CAMBRIDGE
UNIVERSITY PRESS

STANDARD PAPER

Understanding Barriers and Facilitators to Compliance with UK Social Distancing Guidelines During the COVID-19 Pandemic: A Qualitative Interview Study

Alexandra Burton[1]* (iD), Alison McKinlay[1], Jo Dawes[2], Anna Roberts[1], Wendy Fynn[1], Tom May[1] and Daisy Fancourt[1]

[1]Department of Behavioural Science and Health, Institute of Epidemiology and Health Care, University College London, London, UK and [2]UCL Collaborative Centre for Inclusion Health, Institute of Epidemiology and Health Care, University College London, London, UK
*Corresponding author: Alexandra Burton, Department of Behavioural Science and Health, Institute of Epidemiology and Health Care, University College London, London, UK. Email: a.burton@ucl.ac.uk

Abstract

When followed, there is evidence that social distancing measures play a major role in reducing the transmission of viruses such as COVID-19. However, not all individuals follow the guidance. We explored barriers and facilitators to compliance with UK social distancing guidelines during the COVID-19 pandemic through semi-structured interviews with 116 adults. Data were analysed using reflexive thematic analysis and themes mapped to the Capability, Opportunity and Motivation Model of Behaviour (COM-B). Barriers to compliance included inconsistent rules, caring responsibilities, fatigue, unintended consequences of control measures, and the need for emotional support. Facilitators were informational support and social responsibility. Six themes were both a barrier and a facilitator: lived environment, beliefs about consequences of non-compliance, influence of others, practical support, and trust in government. Reflective motivation, psychological capability, and social opportunity were important drivers for compliance. Measures that enable social support alongside strategies to maintain motivation to comply, provide clear guidance and optimise social cohesion should be promoted.

Keywords: COVID-19; compliance; social distancing; qualitative; behaviour change

Introduction

To control the spread of coronavirus-19 (COVID-19), governments around the world imposed a range of measures to minimise close contact between individuals. The strictest measures included the enforced closure of shops, hospitality and entertainment venues, bans on mixing between households and non-essential travel, and curfews. Further guidelines included maintaining a 2-m distance between people not living in the same household, frequent hand washing, and the mandating of masks when visiting public indoor spaces. When these measures were followed by the public, they were reported to be effective at reducing virus transmission (Matrajt & Leung, 2020). However, while high levels of compliance were observed in many countries during the pandemic (YouGov, 2021), there was some variation. For example, compliance has varied (1) by the type of behaviour being mandated (e.g. in the UK, some measures such as mask wearing were more closely followed than social distancing (IPSOS MORI, 2021; Wright, Steptoe, & Fancourt, 2021c; YouGov, 2021)), (2) over time (with evidence suggesting compliance levels decreased in the UK over time, especially as restrictions were

lifted (Petherick et al., 2021; Wright et al., 2021c)), and (3) depending on individual characteristics (Moran et al., 2021; Wright et al., 2021c).

Indeed, a growing body of research has focused on this latter issue and sought to understand the characteristics that predict compliance with social distancing guidelines. Lower compliance during COVID-19 has been identified among younger people (Coroiu, Moran, Campbell, & Geller, 2020; Wright, Steptoe, & Fancourt, 2021a), those who are physically healthy (Wright et al., 2021c), have higher incomes (Wright & Fancourt, 2020), carers (Wright, Steptoe, & Fancourt, 2021b), and employed people unable to work from home (Denford et al., 2021). Research from the COVID-19 pandemic and previous pandemics has also identified lower compliance among people who lack trust and confidence in their government (Bish & Michie, 2010; Wright et al., 2021b). However, while these studies offer some insight into the specific factors that influence compliance behaviours, there has been limited research into *why* some groups may be less compliant than other groups. There has also been limited in-depth qualitative enquiry to fully understand the potentially modifiable barriers and facilitators that individuals from different groups have faced in adhering to social distancing guidelines.

A small UK qualitative study conducted at the beginning of the pandemic found that participants experienced a sense of social and psychological loss, lack of trust in government, and a lack of clarity of communication of guidelines, although all participants reported high levels of self-compliance (Williams, Armitage, Tampe, & Dienes, 2020). The study, therefore, relied on participants hypothesising why other people may not be compliant. A second qualitative study explored the experiences of people on low incomes and people from Black, Asian, and other Ethnic Minority groups and identified a lack of clear messaging and guidelines that were open to interpretation, low perceived risk of catching, or transmitting the virus, and the need to receive or provide emotional support as reasons for breaking the rules (Denford et al., 2021). Only one facilitator for adherence was identified: the need to protect vulnerable family members from the virus.

There is currently limited research explicitly drawing upon theoretical frameworks to help understand the psychological processes that might influence compliance with guidelines during a pandemic. Understanding these processes can help with the design of future interventions or public health campaigns aimed at increasing compliance behaviours. Theories such as the health belief model (Green, Murphy, & Gryboski, 2020) and theory of planned behaviour (Ajzen, 1991) have traditionally focused on individual-level factors to explain health behaviours, and their explanatory power may be limited when studying barriers and facilitators to public health behaviours. The Capability, Opportunity, Motivation, and Behaviour (COM-B) model of behaviour (Atkins et al., 2017; Michie, van Stralen, & West, 2011) is an alternative theoretical framework that can help to explain the process of supporting or changing behaviours at the individual, social, and environmental levels. This model posits that an individual must have relevant psychological or physical skills (capability) and access to physical or social resources (opportunity) for a behaviour to occur. If these elements are in place, the individual is then supported to understand the need (reflective motivation) or feel the desire (automatic motivation) to enact the behaviour. For interventions to achieve effective behaviour change, one or more of these components should be targeted. Health psychology experts have used this model to identify interventions for increasing adherence to social distancing rules as part of a rapid response to early UK government policies (Michie, West, Rogers, et al., 2020). Suggestions included providing clear messaging about transmission risk and specific compliance behaviours, the use of media to promote positive messaging and a sense of responsibility to others, and the promotion of social approval for desired behaviours and disapproval for unwanted behaviours. A quantitative survey that used the COM-B model to assess barriers and facilitators to hygienic practices such as hand washing, identified reflective motivation as a key driver to compliance (Gibson Miller et al., 2020). However, to our knowledge, there has been no attempt to apply psychological theory to in-depth qualitative research that seeks to understand the conditions that might support or increase compliance with broader social distancing guidelines during the COVID-19 pandemic. The aim of this study was, therefore, to understand the barriers and facilitators to compliance with UK social distancing guidelines during the COVID-19 pandemic and to use the COM-B model to map the underlying psychological processes influencing compliance.

Methods

Semi-structured qualitative interviews were conducted as part of the COVID-19 Social Study (University College London Covid Social Study, 2021), which aimed to explore the psychological and social impact of the COVID-19 pandemic among adults living in the UK. A phenomenological approach was taken, focusing on participants subjective experiences, meanings and changes in behaviour brought about by social distancing restrictions (Langdridge, 2008). The study received ethical approval from the UCL Ethics Committee (Project ID 14895/005).

