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Did the UK's COVID-19 restrictions during 2020 have a differential impact on the well-being of the LGBQ+ population: a mixed methods study

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ABSTRACT

Objective The social distancing measures governments implemented in response to the COVID-19 pandemic have had substantial impacts. For some communities, these impacts will be disproportionate, with those communities experiencing inequalities, marginalisation or discrimination facing specific challenges. Lesbian, gay, bisexual, queer and allied (LGBQ+) communities experience a range of well-being inequalities that may have been impacted by the pandemic. The study aimed to assess the comparative impact of the UK's response to COVID-19 on LGBQ+ communities.

Design A mixed-method explanatory sequential study of the general population using a cross-sectional online survey and semistructured interviews.

Setting Community, North West of England.

Participants Adults aged 18 years and over; 1540 participated in the survey (192, 12%, LGBQ+) with 49 undergoing semistructured interviews (15 LGBQ+) during spring and summer of 2020.

Results Survey findings indicated that LGBQ+ people experienced similar positive and negative impacts to the rest of the population, but some negative impacts were more marked among the LGBQ+ community. LGBQ+ participants were more likely to disagree that 'the government considered the impact on people like you' when preparing guidance. They were significantly more likely to report being unable to access sufficient food and required medication, eating less healthily, exercising less regularly, experiencing poorer quality sleep and taking more pain medicine than usual. Interview data supported these differences; isolation, being unable to access social networks and concerns about health were commonly discussed by the LGBQ+ participants. Positive impacts, including better work–life balance, were similar across both groups.

Conclusions The findings indicate LGBQ+ communities' wellbeing inequalities have been compounded by the social distancing restrictions, for example, by impacts on social networks increasing loneliness. Preparedness planning for future pandemics should include equality impact assessments for potential interventions.

STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ The use of a general population study permitted comparative analysis between sexual orientation groups.
⇒ The explanatory sequential mixed-method approach permitted an in-depth exploration.
⇒ Online survey used a range of recruitment approaches to target population groups of interest.
⇒ Interviewees were purposively recruited from the survey sample and in the community.
⇒ These pragmatic approaches to participant recruitment, used due to the pandemic restrictions, may limit the overall representativeness of the participants.

INTRODUCTION

The SARS-CoV-2 (COVID-19) pandemic has caused substantial disruption for individuals, communities and nations.[1] SARS-CoV-2 infection first emerged in China during 2019, before spreading globally, with the WHO declaring a pandemic on 11 March 2020.[1] In response, the UK government, like most jurisdictions, imposed restrictions and guidance on movement and contact with others, including requiring people to stay-at-home, with the aim of reducing transmission.[2] These 'social distancing' measures, which changed as the pandemic evolved, caused substantial disruption to people's lives at a time of heightened concern and anxiety.

'Social distancing' is a public health intervention that involves implementing measures that encourage individuals to reduce their contact with other people by changing social behaviours, such as, by staying at home other than for limited reasons (eg, accessing food or healthcare), reducing contact with people outside their household/support bubble and keeping physically distanced when meeting others.[3] Combined with other measures,

it can reduce transmission of infections.[4] During the first wave of the COVID-19 pandemic, social distancing measures, particularly stay at home restrictions, were a key focus of the UK Government's COVID-19 response.[5] Those with underlying health issues that placed them at the greatest risk of severe consequences from COVID-19 were asked to 'shield' (ie, not to leave home and avoid any contact with others). The guidance was initially set out in March 2020, and then refined in England in June 2020 (eg, 'a distance of 1+ m' from others rather than 2 m, limited easing of stay-at-home restrictions and introducing a requirement to wear 'face coverings' on public transport).[6] In England, restrictions related to meeting people from other households remained in place into the summer of 2020. All COVID-19-related restrictions in England ended in February 2022[7]; however, some behavioural changes, such as increased hybrid working, are still in evidence.

Social distancing restrictions and guidance affect population groups in different ways. The requirement to stay at home and not mix with other households may have had specific challenges for those in non-traditional households, difficult living conditions, or those who rely on social contact outside of the household for health and well-being (eg, homeless, those living alone or in overcrowded accommodation and people with disabilities). These issues will, to varying degrees, have impacted on the well-being of all communities, but those communities that experience marginalisation, prejudice and discrimination could experience specific challenges and disproportionate impacts, due to the guidance and restrictions compounding existing disadvantages.

Lesbian, gay, bisexual, queer and allied (LGBQ+) communities in the UK face discrimination and prejudice, with evidence that hate crimes against LGBQ+ people may have increased in recent years (with a 200% increase in recorded hate crimes based on sexual orientation between 2011/2012 and 2018/2019).[8] In the 2018 British Social Attitudes survey, the proportion of people saying that same-sex relations are 'not wrong at all' decreased for the first time in three decades, although after a gradual but consistent rise over the proceeding decades.[9] Discrimination has been shown to have a negative impact on the health and well-being of LGBQ+ people,[10] who experience a wide range of health and well-being inequalities, including poor mental well-being and issues with accessing services.[10–14] For LGBQ+ people, 'family' can have different meanings, for example, friendship networks, and many LGBQ+ people live alone even when in long-term relationships.[15 16] Thus, guidance and restriction based on households, with associated messaging based around traditional concepts of family, may pose specific challenges for LGBQ+ people.

The health and well-being of LGBQ+ populations across the world have been impacted by the COVID-19 situation.[17–20] In the UK, one study indicated that LGBQ+ people had difficulties accessing services, increased feelings of isolation, had concerns about mental health and experienced increased discrimination during the pandemic, with black, Asian and minority ethnic and older LGBQ+ people particularly affected.[21] Other studies have found that the mental health of LGBQ+ populations had been negatively affected by the pandemic.[22 23] People developed anxiety and depression during the restrictions[24] with isolation and loneliness identified as key contributing factors. Limited evidence suggests negative impacts on the diet[25] and physical activity[22] of LGBQ+ people in the UK.

While studies have looked at the impact of COVID-19 on LGBQ+ communities using samples recruited from within this population in UK[24] and other countries, only a few studies globally,[26–30] and none in the UK, have comparatively explored the impacts on LGBQ+ people using general population samples. Thus, currently, it is difficult to assess whether LGBQ+ communities in the UK have experienced greater negative impacts than other groups.

Considering the health inequalities experienced by the LGBQ+ population, and anecdotal concerns about the impacts of the COVID-19 response on this community, this study comparatively explored the impacts of the COVID-19 pandemic on LGBQ+ people. The primary interest of this study was to explore differences in the extent of these impacts by sexual orientation; therefore, as gender identity was not considered, the focus here is on the LGBQ+ community rather than the wider lesbian, gay, bisexual, queer, trans and allied community. Data from the explanatory sequential mixed methods PHOENIX study, which recruited from the general population across North West of England, UK, was used. The North West of England is an ethnically and culturally diverse region with a population of 7.36 million, and includes conurbations centred on Manchester and Liverpool, coastal towns (eg, Blackpool and Morecambe), midsize cities (eg, Chester and Lancaster) and rural areas (eg, Cumbria). The PHOENIX study was designed to explore the impacts of the COVID-19 pandemic and the responses to this, during the spring and summer of 2020. One of the study's aims was to assess the extent of the impact of UK COVID-19 response by sexual orientation, as there might be disproportionate impacts on LGBQ+ people in relation to access to healthcare and social support, feelings of loneliness and isolation, and general well-being. This paper explores the impacts of the UK COVID-19 response on LGBQ+ population and if these differed from those in the rest of the population.

