THE LANCET

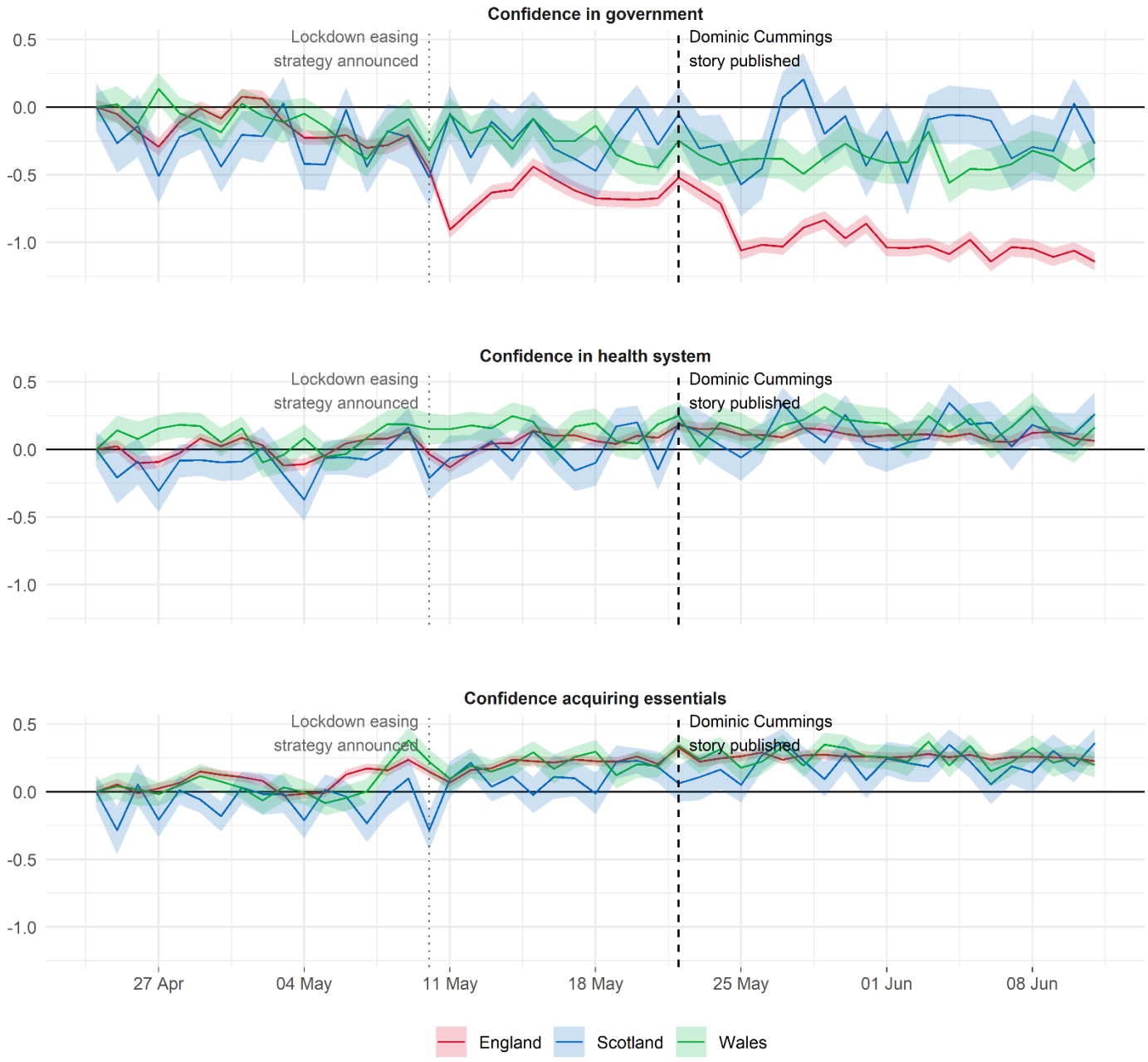
Supplementary appendix

This appendix formed part of the original submission. We post it as supplied by the authors.