Participants were recruited through community organisations, social media, personal contacts, a study newsletter and website, and via partners associated with the UKRI MARCH mental health network. Potential participants contacted the research team via email if they were interested in taking part. Participants were purposively selected to take part based on their identification with one or more characteristics that potentially placed them at risk of poorer mental health and/or increased social isolation during the pandemic. This included people with mental health conditions, long-term health conditions, parents of young children, older (aged 70+), and younger (aged 18–24) adults. How the pandemic has impacted the mental health of each of these groups has been reported elsewhere (Burton, McKinlay, Aughterson, & Fancourt, 2020; Dawes, May, McKinlay, Fancourt, & Burton, 2021; Fisher, Roberts, McKinlay, Fancourt, & Burton, 2020; McKinlay, Fancourt, & Burton, 2020; McKinlay, May, Dawes, Fancourt, & Burton, 2021). The current paper brings together these subsamples to explore barriers and facilitators to compliance with social distancing guidelines across different groups.

All participants received a study information sheet, provided informed consent, and completed a demographics questionnaire. Interviews were carried out by male and female researchers with backgrounds in social science, behavioural science and applied health research (AB, AM, AR, TM, RC, SE, and LB), public health (JD), and medicine (HA: a trainee medic, doctoral researcher). Interviews took place remotely via telephone or video call depending on participant preference and followed a topic guide designed to understand the impact of the pandemic and social distancing on social lives, mental health, and worries about the future. Questions and associated prompts on the potential barriers and facilitators to adherence to social distancing guidelines and associated restrictions were formulated using concepts from behaviour change theory (Michie et al., 2011). Participants were first asked whether they were self-isolating (i.e. whether they had symptoms of the virus or had come into contact with someone who had contracted it in the last 14 days), 'staying at home' (i.e. only leaving their homes for essential trips such as exercise or food shopping, either because this was mandated at the time or because they were shielding for themselves or someone else), or social distancing (i.e. going out but staying distanced from other people) and what they understood the social distancing guidelines to mean. They were then asked if they felt able to comply with the guidelines or not, and to elaborate on the reasons for their response (see Figure 1 for topic guide questions and prompts). After the interview, participants were offered a £10 gift voucher to thank them for their time.

All interviews were audio-recorded and transcribed verbatim by an external transcription company. Transcripts were checked for errors, de-identified and imported into NVivo12 for analysis. A combined approach of inductive and deductive analysis was undertaken in that an initial coding framework was developed using concepts from the topic guide and, as participants described new concepts, codes were added to the framework until no new codes were identified. Data were analysed using reflexive thematic analysis following the six steps set out by Braun, Clarke, and Hayfield (2019); firstly, AB read each transcript to familiarise herself with the data and then applied codes from the coding framework or assigned a new code to each line or paragraph of speech within each transcript. All transcripts were independently double coded by AB and one other researcher (JD, WF, TM, AM, or AR) who each met to discuss their overall impressions of salient topics within each section of text. Codes were then organised into initial themes and subthemes by AB to identify broad patterns of meaning across the data before being refined and checked that they corresponded to the research question. Themes were defined, named, and then mapped to domains of the Capability, Opportunity, and Motivation Model of Behaviour (COM-B; Michie et al., 2011) and categorised as barriers, facilitators

- At the moment, are you self-isolating (how long for, reasons for this)/ social distancing/ 'staying at home'

- What do you understand by the 'social distancing' advice that is being given – what does it mean to you?

- Have you been able to stick to the social distancing advice that has been given to your group? Please tell us about why/ why not?

PROMPTS
- Existing physical or mental health problems
- Health beliefs
- Consequences for others/ self
- Needing to work/living arrangements, whether others are self-distancing in the same house/area
- Work/ Caring responsibilities, providing emotional support
- Influence of peers
- Government rules/punishment
- Feelings about losing normal life
- Change of routine/ habits

Figure 1. Topic guide questions on social distancing guidelines

or both for compliance with social distancing guidelines. The research team met to review and discuss codes, themes and developing findings and to approve the final results.

Results

In total, 116 participant interviews were included in the analysis. Interviews took place between May and November 2020 and lasted on average 53 min. Twenty-six (22.4%) participants took part in an interview during a time of national lockdown in the UK (see Table 1 for a timeline of COVID-19 restrictions during the study period).

Table 1 Timeline of COVID-19 Restrictions in the UK in 2020[ab]

Date	COVID-19 Restrictions
23 Mar 2020	National lockdown begins. People ordered to 'stay at home'. Legal exemptions for leaving home include essential shopping, going to work, medical reasons, exercising once per day.
26 Mar 2020	Lockdown measures legally come into force
10 May 2020	Those who cannot work from home encouraged to return to work but avoid public transport. Unlimited outdoor exercise is permitted.
13 May 2020	Outdoor recreation added as a legal exemption for leaving home. People allowed to meet someone from one other household outside.
1 Jun 2020	'Stay at home' order removed. Outdoor gatherings of six people and indoor gatherings of two people from different households permitted. Schools begin to reopen.
15 Jun 2020	Non-essential shops reopen in England.

(Continued)

Table 1 (*Continued.*)

Date	COVID-19 Restrictions
23 Jun 2020	Announcement that hospitality, some leisure facilities and attractions can reopen. Weddings and domestic holidays allowed.
4 Jul 2020	Local lockdowns introduced for areas with high rates of COVID-19 infection. Reopening of restaurants, pubs, hairdressers.
14 Aug 2020	Reopening of indoor theatres, bowling alleys, children's play centres.
14 Sep 2020	Socialising is limited to groups of six people.
22 Sep 2020	Return to working from home. 10pm curfew for hospitality venues introduced.
14 Oct 2020	Three tier system is introduced where different regions of the country will live under different restrictions depending on local infection rates.
31 Oct 2020	Second national lockdown announced.
5 Nov 2020	Second national lockdown begins.
2 Dec 2020	End to national lockdown and return to tier system.

[a]Restrictions were similar across England, Scotland, Wales and Northern Ireland; however, dates and precise details may vary.
[b]Brown and Kirk-Wade (2021) and Institute of Government (2021).

Participants were aged 18–93 years old (mean age = 50), predominantly female (61%), white (78%) and living with others (75%). Thirty-five percent of participants reported a diagnosed mental health condition and 59% reported one or more physical health conditions. See Table 2 for participant demographics.

Table 2 Participant Characteristics

Characteristics	*N* (%) or Range (Mean)
Age Range (Mean)	18–93 (50)
Female	71 (61)
Ethnicity	
White	90 (78)
Asian	14 (12)
Mixed background	7 (6)
Black	5 (4)
Marital Status	
Married/civil partnership/living with partner	54 (47)
Single	38 (33)
Divorced/separated	17 (15)
Widowed	7 (6)
Living situation	
With others	87 (75)
Alone	29 (25)
Employment	
Employed	43 (37)

(*Continued*)

Table 2 (*Continued.*)

Characteristics	*N* (%) or Range (Mean)
Retired	30 (26)
Unable to work due to illness	16 (14)
Full time education	13 (11)
Homemaker/full time parent	6 (5)
Unemployed	5 (4)
Furloughed	3 (3)
Mental health condition	41 (35)
Physical health condition(s)	69 (59)

Themes

Twelve themes influencing compliance with social distancing guidelines were generated from the analysis: five barriers, two facilitators, and five mixed barriers and facilitators. Most themes mapped to the COM-B domains of reflective motivation, physical, and social opportunity (see Table 3). Barriers to compliance included (1) inconsistent rules, (2) caring responsibilities, (3) a 'wearing-off' effect, (4) unintended consequences of control measures, and (5) the need for emotional support. Facilitators were (1) informational support and (2) social responsibility. Five themes acted as a facilitator for following the guidelines for some participants but were experienced as a barrier by others. These included (1) lived environment and shared spaces, (2) beliefs about the consequences of non-adherence, (3) influence of others, (4) availability of practical support, and (5) trust in government.