METHOD

The PHOENIX Project used an explanatory sequential mixed methods[31] approach using repeated quantitative survey and qualitative semistructured interviews. Here, we report results from the baseline survey and the subsequent interviews.

Quantitative survey

Participants aged over 18 years and currently resident in the North West region of England were

recruited into the baseline survey between 27 April and 15 May 2020. The online survey was promoted through social media, community groups and professional/social networks across Northwest England. This included promotion focused on two communities: ethnic minority groups and LGBQ+ communities that were targeted for over-sampling to enable group comparison. Participants provided informed consent. Respondents were asked if they would be interested in taking part in an interview and follow-on surveys.

Data on sociodemographics and lifestyle (eg, gender, sexuality, relationship status and medical conditions) and household circumstances (eg, household size, dwelling size and type) were collected using standard questions. Health and well-being were explored using established tools (alcohol consumption using the Alcohol use disorders identification test - consumption (AUDIT-C),[32] short form Warwick Edinburgh Mental Wellbeing Scale (SWEMWBS),[33] the Office of National Statistics (ONS) single life satisfaction item, 'Overall…how satisfied are you with your life nowadays?', scored 0–10,[34] the Brief Resilience Scale[35] and the PERMA-Profiler[36] for overall well-being). Smoking was assessed by asking 'Do you smoke tobacco?' with the following answer options: 'Non-smoker; ex-smoker; current light smoker—less than 10 a day; current moderate smoker—between 10 and 19 a day; current heavy smoker—20 or more a day', and the use of e-cigarettes by asking 'How often do you use e-cigarettes/vape?' with the following answer option: 'I don't use e-cigarettes/vape; less than once a month; once a month, but less than once a week; once a week, but less than once a day; every day'. Body mass index was calculated from answers to two questions: 'How tall are you? Please answer in the format specified metres and cm (eg, for 1 m 80 cm write 1.80) or feet and inches (eg, for 6 foot 1 inch write 6.1)' and 'What's your weight? Please answer in the format specified kg (eg, for 75 kg and 100 g write 75.1) or stones and pounds (eg, for 12 stones 8 lb write 12.8)'.

A series of questions, either developed for this study or based on questions from other COVID-19 studies,[37] explored the impacts of government COVID-19 guidelines. These questions asked about participants' perceptions and responses to government social distancing guidance and the national restrictions, and the impact (positive and negative) of these on their lives. Participants were also asked to indicate if they had experienced changes in various health related behaviours.

Participants were asked 'How would you describe your sexual orientation?' with the following answer options: Prefer not to say, straight/heterosexual; gay/lesbian/homosexual, bisexual or in another way (please write below). Those who responses were gay/lesbian/homosexual, bisexual or in another way, if they indicated sexual orientation was other than heterosexual (eg, queer) in the free text, were categorised as LGBQ+. Those responding 'Prefer not to say' were excluded.

Qualitative interviews

Participants from communities in North West England were recruited using purposive sampling and focused among the 40% of the baseline survey participants who opted into being interviewed. Eligibility criteria were the same as for the baseline survey. The purposive sampling focused on achieving a balance of genders, reflective range of ages and ethnicities; with the aim of around one-third of the participants being from LGBQ+ communities. In total, 49 participants were interviewed (15 LGBQ+). Most participants in the interviews were people who took part in the baseline survey, a small number were recruited through community contacts to ensure ethnic diversity. Recruitment continued until data saturation was perceived to have been reached for each group.[38]

Potential participants (n=65) were initially contacted by email, with follow-up by email or phone as required. In total, 27 participants responded on first contact (8 LGBQ+), with 7 (3 LGBQ+) responding after 2 contacts (second contact was made 7 days after first contact) and 1 after a third contact. Contact data was not available for 14 (4 LGBQ+) participants.

The interviews were conducted remotely using online platforms, such as Zoom or Microsoft Teams, or via telephone between 15 June and 18 August 2020. Prior to starting the audio recording, researchers introduced themselves, explained the study and sought informed verbal consent. The focus of the semistructured interviews was on participants' opinions of the national COVID-19 restrictions and the impact on their lives. These were informed by initial preliminary findings from the baseline survey. Key areas discussed, included: living circumstances; how participants were affected by COVID-19 (eg, working from home, home schooling, being a front-line worker); the guidance, its clarity and adherence (by the participants and their perceptions of others' adherence); impact of COVID-19 on everyday routine; and experiences of positive and negative changes. Examples of the questions asked included: 'Could you tell me about your experience since lockdown began in March 2020?' ('lockdown' was used colloquially and in the media to refer to the restrictions and guidance), 'How have you found the guidance provided by the government on the TV, in any letters or messages from the government, such as 'stay home, save lives' and 'stay alert–control the virus', about COVID-19 and lockdown?' 'Have you followed the guidance for lockdown, for example, self-isolation, social distancing?'. Three researchers conducted and transcribed the interviews (RH, AH, CB).

Survey data analysis

After checking for completeness, data from the survey was imported into SPSS V.26, where summary measures and standardised scores were computed for the health-related and well-being-related measures. Differences between LGBQ+ and other participants were initially explored descriptively and using bivariate analyses. Chi-squared test was used for the categorical variables (Pearson or Fisher

exact for two-by-two tables) and for the continuous variables either the t-test or the Mann-Whitney U test where the data were skewed. Odds ratios (ORs) comparing LGBQ+ participants to the rest were then calculated and multivariate logistic regression was then used to adjust these for any demographic differences between the two groups (with adjustment for age, gender and recruitment county). The significance level for all tests was $p<0.05$. The data processing and analyses were checked by another researcher (VDH, GH and CEB).

Interview data analysis

Interviews lasted between 12 min 54 s and 58 min 13 s, with an average time of 31 min 7 s. Interviews were transcribed verbatim; first, an online service (www.otter.ai) was used to generate an initial transcript which was then checked against the audio recording and corrected as needed. Each transcript was allocated a unique anonymised identifier. Thematic analysis[39] was then undertaken in NVivo V.12. A theoretical deductive approach was employed, whereby the sampling and analysis was driven by the research interests and previous research. Themes and codes of interest were determined independently by researchers (RH, HT, CL), using the steps recommended by Braun and Clarke[39]: listening to interview recordings, reading each transcript several times to establish familiarity with the whole interview and generating descriptive codes to represent the main themes. Ongoing analysis formulated the conceptual name of each theme. The final part of the analysis was the selection of the interview extracts, relating the analysis to the research question and literature. The process of refining and validating these independent findings was conducted through a collaborative exercise creating iterative feedback loops between three researchers until consensus was achieved. The analysis was then discussed and reflected on to incorporate multiple perspectives and reach agreement and validation of the themes that derived from and described the data. The themes and subthemes are summarised in table 1.

Patient and public involvement

None.

