincheloe, J. L., McLaren, P. and Steinberg, S. R., 2011. Critical pedagogy and qualitative research. In: N. K. Denzin and Y. S. Lincoln, eds. *The SAGE handbook of qualitative research*. 4th ed. Thousand Oaks, US: Sage Publications. 163-177.
- Kipfer, S., 2020. *The naked city: Traversing Toronto in pandemic*. Socialist Project, Canada. Available from <https://socialistproject.ca/content/uploads/2020/07/naked-city.pdf> [Accessed 30 December 2020].
- Lefèbvre, H., 1991. *The production of space* (N. Donaldson-Smith, Trans.). Original work published 1974. London, UK: Basil Blackwell.
- Marmot, M., *et al.*, 2010. *Fair society healthy lives*, London, UK: Institute of Health Equity.
- McGregor, C., 2020. Coronavirus, community and solidarity. *Concept - the journal of contemporary community education practice theory*, 11 (1-5), COVID-19 supplementary issue,1-5. Available from: <http://concept.lib.ed.ac.uk/article/view/4365>
- Megahed, N. A. and Ghoneim, E. M., 2020. Antivirus-built environment: lessons learned from Covid-19 pandemic. *Sustainable cities and society*, 61, 2020. doi: [10.1016/j.scs.2020.102350](https://doi.org/10.1016/j.scs.2020.102350)
- Mendes, L., 2020. How can we quarantine without a home? Responses of activism and urban social movements in times of COVID-19 pandemic crisis in Lisbon. *Tijdschrift voor economische en sociale geografie*, 111 (3), 318-332. doi:[10.1111/tesg.12450](https://doi.org/10.1111/tesg.12450)
- Metro-Roland, M.M., 2016. *Tourists, signs and the city: The semiotics of culture in an*

- urban landscape*. London, UK: Routledge.
- Mills, M. and Speake, J., 2021. Spaces of affectivity: Innovating interdisciplinary discourse in open, "free" space. *Kritika kultura*, 36, 4-30. doi: 10.13185/KK2021.03602
- Moze, F. and Spiegel, S. J., 2022. The aesthetic turn in border studies: Visual geographies of power, contestation and subversion. *Geography compass*, 16 (4), e12618. doi: [10.1111/gec3.12618](https://doi.org/10.1111/gec3.12618)
- Nathan, M., 2021. The city and the virus. *Urban studies*, 1-19. doi:[10.1177/00420980211058383](https://doi.org/10.1177/00420980211058383)
- Nguyen, D., Imamura, F. and Iuchi, K., 2016. Disaster management in coastal tourism destinations: The case for transactive planning and social learning. *International review for spatial planning and sustainable development*, 4 (2), 3-17. doi:[10.14246/irspsd.4.2_3](https://doi.org/10.14246/irspsd.4.2_3)
- NIDirect/Téidíreach, 2020. Coronavirus-Covid-19 staying safe outside your home. NIDirect/Téidíreach. Available from: <https://www.nidirect.gov.uk/articles/coronavirus-covid-19-staying-safe-outside-your-home> [Accessed 30 December 2020].
- Nijman, J. and Wei, Y. D., 2020. Urban inequalities in the 21st century economy. *Applied Geography*, 117, 102188. doi: [10.1016/j.apgeog.2020.102188](https://doi.org/10.1016/j.apgeog.2020.102188)
- NISRA, 2020a. Registrar General annual report, 2020. Components of population change by LGD, 2018 to 2019. Belfast: NISRA.
- NISRA, 2020b. 2019 Mid-year population estimates by postcode district in 20 year age bands. Belfast: NISRA.
- Nwosu, C. O. and Oyenubi, A. (2021). Income-related health inequalities associated with the coronavirus pandemic in South Africa: A decomposition analysis. *International journal for equity in health*, 20 (1), 1-12. doi:[10.1186/s12939-020-01361-7](https://doi.org/10.1186/s12939-020-01361-7)
- Oxfam, 2021. *The inequality virus*. Available from: <https://www.oxfam.org/en/research/inequality-virus> [Accessed 30 December 2021].