Table 3 Themes Mapped to COM-B Domains

COM-B domain	Theme
Capability	
Psychological capability	Inconsistent rules (B) Informational support (F) Unintended consequences of control measures (B)[a] Wearing-off effect (B)
Physical capability	–
Opportunity	
Physical opportunity	Lived environment and shared spaces (B&F)
Social opportunity	Influence of others (B&F) Availability of practical support (B&F)
Motivation	
Reflective motivation	Beliefs about the consequences of non-adherence (B&F) Caring responsibilities (B) Social responsibility (F) Trust in government (B&F)
Automatic motivation	The need for emotional support (B)

[a](B) = Barrier to compliance; (F) = Facilitator for compliance; B&F = Barrier and Facilitator for compliance depending on participant experiences and circumstances.

Motivation

Reflective Motivation

Compliance behaviours were mostly driven by reflective motivation with participants consciously evaluating the risks associated with contracting the virus. Participants reflected on their personal circumstances, experiences and social roles, and described their beliefs about what is right and wrong as influencing factors for compliance.

Beliefs about the consequences of catching the virus
Perceived risk to self. Older adults and people with health conditions were more likely to identify risks to their health and the perceived negative consequences of getting ill if they caught the virus as their primary motivation for following the social distancing advice. Many participants talked about their '*fear of getting it*' or being hospitalised.

> *I'm really scared of getting it because … you know how everyone is like oh it's okay, they had underlying conditions. I'm like well great, that doesn't really fill me with confidence. So I think I probably would not survive if I got it so I'm trying to keep away from it (Female, aged 30–34, physical health condition).*

Younger and healthy adults, however, perceived their risk of getting ill as low, and for some, this contributed to their decision to bend the rules, socialise with friends, and experience a '*sense of normality*'.

> *For me it's just if I'm going to get something I know that I'm low risk, I know everyone I'm living with is low risk and I know that everyone I'm living with is happy to go out and be socialising in the way that I am (Female, aged 20–24).*

Beliefs about the consequences of catching the virus were often shaped by participant experiences of being ill themselves or knowing someone who had been ill with COVID-19. For those who had lost loved ones or knew someone who had been seriously ill, beliefs about the negative consequences of catching the virus were heightened. Many participants, particularly older adults, described this as an influential factor for compliance.

> *I don't actually know anybody who has died of coronavirus, but some of my younger relatives have had it, and these are young healthy adults, very strong, and … it's taken them weeks to get over it. So, I have great respect for this virus (Female, aged 70–74).*

Some participants, however, experienced minor symptoms following a suspected case of COVID-19, which made them feel more relaxed about the social distancing guidelines.

> *Having almost certainly had coronavirus, myself and my wife probably having had it back in March, and with the kids, 50/50, probably having been exposed and the consequences being relatively low for them, hopefully, even if they haven't had it yet, I think we are pretty relaxed. I think I will characterise it as an informed, relaxed compliance with the rules (Male, aged 40–44).*

Others cited not having any direct encounters with the virus as a reason to bend the social distancing rules, despite acknowledging rising infection rates.

> *I think whenever I have spoken to my friends about it and we are like sod it, let's go and do this. We are just fed up with it now. I don't know anyone who has had it. I don't know anyone who has died.*

I don't even know anyone who knows someone who's had it, even though we are living in an area where we know it's quite bad and you can see the figures constantly going up (Female, aged 30–34).

Perceived risk to others. Most participants described adhering to the guidelines to protect loved ones, vulnerable people who they worked with, or vulnerable members of the public. For some, particularly younger people, keeping other people safe was their primary motivation for following the rules.

I'm more concerned about catching COVID and then passing it on to somebody that it would do more damage to (Male, aged 20–24).

Those providing support to or living with vulnerable family members or friends described a heightened sense of responsibility and took extra precautions to try and keep their loved ones safe.

Purely because my flatmate, she is a little bit older, and she has a lung condition. So I was very aware of, I don't want to go and get exposed myself and then bring it back to her. So I basically did stay away from people as much as possible, purely because I didn't want to be infecting her (Male, aged 25–29).

For others, protecting members of the public was just as important as protecting themselves and their loved ones.

The only worry I have is that it will come back. And also that my family should be protected. Not only my family but everybody's family for that matter (Male, aged 74–79).

Caring responsibilities

Some participants cited their social roles and the need to provide practical support to others, particularly vulnerable relatives, friends, or young children as a reason for being unable to adhere to the social distancing rules during lockdown.

The only thing that I was doing, which I technically wasn't supposed to do but it really wasn't something I could stop, was going to shop for my grandma. Shopping in itself wasn't a problem, but she was 45 min away which wasn't really allowed, and also I did have to go in the house with her to put the shopping down (Female, aged 20–24).

Some also described the need to provide emotional support in-person to friends or relatives who were lonely, grieving, or struggling with their mental health during lockdown.

I would stand in the driveway and talk to her, but I think, over time, she became really lonely and really depressed, so it reached a point where we realised it wasn't practical to do that. And I was the only person she saw … So we'd go and sit in the garden instead (Female, aged 30–34).

Parents with young children described multiple challenges when attempting to follow the social distancing guidelines, including communicating the rules to their children and controlling their children's behaviour in social situations.

My son, he accepts that, he does find it difficult if we meet people outside. He'll start off maintaining a bit of a distance, but young children automatically want to play (Female, aged 40–44).

Some parents also described concerns about the emotional impact that social distancing might have on their children. They considered their actions and behaviour based on the psychological

consequences of social distancing alongside the perceived low risk of contracting the virus or of experiencing serious illness from COVID-19.

> *In terms of him seeing his grandparents and our families we haven't tried to say turn him away, don't touch him, keep your distance. Because to be honest we just feel like there's a balance there. And for him to be shunned in terms of physical contact from his close family I think is probably more damaging potentially given the level of risk of him and us catching it (Male, aged 30–34).*

Social responsibility

Some participants, particularly older adults, described following the social distancing guidelines as their '*civil duty*' in order to '*do my bit*' as part of a collective societal response. People described feeling as though everyone was '*in the same boat*' and experienced '*a wave of solidarity*' especially during periods of lockdown.

> *I definitely felt this sort of collective thing in the initial lockdown in a sense of trying to do something together for everyone, for other people, for society. I definitely felt that and I found that quite motivating and quite focussed in a way (Female, aged 40–44).*

Some participants also chose to comply with the rules to avoid the National Health Service (NHS) being over-burdened.

> *I don't want to burden the health service either because I've broken my leg falling or something like that. To support the NHS and to keep healthy. That to me was very clear, that this was our duty, if you like (Female, aged 70–74).*

Trust in government

Many participants described a change in public attitude to the social distancing restrictions, and for some a change in their behaviour following reduced trust in the UK government's ability to manage the pandemic. Participants mostly described their response to the behaviour of the chief advisor to the UK government (Dominic Cummings) breaking lockdown rules in the early stages of the pandemic.

> *We decided that, no, sod it, we are going to the pub and meet, that we are going to see our children and grandchildren. If it's all right for one of the chief advisors of the government then it must be okay (Male, aged 60–64).*

Conversely, some participants described continuing to practice caution, even when the government rules were being relaxed. Participants described not trusting the government's motivations for lifting the restrictions, and, as a consequence, they would continue to follow their own stricter social distancing guidelines.