RESULTS

Participant characteristics

In total, 1540 survey participants were included in the quantitative analysis, and of these 192 (12%) were from LGBQ+ communities (113 lesbian/gay/homosexual, 68 bisexual, 11 other, eg, queer polysexual, 'fluid'). Semi-structured interviews were conducted with 49 people, including 15 from LGBQ+ communities.

The characteristics of the survey participants are summarised in table 2. Overall, the sample when compared with the Northwest population tended to be older, female and live in Merseyside.

Compared with the other participants, the LGBQ+ participants tended to be younger, male and live in Greater Manchester (table 2). There were differences in relationship status, housing types, household sizes and current employment status (table 2); however, these are related to the demographic differences between the two participant groups.

There were no differences in levels of alcohol consumption and body mass index; however, the LGBQ+ participants were more likely to report having a medical issue and to report smoking or vaping (table 2). The LGBQ+ participants compared with the other survey participants reported significantly lower scores on the PERMA-Profiler overall well-being scale, SWEMWBS and on ONS life satisfaction, but a higher score on the Brief Resilience Scale (table 3).

Views about the guidance and restrictions

The LGBQ+ survey participants, compared with the others, were significantly more likely to report disagreeing when asked if the government "…did enough to make its COVID-19 guidance about staying at home workable for different types of families or households in general?" (57% vs 44%, online supplemental table A) and with "…considered the impact on people like you when it was preparing its COVID-19 guidance about staying at home?" (51% vs 32%, online supplemental table A). This was echoed in the interviews, where some described receiving unclear or contradictory messages.

> Its categories are very complicated…people I know, were very sensitive to that…some of us are for real reasons, you know, we can get very sick very quickly, and I think there's been a real lack of sensitivity about that…I don't class myself as a melting snowflake, but I've kind of felt screwed in some ways. (LGBQ+, Male, 30–49 years)

This was also a concern among the other participants.

> I understood the guidance but felt that messages became less clear. (Heterosexual, female, >50 years)

A significantly higher proportion of the LGBQ+ survey respondents compared with heterosexual respondents felt that *the guidance was difficult/very difficult to follow* (24% vs 15%, online supplemental table A). This finding was echoed within the interviews, where LGBQ+ participants described their frustrations, particularly surrounding the difficulties in understanding the guidance. A key theme that emerged from the interviews was concern for those who were shielding.

> I think more information should have been given across the board…I know for me personally, it's very difficult not having the information that I can make my own judgments. Because to a degree…I just feel as if people, the initial 1.5 million who were told to

Table 1 Themes and subthemes identified in thematic analysis

Theme	Subtheme (a)	Subtheme (b)	Subtheme (c)
Environment	Shielding		
	Physical environment		
	Working from home		
Guidance	Social distancing		
	Elderly and shielding		
	Isolation		
	Clarity of messages		
	Wearing face masks		
Restrictions ('lockdown')	Positive impacts		
	Challenges and concerns		
	Care homes		
Impact	Individual level impacts	Impact on lifestyle (negative and positive)	Activity levels (and physical/mental health) Eating behaviours Alcohol intake Hobbies and interests
		Home life	Working from home and keeping a balance Adapting to lockdown Home life (no change)
	Relationships	Keeping in touch	
		Finding it difficult	
		Adhering to guidance (cross-over with guidance analysis)	
	Environment (cross-over with environment analysis)	Access to outside space	
		Indoor environment (cross-over with working from home)	
		Friends and family	
Experiences	Interaction with family and friends		
	Routine	Working from home	
	Recreational activities	Saving money	
	Developing new skills		
	Guidance		
	Looking forward—returning to 'normal'		
Information sources	The media role in COVID-19 news	Podcasts	
		Using multiple mediums to develop knowledge and understanding of COVID-19	
		The impact of media news on mental health	
Moving forward	Being prepared		
	Being resilient		
	Sustainable change		

shield have been forgotten about. (LGBQ+, male, >50 years)

Survey respondents were asked about the long-term impacts of the restrictions and to indicate how much thought they felt had been given to a range of impacts. Here, the LGBQ+ participants, when compared with the other participants, were significantly more likely to feel that not enough thought had been given to the longer-term impacts of the restrictions on people's physical and mental health and on people's jobs (online supplemental table B).

Survey participants in both groups had similar self-ratings of their knowledge about COVID-19 (online supplemental table B); however, LGBQ+ participants were significantly less likely to have confidence in the UK Government's ability to handle COVID-19 (online supplemental table B).

Table 2 Sociodemographic characteristics of PHOENIX baseline survey participants: LGBQ+ participants compared with the rest

	Sexual orientation				
	Heterosexual		LGBQ+		χ^2 p value
Age in years (n=1540)					
≤29	68	5.00%	46	24%	<0.0001
30–39	183	14%	44	23%	
40–49	276	20%	39	20%	
50–59	352	26%	34	18%	
60–69	325	24%	19	10%	
70+	113	8.4%	5	2.6%	
Not reported	31	2.3%	5	2.6%	
Total	1348		192		
Gender (n=1540)					
Male	383	28%	93	48%	<0.0001
Female	961	71%	93	48%	
Other	4	0.3%	6	3.1%	
Total	1348		192		
County of residence (n=1540)					
Cheshire	174	13%	15	7.8%	0.003
Cumbria	106	8%	17	8.9%	
Greater Manchester	321	24%	67	35%	
Lancashire	233	17%	37	19%	
Merseyside	514	38%	56	29%	
Total	1348		192		
Ethnicity (n=1540)					
Rest (white/prefer not to say)	1296	96%	186	97%	0.6179
Black, Asian and other minority ethnic communities	52	3.9%	6	3.1%	
Total	1348		192		
Current relationship status (n=1540)					
Single, never married	165	12%	55	29%	<0.0001
Single, divorced or widowed	180	13%	13	6.8%	
In a relationship/married, but living apart	75	5.6%	28	15%	
In a relationship/married and cohabiting	920	68%	95	49%	
Not answered	8	0.6%	1	0.5%	
Total	1348		192		
Employment (n=1540)					
Employed or self-employed	908	67%	140	73%	<0.0001
Student	31	2.3%	10	5.2%	
Social security	70	5.2%	23	12%	
Carer	40	3.0%	4	2.1%	
Retired	299	22%	15	7.8%	
Total	1348		192		
Dwelling type (n=1540)					

Continued

Table 2 Continued

	Sexual orientation				
	Heterosexual		LGBQ+		χ^2 p value
Flat or maisonette	126	9.3%	52	27%	<0.0001
Terrace house or bungalow	348	26%	49	26%	
Semidetached house or bungalow	547	41%	63	33%	
Detached house or bungalow	307	23%	19	9.9%	
Other/not answered (n=4)	20	1.5%	9	4.7%	
Total	1348		192		
Does everyone in your household usually live in the same place (eg, same house or flat)? (n=1536)					
Yes	1207	90%	167	87%	0.2328
No	137	10%	25	13%	
Total	1344		192		
Missing	4		–		
Any children in household (n=1540)					
None	955	71%	170	89%	<0.0001
Yes/not answered	393	29%	22	11%	
Total	1348		192		
Number of people in household (n=1486)					
1	247	19%	49	26%	0.0014
2	525	40%	90	48%	
3	239	18%	27	14%	
4	200	15%	13	7.0%	
5 or more	88	6.8%	8	4.3%	
Total	1299		187		
Missing	49		5		
Medical issues (n=1540)					
No	702	52%	67	35%	<0.0001
Yes	646	48%	125	65%	
Total	1348		192		
Has a body mass index>30 (n=1540)					
No	881	65%	137	71%	0.1004
Yes	467	35%	55	29%	
Total	1348		192		
Low risk	940	71%	130	68%	0.2377
Increasing risk	306	23%	43	23%	
Higher risk or possible dependence	82	6%	18	9%	
Total	1328		191		
Missing	20		1		
Have you ever smoked (n=1539)					
Non-smoker	923	68%	106	55%	0.0016
Ex-smoker	283	21%	50	26%	
Less than 10 cigarettes a day	61	5%	14	7%	
10+ cigarettes a day	81	6%	21	11%	
Total	1348		191		
Missing	–		1		
Vaping (n=1518)					