- Pentaraki, M., 2013. The class impact of post disaster restoration policies: The example of Iliia, Greece and the need for a politics of disaster. *International social work*, 56 (6), 761-774. doi:[10.1177/0020872812440717](https://doi.org/10.1177/0020872812440717)
- Pentaraki, M., 2018. Social work practice of hospital social workers under the structural adjustment program in Greece: social workers protecting the right to health care within the context of Neoliberalism. *Sociální práce*, 2018 (4), 7-20.
- Pentaraki, M., 2019. Practising social work in a context of austerity: Experiences of public sector social workers in Greece. *European journal of social work*, 22 (3), 376-387. doi: [10.1080/13691457.2017.1369396](https://doi.org/10.1080/13691457.2017.1369396)
- Pentaraki, M., 2022. COVID-19 response – lessons learned: Challenging the neoliberal TINA discourse through social work education and action. *Social work education*, doi:[10.1080/02615479.2021.2018416](https://doi.org/10.1080/02615479.2021.2018416)
- Pentaraki, M. and Speake, J., 2020. Domestic violence in a COVID-19 context: Exploring emerging issues through a systematic analysis of the literature. *Open journal of social sciences*, 8 (10), 193 -211. doi:[10.4236/jss.2020.810013](https://doi.org/10.4236/jss.2020.810013)
- Pentaraki, M. and Speake, J., 2022. Grassroots solidarity structures in Greece as counterhegemonic practices contesting the dominant neoliberal hegemony. *Human geographies*, 16 (1), 5-21. doi:[10.5719/hgeo.2022.161.1](https://doi.org/10.5719/hgeo.2022.161.1)
- Petts, J., Owens, S. and Bulkeley, H., 2008. Crossing boundaries: Interdisciplinarity in the context of urban environments. *Geoforum*, 39 (2), 593-601. doi: [10.1016/j.geoforum.2006.02.008](https://doi.org/10.1016/j.geoforum.2006.02.008)
- Piquero, A. R., *et al.*, 2021. Domestic violence during the COVID-19 pandemic-Evidence from a systematic review and meta-analysis. *Journal of criminal justice*, 74. doi: [10.1016/j.jcrimjus.2021.101806](https://doi.org/10.1016/j.jcrimjus.2021.101806)
- Portella, A., 2016. *Visual pollution: advertising, signage and environmental quality*.

Abingdon, UK: Routledge.

Pratt, M. G., Sonenshein, S. and Feldman, M. S., 2022. Moving beyond templates: A bricolage approach to conducting trustworthy qualitative research. *Organizational research methods*, 25 (2), 211-238. doi:[10.1177/1094428120927466](https://doi.org/10.1177/1094428120927466)

Radwan, A.H. and Morsy, A.A.G., 2016. The importance of integrating street furniture in the visual image of the city. *International journal of modern engineering research*, 9, 29-53.

Rajan, D., *et al.*, 2020. Governance of the Covid-19 response: A call for more inclusive and transparent decision making. *British medical journal global health*, 5, e002655. doi:[10.1136/bmjgh-2020-002655](https://doi.org/10.1136/bmjgh-2020-002655)

Renn, O., 2010. Risk communication: Insights and requirements for designing successful communication programs on health and environmental hazards. In: R. Heath and D. O'Hair, eds. *Handbook of risk and crisis communication*. London, UK: Routledge. 92-110.