> *So regardless of what the government says, I will be preferring my own guidelines. Because I prefer reviewing all the papers … and I know how serious this thing is … and I know the government takes a balance of economics and health, and a lot of what I've seen, a lot of the decisions are not made on healthcare, but made on economics (Female, aged 65–69, physical health condition).*

Automatic Motivation

Automatic motivation acted as a barrier to compliance with social distancing guidelines, with some participants prioritising their own emotional needs over strict compliance with guidelines.

The need for emotional support

For some participants, particularly young adults and those who lived alone, the need to access emotional support outweighed the perceived risks associated with breaking the social distancing rules. This often involved going into other people's homes and '*breaking the lockdown*' to meet with loved ones when they were '*struggling*'.

> *We've been naughty. I'm going to say it because I think it's important. I think if I'd been on my own for the entire time, and not seen anybody … I think from a mental health point of view, it's probably saved me. They come and pick me up in the car, take me to their house. We put the views that I'm not seeing anybody else, so it's going to be safe (Male, aged 40–44).*

Others described loneliness and the need to have physical contact with friends or have a conversation with '*a checkout lady, man or the lady who was letting you go in (the shop)*' as the main motivating factor for leaving the house and bending rules around social distancing during lockdown.

> *I followed it religiously for seven weeks and it got to the point where I was just, not depressed every day but I was just thinking I don't have any motivation to work. I'm not sleeping at all. I've always been a touchy feeling person. I need someone to hug that isn't mum or dad (Female, aged 20–24).*

Opportunity

Physical Opportunity

When the environments in which people lived were not conducive to social distancing, this created a physical barrier to compliance.

Lived environment and shared spaces

Home environment. Participants who had access to a private garden described this as an aid to following the social distancing guidelines, with less reason to leave the home for exercise or use shared public spaces.

> *I'm lucky in that I've got a small garden as well, so I can sit out in the garden and get fresh air and sunshine that way … I'm not stuck in a tower block like some people, so I'm lucky in that respect (Female, aged 50–54).*

Participants who lived alone frequently described living in a naturally socially distanced environment '*I live on my own, so I've got nobody else who's at risk in my household*'. However, for those living with others, particularly older adults, students and those with physical health conditions, social distancing was particularly challenging. Some developed strategies such as creating '*a daily rota*' for accessing shared spaces such as bathrooms and kitchens or socially distancing within the home.

> *The situation so far as he is concerned (is) that he is regarded as a key worker. He works for <Transport Company>. So, in fact, he social distances (from) me at home … Yes. He's worried about his old dad (Male, aged 80–84).*

For others in high-risk categories and where family members did not have to go out to work, decisions were made between members of the household to isolate together to prevent virus transmission.

> *My wife basically started to work from home as well and started to isolate as well with me, because we took the decision to … I mean, we're not living in a mansion and it would have been virtually impossible for me to isolate from her (Male, aged 35–39, physical health condition).*

Surrounding environment. Many participants described the importance of being able to access spacious public environments that supported their ability to socially distance from others. This included exercising or socialising in local parks and living in rural areas with access to the countryside and quiet spaces.

> *It's extremely easy to keep your distance because of where we live. We have such close access to fields and open woods and so on, and although other people are out walking as well, or running or cycling, everybody is keeping to maintain their social distance (Female, aged 70–74).*

Some participants described reclaiming outdoor spaces that were normally reserved for private use or sporting activities.

> *We would drive along to this big golf course, and you could walk around that for hours and you wouldn't encounter anyone else. It wasn't like you were going to a park where there are lots of people and you were having to keep your distance (Female, aged 35–39).*

For those living in built up urban environments, or in rural locations but needing to access essential items in town centres, complying with the social distancing guidelines was described as challenging.

> *I found it really difficult at the start, because we live two miles from the city centre, so it's a really built-up area. The pavements are very narrow. I tried to go for a run when the gyms had closed and it just isn't possible here without running in the road and nearly getting run over (Female, aged 30–34).*

Making shared spaces safe. Some participants reported feeling comfortable and safe when accessing public spaces because venues were '*monitoring how many people are coming in*', had '*lots of sanitizers*', had marked '*the floor with the two metre spaces*', had '*implemented one-way systems*', and were enforcing people to '*wear masks on the premises*'. For other participants, however, these measures were experienced as confusing, counterproductive, absent, or ineffective.

> *They've added in these arrows, and half the people don't look at the arrows. They really don't care. And then half the people are caring about the arrows. So, it makes it completely pointless (Female, aged 30–34).*

For a small number of participants, these additional measures were experienced as an annoyance and therefore acted as a deterrent for going out.

> *I just walked through a department store, and she says oh no you walked through the wrong way … and then there are arrows everywhere. I don't find anything pleasurable about that kind of experience. I'd rather just stay at home than go through all that (Male, aged 45–49).*

Parents specifically reported challenges in socially distancing both for their children when they returned to the classroom and also when collecting their children from school:

> *The school implemented: you come in one gate and you go out the other gate, but that just meant that at the times people were coming in and going out, everybody was all bunched up really closely together rather than spreading out over certain exits and entrances (Female, aged 35–39).*

Social Opportunity

Compliance behaviours were influenced by the views and behaviours of participant's social networks, as well as the observed behaviour of the public. The availability of practical support was a facilitator for compliance to guidance around self-isolation and the government's 'stay at home' campaign.

Influence of others

Influence of peers. A number of participants described the importance of friends and family who '*were on the same page*' in following the social distancing guidelines. This was perceived as reinforcing in times of uncertainty.

> *We all have the same gripes and grumbles and values and outlook so it probably has helped reinforce what I naturally feel and naturally would do (Female, aged 40–44).*

Some participants also described the importance of listening to other people's preferences which in turn influenced their own behaviour. For some young people, however, respecting their friends' decisions sometimes reinforced engagement in behaviours that bent or broke the rules.

> *So it really depends who I'm meeting up with. I've got a very big divide between my group of friends. But yes, I'm kind of comfortable as long as my friends are comfortable being in closer proximity now (Female, aged 20–24).*

For others, particularly young people, peer pressure from friends or family to socialise led to them bending the rules and this was sometimes described as a source of discomfort.

> *If you're the one who's sat out … then you don't get as much social contact, really. Just feel a bit pressured at the end to move in closer … It was just a bit uncomfortable, really because you want to stop the virus from spreading and I can imagine there were lots of people there as well, who were feeling exactly the same way, but it was social conformity (Male, aged 18–19).*

For some participants, perceived pressure from others to comply with the rules or fear of being judged or criticised by others if they were seen to be breaking the rules influenced their compliance.

> *Had someone text round to say, ha ha, I broke the lockdown, I did this, there wouldn't have been praise for that, people might have criticised them or been negative towards them. So I suppose certainly keeping myself safe, keeping other people safe but also really feeling there was a social expectation to do so and not wanting to break that (Female, aged 35–39).*

For people with physical health conditions, explaining to loved ones that they were shielding or uncomfortable with social contact became increasingly difficult as the pandemic continued. Some counteracted this discomfort by avoiding certain friends or family members.

> *We've got friends that get a bit over enthusiastic and there's a few people that we know that we wouldn't dare go anywhere near at the moment because we know they'd just forget and start hugging people (Male, aged 60–64, physical health condition).*

Observing the public's behaviour. Participants described observing other people's behaviour within their local communities with mixed perceptions. For some, particularly older adults or those living in smaller rural communities, participants described the public respecting the rules and keeping a safe space from one another.