Continued

Table 2 Continued

	Sexual orientation				
	Heterosexual		LGBQ+		χ^2 p value
Not vaping	1230	93%	164	87%	0.0067
Currently vape	99	7%	25	13%	
Total	1329		189		
Missing	19		3		

*Pearson χ^2 or Fisher exact test for two-by-two tables.
AUDIT-C, Alcohol use disorders identification test - consumption; LGBQ+, lesbian, gay, bisexual, queer and allied.

> I think it's been appalling, so many mixed messages. The right hand doesn't know what the left hand is doing. The shielding letter we got was ridiculous, because it just looked like something a five year old had knocked-up on a computer… it was just so confusing. (LGBQ+, female, 30–49 years)

Though the other participants also expressed concerns about in the UK Government response.

> I think for me, because, in my personal opinion, lockdown [restrictions] came into effect quite late, because other nations they could see what was going on. (Heterosexual, female, <30 years)

Impacts of the guidance and restrictions

Since the start of the social distancing measures, the LGBQ+ participants, when compared with the other participants, were significantly more likely to have

Table 3 Comparison of the well-being of the LGBQ+ participants to the rest of the participants: PHOENIX baseline survey

	Sexual orientation						
			LGBQ+ participants compared with heterosexual participants				
	Heterosexual	LGBQ+	Mann-Whitney U test p value	OR, 95% CI		Adjusted OR* (age, gender and area), 95% CI	
PERMA-Profiler, overall well-being (n=1509) Scale: 0 to 10, low to high.							
n	1321	188					
Mean	6.5	5.6	<0.001	0.80	0.74 to 0.86	0.86	0.79 to 0.93
Median	6.8	5.8					
SD	1.83	2.17					
Brief Resilience Scale total (n=1501) Scale: 1 to 5, low to high.							
n	1314	187					
Mean	2.5	3.0	<0.001	1.84	1.54 to 2.20	1.66	1.37 to 2.01
Median	2.3	3.0					
SD	0.85	0.88					
Overall, on a scale of 0–10 how satisfied are you with your life nowadays? (n=1531)							
n	1330	192					
Mean	5.9	4.9	<0.001	0.85	0.79 to 0.90	0.88	0.82 to 0.95
Median	6.0	5.0					
SD	2.26	2.41					
SWEMWBS total score metric (n=1524) Score range: 7 to 35, low to high.							
n	1333	191					
Mean	21.5	19.8	<0.001	0.89	0.85 to 0.93	0.92	0.88 to 0.97
Median	21.5	19.3					
SD	3.78	4.06					

*Adjusted using multivariate logistic regression.
LGBQ+, lesbian, gay, bisexual, queer and allied; SWEMWBS, short form Warwick Edinburgh Mental Wellbeing Scale.

been unable to access sufficient food (13% vs 7%, online supplemental table C) and required medication (11% vs 5%, online supplemental table C), and they were more likely to have had somebody close to them who was ill in hospital (12% vs 6%, online supplemental table C). They were also more likely to report that they were not eating as healthily (38% vs 28%, online supplemental table C) or exercising as regularly (55% vs 38%, online supplemental table C) and were experiencing poorer quality sleep (36% vs 29%, online supplemental table C). LGBQ+ participants were more likely to report taking pain medicine more than usual (23% vs 14%, online supplemental table C). Some of the LGBQ+ interview participants described the negative impact of the restrictions on their activity levels, describing a lack of exercise as a result of these, and their concerns about the subsequent physical and mental health impacts.

> I am very aware that I haven't exercised as much as I should. …I'm aware it's needed for my legs. (LGBQ+, female, >50 years)

Overall, only a few people discussed negative impacts on eating behaviours or alcohol intake.

> So eating more and drinking more you know all of those physical things, been doing more of that. I don't always go out which is, I don't think it's a good thing because I think it just adds to your stress. I mean we're certainly drinking lots more than we would normally. (Heterosexual, female, >50 years)

There was no difference between LGBQ+ participants and others in changes in alcohol and nicotine use; though overall, of those who consumed alcohol and nicotine, two-fifths reported doing so more often (online supplemental table C). Though very few participants overall indicated they used illicit or street drugs, almost half of those who did, reported using them less often (online supplemental table C), with no difference between participants groups. Their use was, however, more common among LGBQ+ participants. Our survey findings did not demonstrate a major impact of the COVID-19 pandemic on participants in terms of them losing their job, experiencing a major cut in household income, being unable to pay bills, rent or mortgage, or being evicted/losing their accommodation (online supplemental table C).

Participants were asked on how many days they had undertaken common tasks that involved them leaving their home but that were now subject to restrictions. The LGBQ+ participants compared with the others were significantly less likely to have visited relatives (outside of their household) or to have had visits from family or friends; two activities that under most circumstances were not permitted at that time (table 4). These findings were reflected in the interviews, where LGBQ+ participants described how they were adhering to guidance and were frustrated that other people were not.

> …you know the shops have put directions in for travelling, they [other people] don't follow them. They come right next to you, and I think there's lots of people who haven't followed them at all. I don't know why. They're not just putting themselves at risk, they're, you know, putting me at risk. And I'm doing my best to keep to things and when they don't it just makes me feel angry really and frustrated. (LGBQ+, female, >50 years)

> It's been quite frustrating to be honest you know when people are clearly not following the rules. I had to turn round to one or two people and say excuse me can you step back a little bit, but I think the majority of people take it seriously. It's been frustrating seeing it on social media, you know, people in the park and hugging their friends…but we haven't really had to deal with that because we haven't been outside in crowds of people. (LGBQ+, female, <30 years)

However, the other interview participants also had concerns about people not adhering to the guidance.

> It was good until the first guideline, but after the second guidelines came, I think that people just become relaxed. They think that okay, it's all over now. (Heterosexual, male, <30 years)

> I think that because the more you see other people that are doing things you're like, hold on, why am I sitting at home miserable when other people are having barbecues and parties. (Heterosexual, female, 30–40 years)

The impact of restrictions on mental health was a key theme throughout the LGBQ+ interviews, with many describing how 'lockdown' had impacted them. Although these findings may not be specific to just the LGBQ+ population, these experiences highlight the impact of the pandemic on this group. The LGBQ+ interview participants described the challenges they experienced throughout the restrictions and particularly the impact of isolation and feeling lonely.