Roach Anleu, S. and Sarantoulas, G., 2022. Complex data and simple instructions: Social regulation during the Covid-19 pandemic. *Journal of sociology*, 1-21. doi:[10.1177/14407833211066926](https://doi.org/10.1177/14407833211066926)

Rose, G., 2014. On the relation between 'visual research methods' and contemporary visual culture. *The sociological review*, 62 (1), 24-46. doi: [10.1111/1467-954X.12109](https://doi.org/10.1111/1467-954X.12109)

Rose, G., 2016. *Visual methodologies: An introduction to researching with visual materials*. London, UK: Sage

Rose-Redwood, R., *et al.*, 2020. Geographies of the COVID-19 pandemic. *Dialogues in human geography*, 10 (2), 97-106. doi: [10.1177/2043820620936050](https://doi.org/10.1177/2043820620936050)

Schroeder, J. E., 2004. Visual consumption in the image economy. In: K.M. Ekström and H. Brembeck, eds. *Elusive consumption*. London, UK: Taylor & Francis. 229-244.

Schuster, M., 2012. Language accessibility of signage in public settings: A case study of a

- health care service. *Southern African linguistics and applied language studies*, 30 (3), 311-324. doi:[10.2989/16073614.2012.739411](https://doi.org/10.2989/16073614.2012.739411)
- Schuster, M., Elroy, I. and Elmakais, I., 2017. We are lost: Measuring the accessibility of signage in public general hospitals. *Language policy*, 16 (1), 23-38.
doi: [10.1007/S10993-015-9400-0](https://doi.org/10.1007/S10993-015-9400-0)
- Shep, S.J., 2015. Urban palimpsests and contending signs. *Social semiotics*, 25, 209–216.
doi: [10.1080/10350330.2015.1010322](https://doi.org/10.1080/10350330.2015.1010322)
- Sklair, L., 2017. *The icon project: Architecture, cities, and capitalist globalization*. Oxford, UK: Oxford University Press.
- Smith, J., 2019. Overcoming the “tyranny of the urgent”: Integrating gender into disease outbreak preparedness and response. *Gender and development*, 27 (2), 355-369. doi: [10.1080/13552074.2019.1615288](https://doi.org/10.1080/13552074.2019.1615288)
- Soja, E., 1996. *Thirdspace: Journeys to Los Angeles and other real-and-imagined places*. Oxford, UK: Blackwell.
- Sokol, M. and Pataccini, L., 2020. Winners and losers in coronavirus times: Financialisation, financial chains and emerging economic geographies of the COVID-19 pandemic. *Tijdschrift voor economische en sociale geografie*, 111 (3), 401-415.
doi: [10.1111/tesg.12433](https://doi.org/10.1111/tesg.12433)
- Sparke, M. and Anguelov, D., 2020. Contextualising coronavirus geographically. *Transactions of the institute of British geographers*, 45 (3), 498-508.
doi: [10.1111/tran.12389](https://doi.org/10.1111/tran.12389)
- Speake, J. and Pentaraki, M., 2017. Living (in) the city centre, neoliberal urbanism, Engage Liverpool and citizen engagement with urban change in Liverpool, UK, *Human geographies*, 11, 42-63. doi: [10.5719/hgeo.2017.111.3](https://doi.org/10.5719/hgeo.2017.111.3)
- Speake, J., 2017a. Fieldwork: Using visual methods as a tool for field data collection. In: S.