There's the 2 m distance, which most people are very, very good about. We do stop and talk to people that we know, but we will always stay a couple of metres away. Everyone is being absolutely brilliant about that actually (Male, 45–49).

For others, particularly those living in urban areas and parents during school pick up times, observations of the public's behaviour were less favourable. '*Other people*' were described as a reason for not being able to socially distance. This resulted in feelings of anger and frustration and admissions that observing others breaking the rules influenced a reduction in compliance or increased the temptation to break the rules.

It was a little bit galling to see neighbours with their families popping in and out. And yet we're not in that position and if our families had been nearby maybe that temptation would've been huge (Female, aged 35–39).

Availability of practical social support

A key facilitator for following the social distancing guidelines was the availability of practical support for accessing food or medication. This support came in many forms including online food shopping and deliveries, local shop and pharmacy delivery services, local council initiatives, government food packages (set up in response to the pandemic), as well as support from friends and family.

We have a local group that will pick up prescriptions, and also deliver food, as well. I've been pretty firmly self-isolated, yes, and I continue to remain that way (Male, aged 80–84).

For some participants however, online shopping was impossible to organise due to high demand for delivery slots. Parents, in particular, found adhering to the guidelines difficult either because they had to regularly provide food for their family and were therefore unable to minimise visits to the shops, or because they were unable to access practical support during times of self-isolation when a member of the family was unwell.

Because I've got four children … so, we had to go shopping every single day without fail…a loaf of bread lasts one day, milk lasts one day. So, because there was limits on things, we had to go every single day to the shops, which felt really wrong because it felt like we were doing the wrong thing. But we also had to do it because it was essential (Female, aged 30–34).

Capability

Psychological Capability

When social distancing information and resources were perceived as confusing or conflicting, this created a psychological barrier to compliance. In contrast, access to clear advice from trusted sources acted as a facilitator for compliance. A small number of participants described times where they had seemingly misinterpreted the social distancing guidelines or that some of the control measures had led to a false sense of security and reduced their compliance. For others, the length of time that social distancing measures were in place acted as a barrier to remembering to follow the social distancing rules either due to forgetting or reduced risk perception over time.

Inconsistent rules

When government social distancing rules were simple and consistently applied to the UK population (e.g. in times of national lockdown or when clear guidance was issued to people who were clinically vulnerable to stay at home), participants described finding the advice easier to follow. When the rules began to be relaxed following the first lockdown, for example when different

rules were introduced within different parts of the UK or when the rules were tightened in response to the evolving situation, many participants described ambiguity, confusion, and being unable to keep up.

> *Since they've started changing it, god knows. Nobody's got a clue. It changes every day, because ministers have got to stand up and have something to announce, so how would anybody know? There's no time for it to embed (Female, aged 65–69).*

Some participants found the language used by the government to describe different elements of social distancing confusing, with terms such as '*stay alert*' being described as '*too vague*' and confusion over distinctions such as '*shielding*' and '*self-isolating*' making it '*hard sometimes to know what is meant by what term*' and therefore what they should do.

> *It infuriates me as somebody who works in education, the style of communication that we received from the government. Often messages that are full of difficult vocabulary, idioms, colloquialisms, that I suspect quite a lot of first-language speakers of English wouldn't always follow, let alone speakers of other languages (Female, aged 34–39).*

For some participants, elements of the government guidance were experienced as contradictory, leaving people feeling unable to carry out appropriate behaviours. For example, people with health conditions were advised to shield, but people whom they lived with '*can carry on as normal and we can't … that doesn't make sense to me*'. Similarly, for parents of young children, this conflict was often described in the context of children having to follow more relaxed rules in school compared to outside of school, which in turn meant that parents did not feel their own strict compliance was necessary, leading to them taking a more relaxed approach to social distancing.

> *I think there is a sense that because kids have been allowed to go to school, it's almost like well, they are allowed to spend the day with however many other kids. So, I think there is a little bit of turning a blind eye or ignoring the detail of that rule from me and the people we see (Female, aged 40–44).*

Informational support

In contrast to the barrier of inconsistent rules, participants described seeking out and following advice and prompts from external sources to increase their understanding of the rules. These sources included friends, family, and health professionals, as well as the government and scientific advisors. This approach was particularly mentioned by people who reported trying to weigh up the risks of participating in specific activities once lockdowns eased.

> *I've got one friend who knew the rules better than I did at one point, because I was not thinking about it. And she was, we can't do that …. and that's how complicated it got (Female, aged 40–44).*

For those with existing health conditions and older adults told to shield, healthcare professionals were a valuable and trusted source of advice, and often provided simple, clear instructions with little room for interpretation.

> *And I think the other part of that for me is that my mum and my girlfriend are both following the same advice that I follow, which for now has been super easy because everyone medically, all my doctors are saying, just don't go near anyone. We can do that. That's easy (Male, aged 35–39).*

Some participants actively sought out scientific advice and often found this easy to follow, reassuring and memorable, particularly when it contained interesting facts or instructions.

There was an expert on one of the programmes that said that the best way to think of it was to act as if you've got it. And you're trying not to give it to anybody else, and if everybody does that then it should help. And so I was quite conscious of that at the time (Male, aged 45–49).

For those shielding because of health conditions, being able to reference the government advice was helpful for reinforcing their decision to strictly adhere to the guidelines to family and friends.

There's a social pressure of other people who don't expect you to be following it, so the fact that it was government advice definitely helped with that. It helped me to be able to say to other people, no I'm shielding I can't come and meet you to do that, or you can't come round. So that officialness has helped me reinforce that message to other people (Female, aged 40–44, physical health condition).

Unintended consequences of control measures

A small number of participants described specific virus control measures as counterproductive. The concept of test and trace was used by some participants to socialise with their close contacts without distancing, because if someone contracted the virus, they would be able to inform one another and self-isolate.

My thinking is that if it's somebody who has always been in our close circle and we can trace them and we know what they are up to and they know what we are up to, then the social distancing doesn't necessarily happen (Female, aged 40–44).

For some participants, particularly young adults, wearing a mask mitigated the perceived need to maintain social distancing.

I think the introduction of the mask is another component which makes that distance maybe a bit less stark, so you put a mask on to compensate (Female, aged 20–24).

Wearing-off effect

Most participants described following the social distancing guidelines in the early stages of the pandemic when the first lockdown was announced, however some reported that the longer the restrictions continued, the less likely they would be to continue to comply due to fatigue.

Now I think a lot of people including myself have fatigue and even though we know we shouldn't we kind of started toeing the boundaries just because it kind of feels like this should be over by now even though it obviously isn't (Male, aged 20–24).

Other participants described 'adapting' or 'adjusting' their behaviours and 'becoming more comfortable with it' or 'forgetting' about the social distancing rules as time went on.

I think everyone's relaxed a little bit. You get used to it, don't you? A little bit like a soldier on the battlefield. When they first go into it it's absolutely terrifying, but after a while the senses are dulled somewhat, and you get used to the fact that there's this risk floating over you (Male, aged 45–49).