> It's more you feel isolated. There's not these places where you could go and mix with other gay men for one reason or another…The sense of community and coming together starts feeling loose. (LGBQ+, male, 30–49 years)

> I think the only real negative has been the isolation and the effect it had on my mum in the beginning, particularly as it's gone on, it's just become a way of life for both of us. But at the start, it was hard to adapt to this new routine. I think for me, I've had to make a conscious effort to ensure that I keep myself busy, because boredom quite often makes me feel quite down. (LGBQ+, female, >50 years)

Lack of access to outdoor space, lack of routine and homeworking were all described as factors that contributed to mental ill-health.

Table 4 Comparison of behaviours restricted by the social distancing measures among LGBQ+ participants to the rest of the participants: PHOENIX baseline survey

Think back over the last 7 days. On how many days have you…	Sexual orientation		LGBQ+ participants compared with heterosexual participants				
	Heterosexual	LGBQ+	Mann-Whitney U test p value	OR, 95% CI		Adjusted OR* (age, gender and area), 95% CI	
Gone shopping for food? (n=1492)							
n	1302	190	0.504	0.99	0.87 to 1.12	0.91	0.79 to 1.04
Mean	1.35	1.33					
Median	1	1					
SD	1.20	1.31					
Used public transport (return journeys)? (n=1338)							
n	1170	168	0.021	1.26	1.00 to 1.59	1.24	0.96 to 1.62
Mean	0.07	0.15					
Median	0	0					
SD	0.46	0.74					
Gone out to meet friends? (n=1327)							
n	1158	169	0.322	1.02	0.75 to 1.39	0.87	0.60 to 1.28
Mean	0.09	0.10					
Median	0	0					
SD	0.51	0.47					
Visited relatives (outside your household)? (n=1362)							
n	1187	175	0.002	0.69	0.52 to 0.91	0.64	0.47 to 0.88
Mean	0.41	0.18					
Median	0	0					
SD	1.04	0.67					
Had visits from family or friends? (n=1353)							
n	1182	171	0.006	0.66	0.48 to 0.91	0.72	0.53 to 0.98
Mean	0.34	0.16					
Median	0	0					
SD	0.86	0.49					

*Adjusted using multivariate logistic regression.
LGBQ+, lesbian, gay, bisexual, queer and allied.

> Some of us have thought, 'Oh, enjoy the sunshine'. Well, I guess I can't, and I don't have an outdoor space. Some of us literally can't do that. And I felt really kind of abandoned in some ways by my employer in that way and by larger society. (LGBQ+, male, 30–49 years)

> It's mostly just been like a bit of a mental health thing for me…not seeing friends and family and that daily routine of going to get coffees, going for meals and going the shop- that's kind of what I'm missing really. At the beginning I was fine with things. I was like this is mad, you know what I mean. But now I'm slightly more anxious than I was at the beginning, which is interesting. (LGBQ+, female <30 years)

Some of the other interview participants also reported similar concerns.

> Working with the team, liaising with the team has been difficult and managing a team has been difficult… those personal relationships you build up when you're in the office job and someone gets in you can have a chat to them or talking about the football, whatever, some of that has been lost. (Heterosexual, female, 40–50 years)

Media and social media coverage of COVID-19 for some participants impacted on their mental well-being, with a number of participants reporting they changed their behaviour in relation to accessing news and information around COVID-19.

> …I got to a point where I was getting quite low, and reading too much about it. And so I had to say, right, that's it, you're going to stop now. And it's just self-preservation. So I've had to rein back, rein myself

back on how much I read about it. (LGBQ+, female, >50 years)

All participants reported starting to use, or making greater use of, technology to maintain contact with people, though noting this had limits, their experiences of this were generally positive.

…like my mum and my sister, yeah, like we do talk to them a little bit more than I would. But then my Gran's in her mid-eighties and has early stages of dementia, she kind of can use WhatsApp, but like if I can go see her in person. If not, it's not really communication. And my friends I do, like,we have a Discord server so we message each other constantly. We have like Netflix parties and stuff like that…My Taekwondo club has done some online training, which is great in terms of exercise…you can just teach a class almost like you normally would. But you lose that social bit… in some ways kept me in contact with some people more than I normally would, but also other people not as much as I normally would. So it sort of depends on the person and what kind of technology they can use. (LGBQ+, male, <30 years)

She [mum] does a lot of outdoor events on the weekends, so all of them got cancelled, so she's had to kind of translate her work to online and now she's more on the online side. So kind of her work on the outdoor events has stopped, but it's like strengthened her online presence. (Heterosexual, male, <30 years)

All interview participants reported positive impacts, particularly in relation to improved work–life balance and having time and space for better self-care for their mental well-being.

I hope there'll be more flexibility to work from home, not just for the rest of the year but for forever really…I think people have realised that it's okay, and like stuff still gets done. I hope that will help with like pollution levels and it will save some money you know not travelling in by car or public transport. So I hope that changes erm even if it's just a few days a week. (LGBQ+, female, <30 years)

At the beginning of lockdown I did make a commitment to myself to make the most of the extra time and spend a little bit of my time giving myself some self-care, which I had lacked previously, my mental health has always been a priority, but I never realized how stressed I was until I had a few extra hours in the day to take the time for myself. (LGBQ+, female, <30 years)

So I've spent a lot of time studying and reading and just being at home…it's kind of rebooted me. I've had that experience before on a writing course years ago. But this has been a longer term period of time. And it is like a reboot. So I feel more relaxed and I feel able to concentrate…clear headed and clear minded. And I've been doing really creative stuff in my work. (LGBQ+, female, >50 years)

DISCUSSION

This mixed methods study provides a unique insight into the impact of the COVID-19 restrictions on LGBQ+ people compared with the general population in the UK. The findings indicate that while LGBQ+ people experienced similar positive impacts to the rest of the population, such as improved work–life balance, development of new skills and more time to support their mental well-being, there were more marked negative impacts (eg, social isolation) among LGBQ+ people, suggesting existing well-being inequalities may have been compounded by the COVID-19 restrictions. These findings corroborate those from samples of LGBQ+ people that have suggested marked negative impacts on mental and physical well-being of LGBQ+ people in the UK.[21–25]

LGBQ+ people experience greater levels of mental health problems compared with the general population,[13 40] and evidence indicates that they have experienced increased levels of distress, social isolation and loneliness as a result of the pandemic.[24] Our findings add further evidence and insight to this; in our survey, the LGBQ+ participants reported significantly lower scores on three validated measures of well-being (PERMA-Profiler, SWEMWBS and ONS4 life satisfaction), when compared with other participants. While we do not have prepandemic data for our sample, it is likely these differences were pre-existing as evidence indicates members of LGBQ+ communities are at a higher risk of common mental health problems than the general population[13 40]; however, they were possibly made worse by the response to COVID-19. The LGBQ+ participants in our study were more likely to report increased sleeping problems, less physical activity and greater use of pain medication than usual during the restrictions. When considered alongside the findings from other studies that have looked at impacts with in the LGBQ+ communities,[21 22 24 25] these findings suggest an increase in the inequalities experienced by this group in the UK due to the negative impacts on health and mental well-being.