- Watt and C. Wakefield, eds. *Teaching visual methods in the social sciences*. Abingdon, UK: Routledge, 143-161.
- Speake, J., 2017b. Urban development and visual culture: Commodifying the gaze in the redevelopment of Tigné Point, Malta. *Urban studies*, 54 (13), 2919–2934.
doi: [0.1177/0042098016663610](https://doi.org/10.1177/0042098016663610)
- Speake, J. and Kennedy, V., 2019a. Changing aesthetics and the affluent elite in urban tourism place making. *Tourism Geographies*, 1-22. doi:[10.1080/14616688.2019.1674368](https://doi.org/10.1080/14616688.2019.1674368)
- Speake, J. and Kennedy, V., 2019b. ‘Buying into the waterfront dream? Trajectories of luxury property led developments in Malta. *Tourism management* 71: 246-258.
doi: [10.1016/t.tourman.2018.10.014](https://doi.org/10.1016/t.tourman.2018.10.014)
- Spencer, D., 2016. *The architecture of neoliberalism: How contemporary architecture became an instrument of control and compliance*. London, UK: Bloomsbury.
- Spencer, S., 2011. *Visual research methods in the social sciences: Awakening visions*. London, UK: Routledge.
- Stein, L., 2020. Cities fall silent around the world as tourist attractions close and streets empty amid Coronavirus pandemic. *ABC News*. Available from: <https://www.abc.net.au/news/2020-03-22/coronavirus-covid-19-impact-on-cities-around-world-quiet-streets/12071636> [Accessed 30 March 2020].
- Summers, B., 2022). Urban phantasmagorias. *City*, 26 (2-3), 191-198.
doi: [10.1080/13604813.2022.2059196](https://doi.org/10.1080/13604813.2022.2059196)
- Sutton, J., Renshaw, S.L. and Butts, C.T., 2020. COVID-19: Retransmission of official communications in an emerging pandemic, *PloS one*, 15 (9), 1-21.
doi: [10.1371/journal.pone.0238491](https://doi.org/10.1371/journal.pone.0238491)
- Syal, R., 2021. Rules have changed 64 times since March says barrister. *The Guardian*. Available from: <https://www.theguardian.com/world/2021/jan/12/england->

[covid-lockdown-rules-have-changed-64-times-says-barrister](#) [Accessed January 2021].

Teddlie, C. and Tashakkori, A., 2009. *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioural sciences*. Thousand Oaks, CA: Sage Publications.

Theurillat, T., Vera-Büchel, N. and Crevoisier, O., 2016. Commentary: From capital landing to urban anchoring: The negotiated city. *Urban studies*, 53 (7),1509-1518.

doi:[10.1177/0042098016630482](https://doi.org/10.1177/0042098016630482)

Tormey, J., 2013. *Cities and photography*. Abingdon, UK: Routledge.

UK Government, 2020a. Coronavirus (COVID-19): safer public places - urban centres and green spaces. Ministry of Housing, Communities & Local Government.

Available from:

<https://www.gov.uk/guidance/safer-public-places-urban-centres-and-green-spaces-covid-19> [Accessed 25 July 2020].

UK Government, 2020b. New campaign to prevent spread of coronavirus

indoors this winter. Department of Health & Social Care. Available from

<https://www.gov.uk/government/news/new-campaign-to-prevent-spread-of-coronavirus-indoors-this-winter> [Accessed 15 September 2020].

UK Government, 2021. Coronavirus (COVID-19): safer public places - urban

centres and green spaces. Ministry of Housing, Communities & Local Government.

Available from:

<https://www.gov.uk/guidance/safer-public-places-urban-centres-and-green-spaces-covid-19/updates> [Accessed 25 July 2020].

Ülkeryıldız, E., 2020. Transformation of public and private spaces: Instrumentality of restrictions on the use of public space during COVID 19 pandemic. *International conference of contemporary affairs in architecture and urbanism (ICCAUA-2020)*,

conference proceedings 6-8 May, Alanya Turkey, 200-205.

doi: [10.38027/N192020ICCAUA316394](https://doi.org/10.38027/N192020ICCAUA316394)

UN, 2020. COVID-19 in an urban world. *Policy Brief*. July. United

Nations. Available from: <https://www.un.org/en/coronavirus/covid-19-urban-world>

[Accessed 30 July 2020].

UN Women, 2020. Violence against women and girls: the shadow pandemic. Statement by

Phumzile Mlambo-Ngcuka, Executive Director of UN Women. Available from:

<https://www.unwomen.org/en/news/stories/2020/4/statement-ed-phumzile-violence-against-women-during-pandemic> [Accessed 30 December 2020].

UN-Habitat, 2020a. *Cities and COVID-19. Key messages*. 13. UN-Habitat.