Discussion

Participants identified a range of barriers affecting their compliance with UK social distancing guidelines, including inconsistent messaging, practical and emotional caring responsibilities, feelings of fatigue and reduced perceptions of risk over time, the need to access emotional support, and control measures leading to a false sense of security. Facilitators for compliance included advice and prompting from trusted sources and feelings of civic duty. The majority of identified themes were dependent

on participant experiences and circumstances as to whether they acted as a barrier or facilitator to compliance. These included environment and shared spaces, beliefs about the consequences of non-compliance, influence of peers, family and the public, availability of practical support, and lack of trust in government. Reflective motivational factors largely drove compliance behaviours, with psychological capability and social opportunity also important influencers. Factors related to automatic motivation, physical opportunity and physical capability were less frequently described.

Our findings are consistent with previous research, which identified lower compliance in people with caring responsibilities (Wright et al., 2021b), younger adults (Coroiu et al., 2020; Wright et al., 2021a), and physically healthy individuals (Wright et al., 2021c). However, our study helps to explain why these groups may have been less likely or able to comply. For example, younger and healthy adults perceived their risk of serious illness from catching COVID-19 as low, which, for some, influenced reduced compliance. Younger people were also more likely to describe the need to access emotional support as a reason for breaking social distancing guidelines. Our findings also provide support to previous qualitative work conducted with specific groups (Denford et al., 2021) and in the early stages of the pandemic (Williams et al., 2020), which identified lack of trust in government and unclear communication of guidelines as barriers to compliance, as well as the need to protect vulnerable people as a facilitator. Perceptions of risk of illness from COVID-19 have also been previously reported as a facilitator for compliance (Coroiu et al., 2020; Dryhurst et al., 2020) and our findings highlight that these perceptions operated at three levels; risk to self, risk to immediate family or friends, and risk to the public. It is also plausible that the factors identified in our work interact, for example, advice and information on reducing virus transmission from a trusted source may lead to increased perceptions of risk, which in turn may increase compliance (Dryhurst et al., 2020).

Our findings also align with previous work on how social factors can be used to understand behaviours in national emergencies (Bavel et al., 2020) and lead to health outcomes more generally. First, social cohesion has been identified as an important facilitator for collective self-organisation, occurring as a result of shared experience in the face of adversity (Drury, 2018; Drury, Cocking, & Reicher, 2009). Participants in our study described a sense of social responsibility to others as a motivating factor for compliance. However, this was sometimes undermined by perceptions that others were not following the rules. Second, there is an established body of evidence supporting the relationship between social support and improved health outcomes (Reblin & Uchino, 2008; Umberson & Karas Montez, 2010). Our study lends support to this relationship, specifically in the context of compliance behaviours. Participants highlighted the importance of social distancing advice and prompting from family and friends (informational support) for following the rules, the provision of essential items to enable vulnerable people to self-isolate or shield (practical support) and, conversely, the need to access emotional support as a barrier to compliance. Third, social conformity and peer pressure have been identified as a driver for increased compliance during the pandemic (Tunçgenç et al., 2021). However, our research also highlighted the potential negative influence of peers, particularly among some young people who described conforming in social situations that were not conducive to social distancing. Previous work also suggests that people underestimated the risk of interacting with ingroup members during the COVID-19 pandemic because they trusted them more (Cruwys et al., 2021).

While there is evidence that limited access to outside space negatively impacted mental health during the pandemic (McCunn, 2020), the influence of the environment on people's ability to comply with social distancing guidelines has been explored less by comparison. People living in urban environments have reported lower compliance than those in rural communities (Fancourt, Bu, Mak, Paul, & Steptoe, 2021) and our findings offer new insights into the challenges associated with navigating shared living spaces, particularly for groups identified as clinically vulnerable, and in busy urban environments, even when shops and entertainment venues attempted to implement measures designed to support social distancing.

The concept of behavioural fatigue has been challenged by researchers as poorly defined, lacking empirical evidence (Harvey, 2020; Michie, West, & Harvey, 2020), and was perceived as controversial when used at the start of the pandemic to justify delaying lockdown (Mahase, 2020). Longitudinal

studies have, however, identified a reduction in compliance over time (Petherick et al., 2021), albeit in a minority of people (Wright et al., 2021c). Similarly, a small number of participants in our study, particularly parents, people with physical health conditions and younger adults described a reduction in compliance due to fatigue. However, participants predominantly described a range of other reasons for reduced compliance, including seeing figures in positions of authority breaking the rules echoing previous research (Fancourt, Steptoe, & Wright, 2020), forgetting the rules over time and a dilution of perceived threat of the virus over time. As such, our results do not necessarily suggest that fatigue itself is a driver of declines in compliance behaviour.

Finally, this study highlighted the issue of individuals deciding on what constituted safe behaviours themselves rather than following official guidance. The occurrence of 'risk compensation' (Peltzman, 1975) hypothesises that individuals may offset one risk-reducing behaviour with another risky behaviour and has been influential in debates during COVID-19 such as whether to make the wearing of masks in public places compulsory (Mantzari, Rubinv, & Marteau, 2020). Our study highlights that such risk compensations did occur among a minority of participants, including mask wearing mitigating the perceived need to keep distance from others, as well as track and trace being identified as a safety net for people known to one another to meet in person. However, further research is needed to determine whether such risk compensation has a major impact on virus transmission or whether the trade-offs that individuals make do still help to reduce transmission.

Strengths and Limitations

To our knowledge, this is the largest in-depth qualitative study to explore reasons for compliance with UK social distancing guidelines during the COVID-19 pandemic. Data were collected across different stages of the pandemic, enabling capture of a range of experiences as restrictions were eased, adapted, and tightened. Single interviews are limited in capturing potentially fluctuating compliance to guidelines over time, but we did ask participants to reflect on their compliance behaviours at different stages of the pandemic. We conducted video call or telephone interviews and predominantly recruited people using online methods such as social media, websites, and electronic newsletters. While this enabled us to disseminate information about the study widely across the UK and collect data safely amid restrictions, it also may have meant that those without access to the internet were excluded from taking part. Some participants may have felt social pressure to provide socially acceptable answers and may have been reluctant to talk about instances of reduced compliance with the guidelines. Previous research also suggests that participants may be more likely to exhibit social desirability bias when being interviewed via telephone as opposed to face-to-face (Holbrook, Green, & Krosnick, 2003). While we were unable to compare social desirability responses in telephone versus video call interviews in our study, participants did report both barriers and facilitators to their compliance behaviours across the interviews we conducted, suggesting an overall willingness to discuss non-compliance.

There are also some important limitations to our sample; we did not collect socioeconomic status of participants, and most participants (63%) were not currently working, with the majority of those who were, being supported to work remotely or flexibly when restrictions were relaxed. It is important to acknowledge the influence of the in-person working environment on people's ability to comply with the rules and in a concurrent study exploring the impact of the pandemic on wellbeing among non-healthcare key workers, participants described several environmental challenges to social distancing in the workplace. These included an initial lack of personal protective equipment, inadequate cleaning practices and working in confined spaces that were not conducive to maintaining distance between colleagues (May, Aughterson, Fancourt, & Burton, 2021).

Implications for Policy and Practice

We identified a number of barriers as well as factors that facilitated compliance with social distancing guidelines that could be used to guide future pandemic-related policy decisions and interventions. Our

results suggest that interventions should be designed primarily to increase and maintain individual motivation to comply, alongside emphasising collective action (Carter, Drury, Rubin, Williams, & Amlôt, 2015). Participants told us that government messaging was most effective when it was clear, concise, and focused on the wider societal impact of individual compliance behaviours. Providing examples of people within local communities complying with the rules and praising the public for following the rules may also encourage others to follow and reduce the impact of negative peer pressure (Andrews, Foulkes, & Blakemore, 2020).