Our study found that LGBQ+ participants compared with the others were significantly less likely to have visited relatives (outside of their household) or to have had visits from family or friends; two activities that under most circumstances were not permitted at that time due to the restrictions in force. This may reflect an increased awareness of the potential impacts of COVID-19 on people's physical health or concerns about risks from COVID-19 to themselves, or to the wider LGBQ+ community, due to other health issues such as HIV. This adds further insight to the existing literature that draws solely on samples from within the LGBQ+ communities, where social isolation and loneliness are identified as key factors contributing to poor mental health outcomes for LGBQ+ people during the restrictions.[22 41 42] In a national UK survey of LGBQ+

people, the top three concerns about the COVID-19 restrictions were being unable to see family and friends, being worried about the health of friends and family and decreased well-being.[24] Friendship networks and LGBQ+ spaces can play an important role in affirming LGBQ+ people's identity, as well as providing a support mechanism,[43] and as noted in our interviews, a lack of access to these during COVID-19 restrictions could contribute to loneliness and isolation.

While some studies of LGBQ+ people in the UK[22 25] have indicated that some LGBQ+ people reported increased use of alcohol, nicotine and other substances, we found no difference in the changes in the use of alcohol and nicotine between LGBQ+ participants and others. Overall, among all participants, of those who drunk or smoked, more people reported doing so more often than less often. Few participants overall reported using illicit or street drugs, around half of these reported using these less often. Though not significant, a much higher proportion of LGBQ+ participants reported using these more often, but the small numbers using these substances overall limit statistical power.

There is little research published about the impact of COVID-19 on the exercise and eating habits of LGBQ+ people in the UK, but available data from surveys of LGBQ+ people indicate many reported a poorer diet[25] and less exercise.[22] Our findings confirm that LGBQ+ people were exercising or eating a healthy diet significantly less than usual, when compared with the other participants, indicating a more substantive impact of the COVID-19 restrictions on the physical health of LGBQ+ people. The reason for these impacts on diet and exercise needs further investigation, but our interviews suggest these might reflect LGBQ+ people having reduced opportunities to access food and exercise because they are staying at home due to underlying health issues, have less access to outside space due to living in more urban areas and/or are abiding by the restrictions more carefully. However, they may also reflect the impacts of restrictions on existing well-being inequalities,[24 44] for example, heightened anxieties, or concerns for their safety when out and about, as other studies have suggested that hate crimes and abuse increased in the UK during the pandemic.[22 24]

Some interview participants described how they or their partner were furloughed, and they were worried about the longer-term impacts of the pandemic on their job, which subsequently affected their mental health. However, the majority (demonstrated through survey findings) had not experienced financial hardship or housing problems as a result of the COVID-19 pandemic, and financial impacts were similar between LGBQ+ participants and the rest. However, the LGBQ+ participants in our survey were more likely to feel that the government had not given enough thought to the longer-term impacts of the restrictions and guidance on people's jobs. Most of our interview participants described the challenges of working from home, rather than any impacts relating to unemployment. In a national LGBQ+ survey, one-fifth described losing their job as being a concern, with some verbatim responses describing people's experiences of struggling to find work or having to close their business.[24] However, our findings suggest that LGBQ+ population was probably not disproportionately impacted by these issues.

Surveys of LGBQ+ people[21 24 25] have indicated that they experienced difficulties in accessing healthcare and medicine during the restrictions. Our findings indicate that problems accessing medication were much more common among LGBQ+ people. However, we did not find any differences in accessing healthcare, overall, three-fifths of our survey participants had used healthcare less than usual, indicating delays in timely access to healthcare and so potentially long-term impacts on health and well-being. The LGBQ+ participants in our survey were significantly more likely to feel that not enough thought had been given to these longer-term impacts of the restrictions on people's physical and mental health, when compared with other participants. This may suggest a greater awareness among LGBQ+ communities of inequalities in health and well-being, including healthcare access, and how these could be impacted by the restrictions. Though this needs further examination, this might reflect such inequalities being more common among LGBQ+ communities[24] due to current and historic discrimination and marginalisation.

While this study is among the first to explore the impacts of the UK Government guidance and social distancing measures on LGBQ+ communities in a general population sample, it is important to consider the study's limitations. Our overall sample size is relatively large and we successfully over sampled LGBQ+ participants to permit comparison, however, while our LGBQ+ sample was broadly representative of the regional population in terms of age, gender and area of residence our sample overall was less representative. Though we adjusted for this difference in our analysis, we cannot be certain that residual confounding remains or that our convenience sample is wholly representative. The survey was only delivered online, reflecting the restrictions in placement at the time, and thus it may have excluded some groups of potential participants, such as those with limited access to the internet or who are less comfortable using technology. Considering these limitations and that our sample is drawn from one region, our findings should be generalised with caution.

Our findings show that LGBQ+ people experienced a similar range of impacts to the rest of the UK general population[45–47]; these impacts included both negative ones, such as increasing isolation, and positive ones, such as improved work–life balance. However, LGBQ+ people in the UK appear to have experienced greater negative impacts on their health and well-being, with these disproportionate impacts similar to those reported in other countries.[26–30] Our findings support those from surveys drawn from the LGBQ+ population,[21–25] indicating that the restrictions and guidance implemented in response to the COVID-19 pandemic have exacerbated existing health inequalities in the UK.

These findings have implications in relation to the planning of responses to future pandemics and other public health emergencies. They indicate a need to consider the potential effects of these responses on LGBQ+ communities, so as to prevent differential impacts and the amplification of existing health inequalities. While further research is needed to better understand these impacts and their potential longer-term consequences, existing evidence indicates a need to consider ways to minimise potential impacts on isolation, to ensure access to appropriate healthcare and well-being support for LGBQ+ people and to ensure that guidance is inclusive. This could, for example, be through the inclusion of LGBQ+ communities in the contingency planning for future responses, and by ensuring LGBQ+ health and well-being support organisations have the capacity and resources to adapt and respond to future public health emergencies.

Responses to public health emergencies need guidance that is clear and concise, thus requiring it to be simple. However, to encourage compliance, and to minimise differential impacts, it is important that such guidance is inclusive and relevant to all people in diverse and multicultural societies. Preparedness planning for future pandemic responses, and other public health emergencies, when identifying the core interventions for implementation, should therefore ensure that the interventions options identified, and the communication guidelines for these are subject to appropriate equality impact assessments.