Supplement to: Fancourt D, Steptoe A, Wright L. The Cummings effect: politics, trust, and behaviours during the COVID-19 pandemic. *Lancet* 2020; published online August 6. http://dx.doi.org/10.1016/S0140-6736(20)31690-1.

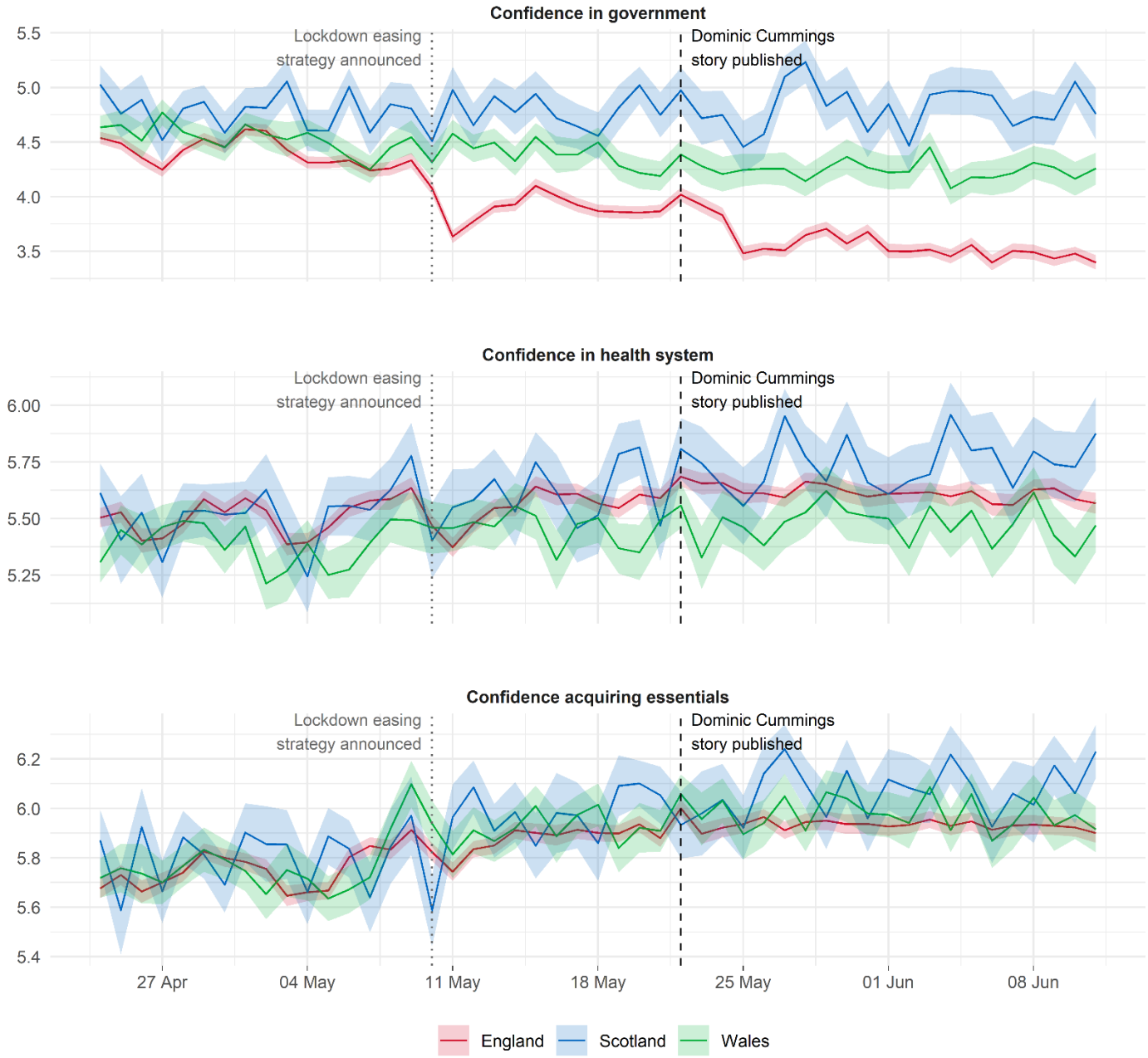
Supplementary Material

Supplementary Figure 1



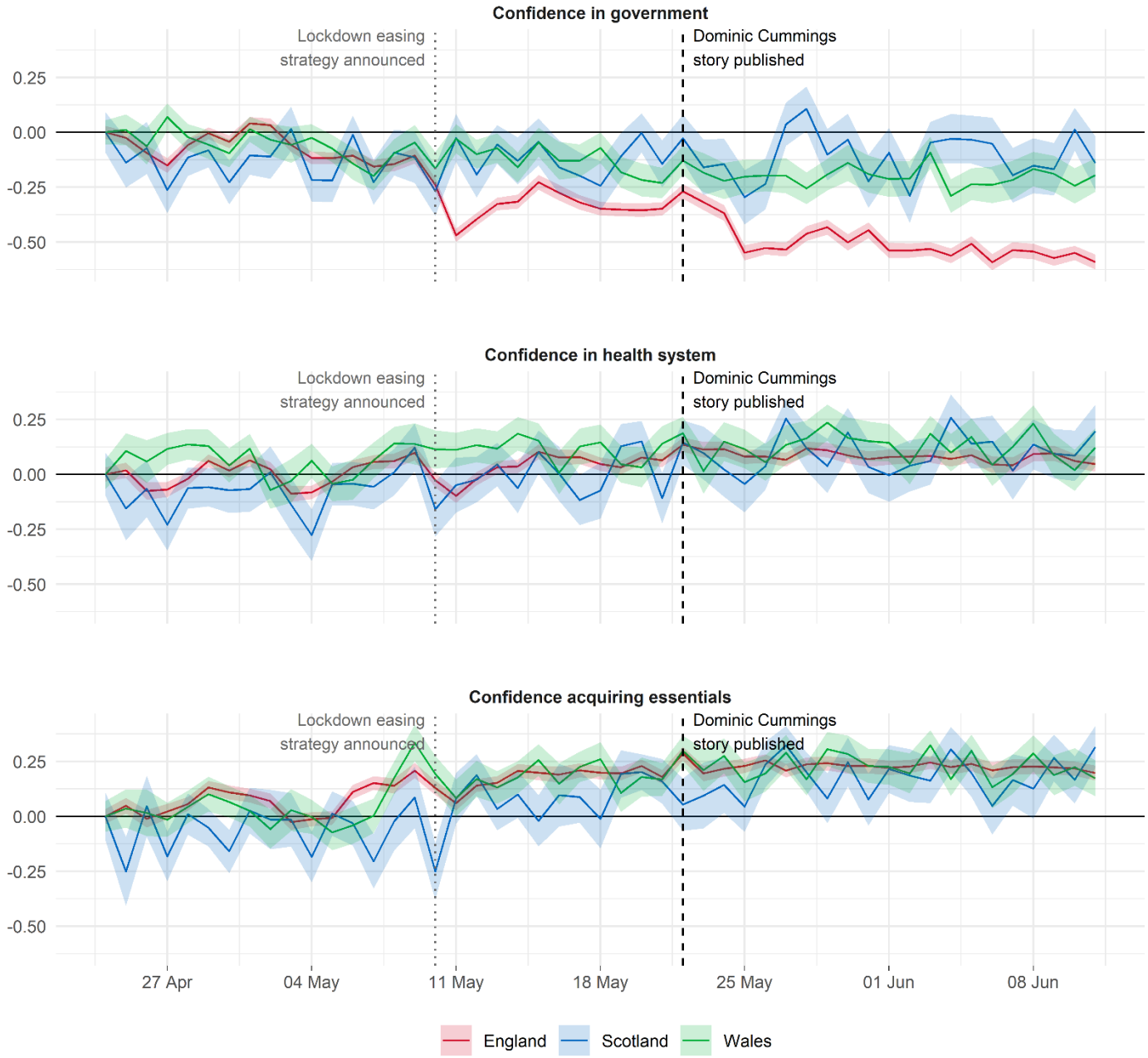
Daily average response (+ 95% CIs) to questions on confidence in (a) (devolved nation) government, (b) health system, and (c) acquiring essentials, **relative to country-specific average response on 24 April**. Grey dotted line at 10 May indicates date UK Government plans to ease lockdown. Dashed line at 22 May indicates date Daily Mirror and Guardian newspapers released information on Dominic Cummings' journey to Country Durham.