Beliefs about the consequences of the virus was a key driver for compliance, therefore social distancing recommendations could incorporate more direct messaging about the risk and consequences of infection, particularly among younger adults. Research suggests, however, that while effective in some scenarios, inducing fear to encourage compliance may lead to defensive reactions if people do not feel confident or able to deal with the threat (Witte & Allen, 2000). Messaging about risk, therefore, also needs to be accompanied by clear and consistent advice and instruction from trusted sources (e.g. scientific advisors, healthcare professionals). Insights from pandemic responses in countries where infection rates have so far been brought under control suggest that their success was, in part, due to visible leadership guided by scientific expertise which resulted in public trust in government and a collective response (Wilson, 2020).

We identified a need for tailored interventions to enable people in particular circumstances or with specific responsibilities to comply with social distancing rules. For those with caring responsibilities or those living alone or who required emotional support, the initial guidelines may have been too restrictive, resulting in bending or breaking of the rules. Our findings also suggest that parents, people with health conditions and young people may be at particular risk of experiencing pandemic fatigue. Strategies that minimise harm among these groups such as allowing people to socialise in small groups and acknowledging the hardship that people may be experiencing as well as providing appropriate emotional, financial, and social support opportunities may help to reduce fatigue among populations (World Health Organisation, 2020). The introduction of support bubbles, whereby individuals living alone or parents with young children were able to form an extended household with one other person or family, were described as a lifeline for many who were struggling with their mental health (Burton et al., 2020; Dawes et al., 2021), suggesting that this intiative should continue to be implemented and prioritised if social distancing restrictions continue. Finally, the environments in which people live and the public spaces that people use need to be made as amenable as possible to social distancing. Clear signposting and messaging within these environments, as well as the enforcement of basic social distancing rules by organisations and services is required.

Conclusion

Our study provides an in-depth understanding of *why* individuals found it challenging or easy to comply with government social distancing rules during the COVID-19 pandemic. Through mapping the responses to a behaviour change framework, this study has identified a range of factors that could be used to inform government communication strategies and public health measures to improve compliance. While some of these factors depended on individual circumstances as to whether they were experienced as a barrier or a facilitator, reflective motivation was clearly an important driver for future compliance behaviours, as were psychological capability and social opportunity. Interventions to encourage compliance should consider the provision of practical, emotional, and informational support to drive behaviour change, alongside strategies that maintain motivation to comply and optimise feelings of social cohesion.

References

Ajzen I (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, **50**, 179–211. doi:10.1016/0749-5978(91)90020-T.

Andrews JL, Foulkes L and Blakemore S-J (2020). Peer influence in adolescence: Public-health implications for COVID-19. *Trends in Cognitive Sciences*, **24**, 585–587. doi:10.1016/j.tics.2020.05.001.

Atkins L, Francis J, Islam R, O'Connor D, Patey A, Ivers N, … Michie S (2017). A guide to using the theoretical domains framework of behaviour change to investigate implementation problems. *Implementation Science*, **12**, 77. doi:10.1186/s13012-017-0605-9.

Bavel JJV, Baicker K, Boggio PS, Capraro V, Cichocka A, Cikara M, … Willer R (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, **4**, 460–471. doi:10.1038/s41562-020-0884-z.

Bish A and Michie S (2010). Demographic and attitudinal determinants of protective behaviours during a pandemic: A review. *British Journal of Health Psychology*, **15**, 797–824. doi:10.1348/135910710X485826.

Braun V, Clarke V and Hayfield N (2019). 'A starting point for your journey, not a map': Nikki Hayfield in conversation with Virginia Braun and Victoria Clarke about thematic analysis. *Qualitative Research in Psychology*, 1–22. doi:10.1080/14780887.2019.1670765.

Brown J and Kirk-Wade E (2021). Coronavirus: A history of English lockdown laws. Briefing Paper 9068. House of Commons Library. Retrieved from https://researchbriefings.files.parliament.uk/documents/CBP-9068/CBP-9068.pdf

Burton A, McKinlay A, Aughterson H and Fancourt D (2020). Impact of the COVID-19 pandemic on the mental health and well-being of adults with mental health conditions in the UK: a qualitative interview study. *Journal of Mental Health*. doi:1080/09638237.2021.1952953.

Carter H, Drury J, Rubin GJ, Williams R and Amlôt R (2015). Applying crowd psychology to develop recommendations for the management of mass decontamination. *Health Security*, **13**, 45–53. doi:10.1089/hs.2014.0061.

Coroiu A, Moran C, Campbell T and Geller AC (2020). Barriers and facilitators of adherence to social distancing recommendations during COVID-19 among a large international sample of adults. *PLoS One*, **15**, e0239795. doi:10.1371/journal.pone.0239795.

Cruwys T, Stevens M, Donaldson JL, Cárdenas D, Platow MJ, Reynolds KJ and Fong P (2021). Perceived COVID-19 risk is attenuated by ingroup trust: Evidence from three empirical studies. *BMC Public Health*, **21**, 869. doi:10.1186/s12889-021-10925-3.

Dawes J, May T, McKinlay A, Fancourt D and Burton A (2021). Impact of the COVID-19 pandemic on the mental health and wellbeing of parents with young children: A qualitative interview study. *BMC Psychology*, **9**, 194. doi:10.1186/s40359-021-00701-8.

Denford S, Morton KS, Lambert H, Zhang J, Smith LE, Rubin GJ, … Yardley L (2021). Understanding patterns of adherence to COVID-19 mitigation measures: A qualitative interview study. *Journal of Public Health*, doi:10.1093/pubmed/fdab005.

Drury J (2018). The role of social identity processes in mass emergency behaviour: An integrative review. *European Review of Social Psychology*, **29**, 38–81. doi:10.1080/10463283.2018.1471948.

Drury J, Cocking C and Reicher S (2009). The nature of collective resilience: Survivor reactions to the 2005 London bombings. *International Journal of Mass Emergencies and Disasters*, **27**, 66–95.

Dryhurst S, Schneider CR, Kerr J, Freeman ALJ, Recchia G, van der Bles AM, … van der Linden S (2020). Risk perceptions of COVID-19 around the world. *Journal of Risk Research*, **23**, 994–1006. doi:10.1080/13669877.2020.1758193.

Fancourt D, Steptoe A and Wright L (2020). The Cummings effect: Politics, trust, and behaviours during the COVID-19 pandemic. *The Lancet*, **396**, 464–465. doi:10.1016/S0140-6736(20)31690-1.

Fancourt D, Bu F, Mak H, Paul E and Steptoe A (2021). *Covid-19 Social Study. Results Release 34*. Retrieved from https://b6bdcb03-332c-4ff9-8b9d-28f9c957493a.filesusr.com/ugd/3d9db5_e381fd8742d247bdb6f5ab8eda4b9cc5.pdf

Fisher A, Roberts A, McKinlay AR, Fancourt D and Burton A (2020). The impact of the COVID-19 pandemic on mental health and well-being of people living with a long-term physical health condition: A qualitative study. *BMC Public Health*, **21**, 1801. doi:10.1186/s12889-021-11751-3.

Gibson Miller J, Hartman TK, Levita L, Martinez AP, Mason L, McBride O, … Bentall RP (2020). Capability, opportunity, and motivation to enact hygienic practices in the early stages of the COVID-19 outbreak in the United Kingdom. *British Journal of Health Psychology*, **25**, 856–864. doi:10.1111/bjhp.12426.