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Table A: Comparison of LGBQ+ participants perception of the COVID-19 guidance to rest of participants: PHOENIX baseline survey

		Sexual orientation											
						LGBQ+ participants compared to heterosexual participants							
		Heterosexual		LGBQ+		χ^2 *p*-value	Odds ratio (OR), 95% CI			Adjusted OR* (age, gen & area), 95% CI			
How relevant to your family or household is the government's COVID-19 guidance about staying at home? (N=1,534)	Very relevant	677	50%	83	43%		1.00			1.00			
	Relevant	431	32%	63	33%		1.19	0.84	1.69	1.09	0.75	-	1.59
	Somewhat relevant	179	13%	33	17%	0.163	1.50	0.97	2.32	1.01	0.63	-	1.64
	Not relevant	33	2.5%	7	4%		1.73	0.74	4.04	1.20	0.47	-	3.03
	Not at all relevant	22	1.6%	6	3%		2.22	0.88	5.64	0.77	0.25	-	2.39
	Total	1342		192									
How easy to follow is the government's COVID-19 guidance about staying at home for your family or household? (N=1,537)	Very easy	384	29%	50	26%		0.94	0.60	1.47	1.02	0.63	-	1.65
	Easy	492	37%	59	31%		0.86	0.56	1.34	0.85	0.53	-	1.37
	Neither easy or difficult	266	20%	37	19%	**0.029**	1.00			1.00			
	Difficult	163	12%	39	20%		1.72	1.05	2.81	1.60	0.94	-	2.73
	Very difficult	40	3%	7	4%		1.26	0.53	3.01	0.83	0.31	-	2.26
	Total	1345		192									
How much do you agree that the government did enough to make its COVID-19 guidance about staying at home workable for different types of families or households in general? (N=1,536)	Strongly agree	162	12%	14	7%		0.71	0.36	1.38	0.70	0.34	-	1.42
	Somewhat agree	352	26%	38	20%		0.89	0.53	1.48	0.85	0.49	-	1.47
	Neither agree nor disagree	238	18%	29	15%	**<0.0001**	1.00			1.00			
	Somewhat disagree	379	28%	50	26%		1.08	0.67	1.76	1.04	0.62	-	1.75
	Strongly disagree	214	16%	60	31%		2.30	1.42	3.72	**1.72**	**1.02**	-	**2.90**
	Total	1345		191									
How much do you agree that the government considered the impact on people like you when it was preparing its COVID-19 guidance about staying at home? (N=1,536)	Strongly agree	198	15%	22	11%		1.12	0.63	2.00	1.33	0.72	-	2.44
	Somewhat agree	406	30%	42	22%		1.04	0.64	1.70	0.75	0.41	-	1.70
	Neither agree nor disagree	302	22%	30	16%	**<0.0001**	1.00			1.00			
	Somewhat disagree	257	19%	54	28%		2.12	1.31	3.41	**1.92**	**1.15**	-	**3.20**
	Strongly disagree	181	13%	44	23%		2.45	1.49	4.03	**1.73**	**1.01**	-	**2.98**
	Total	1344		192									

*Adjusted using multivariate logistic regression

Table B: Perceptions of the thought that the government had given to the long-term impacts of its guidance, confidence in government ability to manage COVID-19 and self-rating of COVID knowledge, comparison of LGBQ+ participants to rest of participants: PHOENIX baseline survey

			Sexual orientation									
					LGBQ+ participants compared to heterosexual participants							
			Heterosexual	LGBQ+	Mann-Whitney U Test *p*-value	Odds ratio (OR), 95% CI				Adjusted OR* (age, gen & area), 95% CI			
Think about the impact in 5 to 10 years' time of the current restrictions that have been put in place by the government. How much thought do you feel has been given to: (Not enough to too much on scale 0 to 10)	The long-term effects on our physical health (n=1,532)	*n*	*1,341*	*191*	**0.0008**	0.91	0.85	-	0.97	**0.93**	**0.86**	-	**0.99**
		Mean	4.2	3.7									
		Median	5.0	4.0									
		SD	2.25	2.31									
	The long-term effects on our mental health (n=1,530)	*n*	*1,340*	*190*	**<0.0001**	0.85	0.80	-	0.91	**0.89**	**0.83**	-	**0.95**
		Mean	3.7	2.8									
		Median	3.0	2.0									
		SD	2.48	2.50									
	The long-term effects on children and young people's education (n=1,530)	*n*	*1,339*	*191*	**0.0125**	0.93	0.87	-	0.99	0.94	0.88	-	1.01
		Mean	4.0	3.6									
		Median	4.0	3.0									
		SD	2.49	2.45									
	The long-term effects on young people's future prospects (n=1,530)	*n*	*1,339*	*191*	**0.0028**	0.92	0.86	-	0.98	0.95	0.89	-	1.02
		Mean	3.8	3.2									
		Median	4.0	3.0									
		SD	2.52	2.57									
	The long-term effects on the elderly (n=1,529)	*n*	*1,338*	*191*	0.0992	0.97	0.92	-	1.02	0.96	0.90	-	1.01
		Mean	3.7	3.4									
		Median	3.0	2.5									
		SD	2.81	2.96									
	The long-term effects on people's jobs (n=1,534)	*n*	*1,342*	*192*	**0.0093**	0.93	0.88	-	0.99	**0.93**	**0.87**	-	**0.99**
		Mean	4.3	3.8									
		Median	4.0	3.5									
		SD	2.68	2.64									

Table B Cont.

The long-term effects on people's finances (n=1,533)	*n*	*1,342*	*191*	0.0423	0.95	0.89	-	1.00	0.96	0.90	- 1.02
	Mean	4.2	3.8								
	Median	4.0	3.0								
	SD	2.77	2.67								
The long-term effects on the economy (n=1,532)	*n*	*1,340*	*192*	0.5884	1.02	0.97	-	1.07	1.02	0.96	- 1.07
	Mean	5.3	5.4								
	Median	5.0	5.0								
	SD	2.94	3.06								
The long-term effects on our security (n=1,523)	*n*	*1,332*	*191*	0.2248	0.97	0.91	-	1.04	1.01	0.94	- 1.07
	Mean	3.9	3.8								
	Median	4.0	4.0								
	SD	2.44	2.59								
The long-term effects on politics (n=1,528)	*n*	*1,337*	*191*	0.8433	1.00	0.95	-	1.05	1.00	0.95	- 1.05
	Mean	5.0	4.9								
	Median	5.0	5.0								
	SD	2.93	3.26								
The long-term effects on health care services, such as the NHS (n=1,528)	*n*	*1,338*	*190*	**0.0096**	0.94	0.89	-	0.99	0.95	0.89	- 1.00
	Mean	4.3	3.7								
	Median	4.0	3.0								
	SD	3.032	3.027								
The long-term effects on social care services, such as care homes (n=1,526)	*n*	*1,336*	*190*	**0.0149**	0.94	0.89	-	0.99	0.96	0.90	- 1.02
	Mean	3.4	2.9								
	Median	2.0	2.0								
	SD	2.93	2.86								
How would you rate your level of knowledge on Covid-19? (scale of 0-10, Poor to Good; n=1,538)	n	*1,346*	*192*	0.939	1.01	0.93	-	1.09	1.06	0.97	- 1.17
	Mean	7.5	7.5								
	Median	8.0	8.0								
	SD	1.84	1.87								
How much confidence do you have in the UK Government that they can handle Covid-19 well? (scale of 0-10, Poor to Good; n=1,533)	n	*1,342*	*191*	**<0.001**	0.88	0.84	-	0.93	**0.90**	**0.85**	**- 0.95**
	Mean	3.8	2.7								
	Median	3.0	2.0								
	SD	3.07	2.82								

*Adjusted using multivariate logistic regression

Table C: Comparison of the impacts on LGBQ+ participants to those experienced by the rest of the participants: PHOENIX baseline survey