Available from:

https://unhabitat.org/sites/default/files/2020/03/covid19_key_messages_eng_1.pdf

[Accessed 30 July 2020].

UN-Habitat, 2020b. *COVID-19 city dashboard*. UN-Habitat. Available from:

<https://unhabitat.citiiq.com> [Accessed 1 December 2020].

UN-Habitat, 2020c. *COVID-19 in an urban world policy brief*. July. UN-Habitat.

Available from:

https://www.un.org/sites/un2.un.org/files/sg_policy_brief_covid_urban_world_july_2020.pdf [Accessed 3 August 2020].

UN-Habitat, 2020d. *Guidance on COVID-19 and public space*. UN-Habitat.

Available from: [https://unhabitat.org/sites/default/files/2020/06/un-](https://unhabitat.org/sites/default/files/2020/06/un-habitat_guidance_on_covid-19_and_public_space.pdf)

[habitat_guidance_on_covid-19_and_public_space.pdf](https://unhabitat.org/sites/default/files/2020/06/un-habitat_guidance_on_covid-19_and_public_space.pdf) [Accessed 3 August 2020].

UN-Habitat, 2020e. *Public space and COVID-19*. UN-Habitat.

Available from:

https://unhabitat.org/sites/default/files/2020/06/final_public_space_key_messages_covid19_14_June_2020.pdf [Accessed 3 August 2020].

Valentino-DeVries, J., Lu, D. and Dance, G.J., 2020. Location data says it all: staying at home during coronavirus is a luxury. *The New York Times*. Available from:

<https://www.nytimes.com/interactive/2020/04/03/us/coronavirus-stay-home-rich-poor.html> [Accessed 4 April 2020].

Velez, A.L.K., Diaz, J.M. and Wall, T. U., 2017. Public information seeking, place-based risk messaging and wildfire preparedness in southern California. *International Journal of Wildland Fire*, 26 (6), 469-477. doi: [10.1071/WF16219](https://doi.org/10.1071/WF16219)

Walaski, P.F., 2011. *Risk and crisis communications: Methods and messages*. London, UK: Wiley.

Weber, R., 2002. Extracting value from the city: Neoliberalism and urban redevelopment. *Antipode*, 34 (3), 519-540. doi: [10.1111/1467-8330.00253](https://doi.org/10.1111/1467-8330.00253)

Weber, R., 2010. Selling city futures: The financialization of urban redevelopment policy. *Economic Geography*, 86 (3), 251-274. doi: <https://doi.org/10.1111/j.1944-8287.2010.01007.x>

Weill, J. A., *et al.*, 2020. Social distancing responses to COVID-19 emergency declarations strongly differentiated by income. *Proceedings of the national academy of sciences*, 117 (33), 19658–19660. doi:[10.1073/pnas.2009412117](https://doi.org/10.1073/pnas.2009412117)

WHO, 1948. *Constitution*. Available from:

<https://www.who.int/about/governance/constitution> [Accessed 4 June 2022].

WHO, 2020a. *Coronavirus disease (COVID-19) advice for the public*. Avoid the 3 C's. Available from:

- https://www.who.int/images/default-source/wpro/countries/malaysia/infographics/three-3cs/final-avoid-the-3-cs-poster.jpg?sfvrsn=638335c1_2 [Accessed 30 December 2020].
- WHO, 2020b. *Ebola virus disease*. Key facts [Fact sheet] February 10. Available from: <https://www.who.int/news-room/fact-sheets/detail/ebola-virus-disease> [Accessed 1 April 2020].
- WHO, 2020c. HIV/AIDs. Factsheet November 30. Available from: <https://www.who.int/news-room/fact-sheets/detail/hiv-aids> [Accessed December 2020].
- WHO, 2020d. *Risk communication and community engagement readiness and response to coronavirus disease (COVID-19): Interim guidance* (No. WHO/2019-nCoV/RCCE/2020.2). World Health Organization.
- WHO, 2020e. *Zika virus disease*. Available from: https://www.who.int/health-topics/zika-virus-disease-tab=tab_1 [Accessed 28 December 2020].
- Wilkinson, R. and Pickett, K., 2009. *The spirit level: Why more equal societies almost always do better*, London, UK: Allen Lane Books.
- Yap, C., 2021. Making the city through participatory video: implications for urban geography. *Urban geography*, 1-21. doi: [10.1080/02723638.2021.1948698](https://doi.org/10.1080/02723638.2021.1948698)
- Young, A., 2020. Locked-down city. *Crime, media, culture*. doi:10.1177/1741659020946179
- Young, A., 2021a. ‘Stay safe, stay home’: Spatial justice in the pandemic city. *Legalities*, 1 (1), 19-43. doi: [10.3366/legal.2021.0005](https://doi.org/10.3366/legal.2021.0005)
- Young, A., 2021b. The limits of the city: Atmospheres of lockdown. *The British journal of criminology*, 61 (4), 985-1004. doi: [10.1093/bjc/azab001](https://doi.org/10.1093/bjc/azab001)
- Zukin, S, 1990. Socio-spatial prototypes of a new organization of consumption: The role of real cultural capital. *Sociology*, 24 (1), 37–56. doi: [10.1177/0038038590024001005](https://doi.org/10.1177/0038038590024001005)

Figure 1



Figure 1 On-street COVID-19 social distancing signage: Examples from Belfast, NI.

- (a) Belfast City Council. Stencilled 2 metre measure on pavement for social distancing. 4 August 2020.
- (b) Stencilled ‘footprints’ on pavement for 2 metre social distancing. 2 July 2020.
- (c) Adhesive tape markers on pavement for 2 metre social distancing. 28 January 2021.
- (d) “New road layout for social distancing” UK Government traffic sign and street barriers to create more space for pedestrian social distancing. Linenhall Street. 9 September 2020.
- (e) “COVID-19 Keep Apart”. UK Government pedestrian social distancing message. Linenhall Street. 9 September 2020.

Source: Photos by Janet Speake, 2020, 2021

Figure 2



Figure 2 On-street COVID-19 public health signage 2020: Examples from Belfast, NI.

- (a) UK Government message, “Thank you. You are saving lives by staying at home. We know it’s tough. But we must keep going. Please stay at home. Keep distance. Wash Hands. For advice, visit [indirect.gov.uk/coronavirus](https://www.indirect.gov.uk/coronavirus)”. Electronic display. Arthur Street. 4 May 2020.
- (b) Northern Ireland Executive message. “Don’t spread Coronavirus. Limit your contact with others. We all must do it to get through it. Keep distance. Wear face covering. Wash hands. [nidirect.gov.uk/coronavirus](https://www.nidirect.gov.uk/coronavirus)”. Electronic display. Bedford Street. 29 November 2020.
- (c) National Health Service (NHS). “Every mind matters. Now more than ever. For simple steps to look after your mental wellbeing search Every Mind Matters. Stay

Home, Protect the NHS. Save Lives”. Electronic display. Bedford Street. 4 May 2020.

- (d) Belfast City Council message. “Please wash your hands”. Information panel. Arthur Street. 11 August 2020.
- (e) Northern Ireland Executive message. “I wear one for Granny. We all must do it to get through it. Stay safe. Save lives. nidirect.gov/coronavirus”. Chichester Street. 11 August 2020. Most of the messages appearing in rotation on this electronic display had a COVID-19 health related theme such as others including: (i) “I’m getting a test now. For you. If you have symptoms, don’t leave home except to get a test. Stop the spread.” [it also included relevant contact website details and phone number]. (ii) “Washing my hands helps protect me. And you. Regular handwashing wipes away the virus”.
- (f) Belfast City Council message. “Please keep a safe distance” and “Stay safe”. Information panel. 11 August 2020.

Source: Photos by Janet Speake, 2020.