Green EC, Murphy EM and Gryboski K (2020). The health belief model. In Sweeny K, Robbins ML and Cohen LM (eds), *The Wiley Encyclopedia of Health Psychology*. Hoboken, NJ; Chichester, West Sussex: John Wiley and Sons Ltd., pp. 211–214.

Harvey N (2020). Behavioral fatigue: Real phenomenon, naïve construct, or policy contrivance? *Frontiers in Psychology*, **11**. doi:10.3389/fpsyg.2020.589892.

Holbrook A, Green M and Krosnick J (2003). Telephone versus face-to-face interviewing of national probability samples with long questionnaires: Comparisons of respondent satisficing and social desirability response bias. *Public Opinion Quarterly*, **67**, 79–125. doi:10.1086/346010.

Institute for Government (2021). Timeline of UK government coronavirus lockdowns. Retrieved from https://www.instituteforgovernment.org.uk/charts/uk-government-coronavirus-lockdowns

IPSOS MORI (2021). Most Britons continue to say they are following coronavirus rules; almost half believe lockdown measures are not strict enough. Retrieved from https://www.ipsos.com/ipsos-mori/en-uk/most-britons-continue-say-they-are-following-coronavirus-rules-almost-half-believe-lockdown

Langdridge D (2008). Phenomenology and critical social psychology: Directions and debates in theory and research. *Social and Personality Psychology Compass*, **2**, 1126–1142. doi:10.1111/j.1751-9004.2008.00114.x.

Mahase E (2020). COVID-19: Was the decision to delay the UK's lockdown over fears of "behavioural fatigue" based on evidence? *BMJ*, **370**, m3166. doi:10.1136/bmj.m3166.

Mantzari E, Rubin GJ and Marteau TM (2020). Is risk compensation threatening public health in the COVID-19 pandemic? *BMJ*, **370**, m2913. doi:10.1136/bmj.m2913.

Matrajt L and Leung T (2020). Evaluating the effectiveness of social distancing interventions to delay or flatten the epidemic curve of coronavirus disease. *Emerging Infectious Diseases*, **26**, 1740–1748. doi:10.3201/eid2608.201093.

May T, Aughterson H, Fancourt D and Burton A (2021). 'Stressed, uncomfortable, vulnerable, neglected': A qualitative study of the psychological and social impact of the COVID-19 pandemic on UK frontline keyworkers. *BMJ Open*, **11**, e050945. doi:10.1136/bmjopen-2021-050945.

McCunn LJ (2020). The importance of nature to city living during the COVID-19 pandemic: Considerations and goals from environmental psychology. *Cities & Health*, 1–4. doi:10.1080/23748834.2020.1795385.

McKinlay A, Fancourt D and Burton A (2020). "It makes you realise your own mortality." A qualitative study on mental health of older adults in the UK during COVID-19. *BMC Geriatrics*, **21**, 439. doi:10.1186/s12877-021-02367-8.

McKinlay AR, May T, Dawes J, Fancourt D and Burton A (2022). You're just there, alone in your room with your thoughts': a qualitative study about the psychosocial impact of the COVID-19 pandemic among young people living in the UK. *BMJ Open*, **12**. doi:10.1136/bmjopen-2021-053676.

Michie S, van Stralen MM and West R (2011). The behaviour change wheel: A new method for characterising and designing behaviour change interventions. *Implementation Science*, **6**, 42. doi:10.1186/1748-5908-6-42.

Michie S, West R and Harvey N (2020). The concept of "fatigue" in tackling COVID-19. *BMJ*, **371**, m4171. doi:10.1136/bmj.m4171.

Michie S, West R, Rogers MB, Bonell C, Rubin GJ and Amlôt R (2020). Reducing SARS-CoV-2 transmission in the UK: A behavioural science approach to identifying options for increasing adherence to social distancing and shielding vulnerable people. *British Journal of Health Psychology*, **25**, 945–956. doi:10.1111/bjhp.12428.

Moran C, Campbell DJT, Campbell TS, Roach P, Bourassa L, Collins Z, … McLane P (2021). Predictors of attitudes and adherence to COVID-19 public health guidelines in Western countries: A rapid review of the emerging literature. *Journal of Public Health*. doi:10.1093/pubmed/fdab070.

Peltzman S (1975). The effects of automobile safety regulation. *Journal of Political Economy*, **83**, 677–725. doi:10.1086/260352.

Petherick A, Goldszmidt R, Andrade E, Furst R, Pott A and Wood A (2021). *A Worldwide Assessment of COVID-19 Pandemic-Policy Fatigue*. Available at SSRN: https://ssrn.com/abstract=3774252.

Reblin M and Uchino BN (2008). Social and emotional support and its implication for health. *Current Opinion in Psychiatry*, **21**, 201–205.

Tunçgenç B, El Zein M, Sulik J, Newson M, Zhao Y, Dezecache G and Deroy O (2021). Social influence matters: We follow pandemic guidelines most when our close circle does. *British Journal of Psychology*. doi:10.1111/bjop.12491.

Umberson D and Karas Montez J (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behavior*, **51**, S54–S66. doi:10.1177/0022146510383501.

University College London Covid Social Study (2021). Retrieved from www.covidsocialstudy.org

Williams SN, Armitage CJ, Tampe T and Dienes K (2020). Public perceptions and experiences of social distancing and social isolation during the COVID-19 pandemic: A UK-based focus group study. *BMJ Open*, **10**, e039334. doi:10.1136/bmjopen-2020-039334.

Wilson S (2020). Pandemic leadership: Lessons from New Zealand's approach to COVID-19. *Leadership*, **16**, 279–293. doi:10.1177/1742715020929151.

Witte K and Allen M (2000). A meta-analysis of fear appeals: Implications for effective public health campaigns. *Health Education & Behavior*, **27**, 591–615. doi:10.1177/109019810002700506.

World Health Organisation (2020). Pandemic fatigue. Reinvigorating the public to prevent COVID-19: Policy considerations for Member States in the WHO European Region. Retrieved from Copenhagen, Denmark. https://apps.who.int/iris/handle/10665/335820

Wright L and Fancourt D (2020). Do predictors of adherence to pandemic guidelines change over time? A panel study of 22,000 UK adults during the COVID-19 pandemic. *Preventive Medicine*, **153**. doi:10.1016/j.ypmed.2021.106713.

Wright L, Steptoe A and Fancourt D (2021a). Patterns of compliance with COVID-19 preventive behaviours: A latent class analysis of 20,000 UK adults. *Journal of Epidemiology and Public Health*, **0**, 247–253. doi:10.1136/jech-2021-216876.

Wright L, Steptoe A and Fancourt D (2021b). Predictors of self-reported adherence to COVID-19 guidelines. A longitudinal observational study of 51,600 UK adults. *The Lancet Regional Health - Europe*, **4**, 100061. doi:10.1016/j.lanepe.2021. 100061.

Wright L, Steptoe A and Fancourt D (2021c). Trajectories of compliance with COVID-19 related guidelines: Longitudinal analyses of 50,000 UK adults. *medRxiv*, 2021.2004.2013.21255336. doi:10.1101/2021.04.13.21255336.

YouGov (2021). Personal measures taken to avoid COVID-19. Retrieved from https://yougov.co.uk/topics/international/articles-reports/2020/03/17/personal-measures-taken-avoid-COVID-19