		Sexual orientation								
						LGBQ+ participants compared to heterosexual participants				
		Heterosexual		LGBQ+		χ^2 p-value	Odds ratio (OR), 95% CI		Adjusted OR* (age, gender & area), 95% CI	
Experienced any of the following since the start of the government's social distancing measures. (N=1,531)										
Lost your job / been unable to do paid work	Not reported	1,232	92%	171	90%	0.260	1.00		1.00	
	Yes	108	8%	20	10%		1.33	0.81 - 2.21	0.91	0.53 - 1.59
Your spouse/partner lost their job or was unable to do paid work	Not reported	1,268	95%	176	92%	0.166	1.00		1.00	
	Yes	72	5%	15	8%		1.50	0.84 - 2.68	1.48	0.78 - 2.79
Major cut in household income	Not reported	1,095	82%	152	80%	0.478	1.00		1.00	
	Yes	245	18%	39	20%		1.15	0.79 - 1.67	0.80	0.52 - 1.21
Unable to pay bills / rent / mortgage	Not reported	1,282	96%	180	94%	0.373	1.00		1.00	
	Yes	58	4%	11	6%		1.35	0.70 - 2.62	1.18	0.57 - 2.43
Evicted / lost accommodation	Not reported	1,340	100%	191	100%	NA				
	Yes	-	0%	0	0%					
Unable to access sufficient food	Not reported	1,246	93%	167	87%	0.007	1.00		1.00	
	Yes	94	7%	24	13%		1.90	1.18 - 3.07	2.02	1.20 - 3.39
Unable to access required medication	Not reported	1,277	95%	170	89%	<0.001	1.00		1.00	
	Yes	63	5%	21	11%		2.50	1.49 - 4.21	2.70	1.52 - 4.77
Somebody close to you is ill in hospital (due to Covid-19 or another illness)	Not reported	1,258	94%	168	88%	0.002	1.00		1.00	
	Yes	82	6%	23	12%		2.10	1.29 - 3.43	2.17	1.26 - 3.72
You lost somebody close to you (due to Covid-19 or another cause)	Not reported	1,232	92%	176	92%	0.922	1.00		1.00	
	Yes	108	8%	15	8%		0.97	0.55 - 1.71	1.09	0.60 - 1.99
None of the above	Not reported	483	36%	79	41%	0.154	1.00		1.00	
	Yes	857	64%	112	59%		0.80	0.59 - 1.09	0.92	0.66 - 1.29

Table C Cont.

		Sexual orientation										
						LGBQ+ participants compared to heterosexual participants						
		Heterosexual		LGBQ+		χ^2 p-value	Odds ratio (OR), 95% CI			Adjusted OR (age, gender & area), 95% CI		
Think back since the start of the government's social distancing measures and select if you've done each of the following more, less, or the same as usual.												
Amount of food eaten (N=1,537)	Less than usual	164	12%	28	15%		1.26	0.80	2.00	1.02	0.62	1.69
	About the same	644	48%	87	45%	0.606	1.00			1.00		
	More than usual	537	40%	77	40%		1.06	0.77	1.47	1.21	0.85	1.74
Total		*1,345*		*192*								
Eaten a healthy diet (N=1,528)	Less than usual	370	28%	73	38%		1.71	1.22	2.40	1.70	1.17	2.46
	About the same	729	55%	84	44%	0.007	1.00			1.00		
	More than usual	238	18%	34	18%		1.24	0.81	1.90	0.97	0.61	1.55
Total		*1,337*		*191*								
Eaten take-away food (N=1,237)	Less than usual	773	73%	109	64%		0.75	0.50	1.13	0.91	0.58	1.42
	About the same	186	17%	35	20%	0.033	1.00			1.00		
	More than usual	107	10%	27	16%		1.34	0.77	2.34	1.09	0.60	2.00
Total		*1,066*		*171*								
Smoked tobacco (N=231)	Less than usual	43	24%	14	26%		1.13	0.51	2.49	0.66	0.25	1.77
	About the same	66	37%	19	36%	0.945	1.00			1.00		
	More than usual	69	39%	20	38%		1.01	0.49	2.05	1.17	0.50	2.74
Total		*178*		*53*								
Used vapes/e-cigarettes (N=167)	Less than usual	27	20%	10	29%		1.36	0.54	3.42	0.47	0.14	1.63
	About the same	55	42%	15	43%	0.473	1.00			1.00		
	More than usual	50	38%	10	29%		0.73	0.30	1.78	0.59	0.19	1.82
Total		*132*		*35*								
Drunk alcohol (N=1,192)	Less than usual	199	19%	32	21%		1.28	0.80	2.04	0.93	0.55	1.55
	About the same	429	41%	54	35%	0.262	1.00			1.00		
	More than usual	408	39%	70	45%		1.36	0.93	1.99	1.19	0.79	1.80
Total		*1,036*		*156*								
Sleep (N=1,533)	Less than usual	391	29%	68	36%		1.58	1.10	2.25	1.59	1.08	2.35
	About the same	635	47%	70	37%	0.028	1.00			1.00		
	More than usual	318	24%	51	27%		1.45	0.99	2.14	1.25	0.82	1.91
Total		*1,344*		*189*								
Taken exercise (N=1,519)	Less than usual	504	38%	104	55%		2.36	1.61	3.48	2.51	1.65	3.82
	About the same	458	34%	40	21%	<0.001	1.00			1.00		
	More than usual	367	28%	46	24%		1.44	0.92	2.24	1.23	0.76	2.00
Total		*1,329*		*190*								
Used health services (e.g., seeing a doctor or nurse) (N=1,115)	Less than usual	548	57%	97	63%		0.78	0.54	1.12	1.20	0.82	1.77
	About the same	384	40%	53	34%	0.389	1.00			1.00		
	More than usual	28	3%	5	3%		1.01	0.38	2.68	1.05	0.36	3.09
Total		*960*		*155*								
Taken medicine prescribed to you by a doctor (N=1,021)	Less than usual	70	8%	8	6%		0.73	0.34	1.57	0.43	0.19	1.00
	About the same	752	85%	117	83%	0.095	1.00			1.00		
	More than usual	58	7%	16	11%		1.77	0.99	3.19	1.54	0.79	3.01
Total		*880*		*141*								
Taken medicine that you bought on advice of your doctor (N=613)	Less than usual	121	23%	15	17%		0.71	0.39	1.30	0.62	0.32	1.20
	About the same	356	68%	62	70%	0.226	1.00			1.00		
	More than usual	47	9%	12	13%		1.47	0.74	2.92	1.70	0.77	3.72
Total		*524*		*89*								
Taken pain medicine (e.g., paracetamol, codeine, ibuprofen, etc.) (N=1,097)	Less than usual	151	16%	23	16%		1.12	0.68	1.82	0.89	0.51	1.54
	About the same	660	70%	90	61%	0.024	1.00			1.00		
	More than usual	137	14%	34	23%		1.82	1.18	2.81	2.00	1.22	3.26
Total		*948*		*147*								
Taken illicit or street drugs (N=89)	Less than usual	29	47%	11	41%		1.10	0.39	3.06	0.96	0.26	3.53
	About the same	26	42%	9	33%	0.216	1.00			1.00		
	More than usual	7	11%	7	26%		2.89	0.79	10.53	1.56	0.29	8.39
Total		*62*		*27*								
Taken illicit drugs purchased online (N=42)	Less than usual	20	65%	6	55%							
	About the same	10	32%	4	36%	0.685						
	More than usual	1	3%	1	9%							
Total		*31*		*11*								

*Adjusted using multivariate logistic regression