Supplementary Figure 2



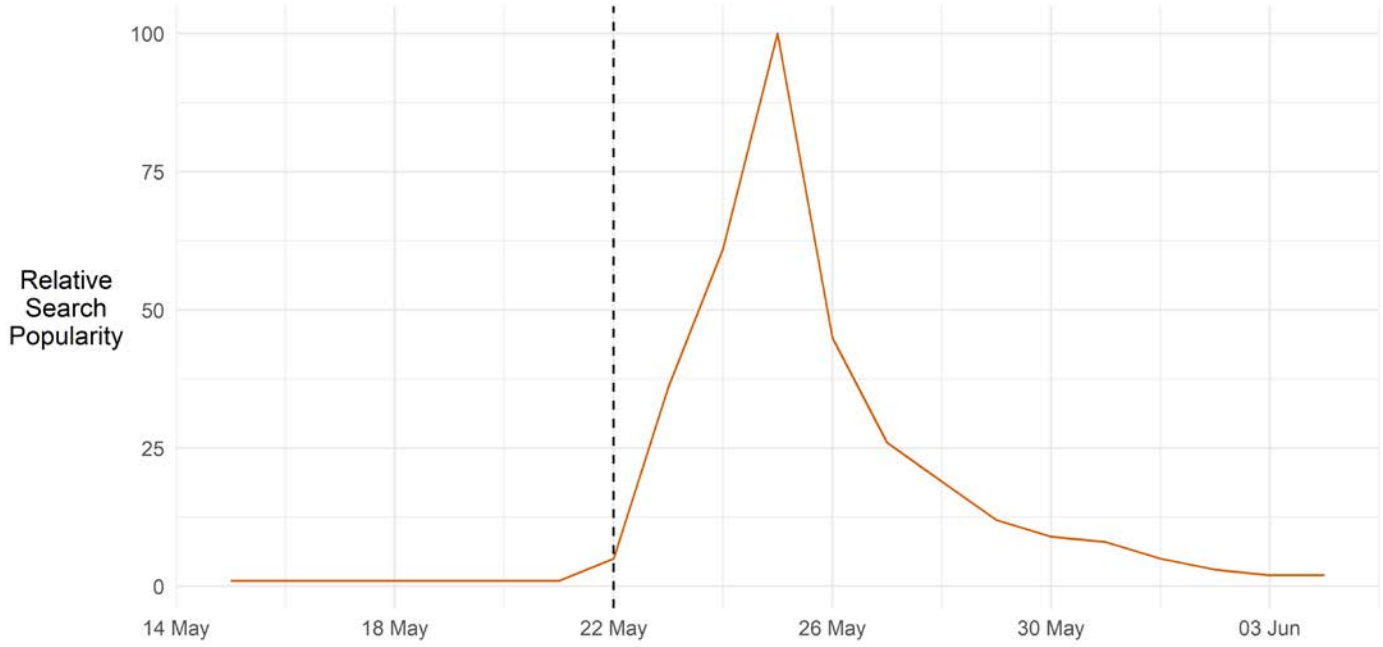
Daily average response (+ 95% CIs) to questions on confidence in (a) (devolved nation) government, (b) health system, and (c) acquiring essentials. Grey dotted line at 10 May indicates date UK Government plans to ease lockdown. Dashed line at 22 May indicates date Daily Mirror and Guardian newspapers released information on Dominic Cummings' journey to Country Durham. **Note, y-axis scales are individual to each panel.**

Supplementary Figure 3



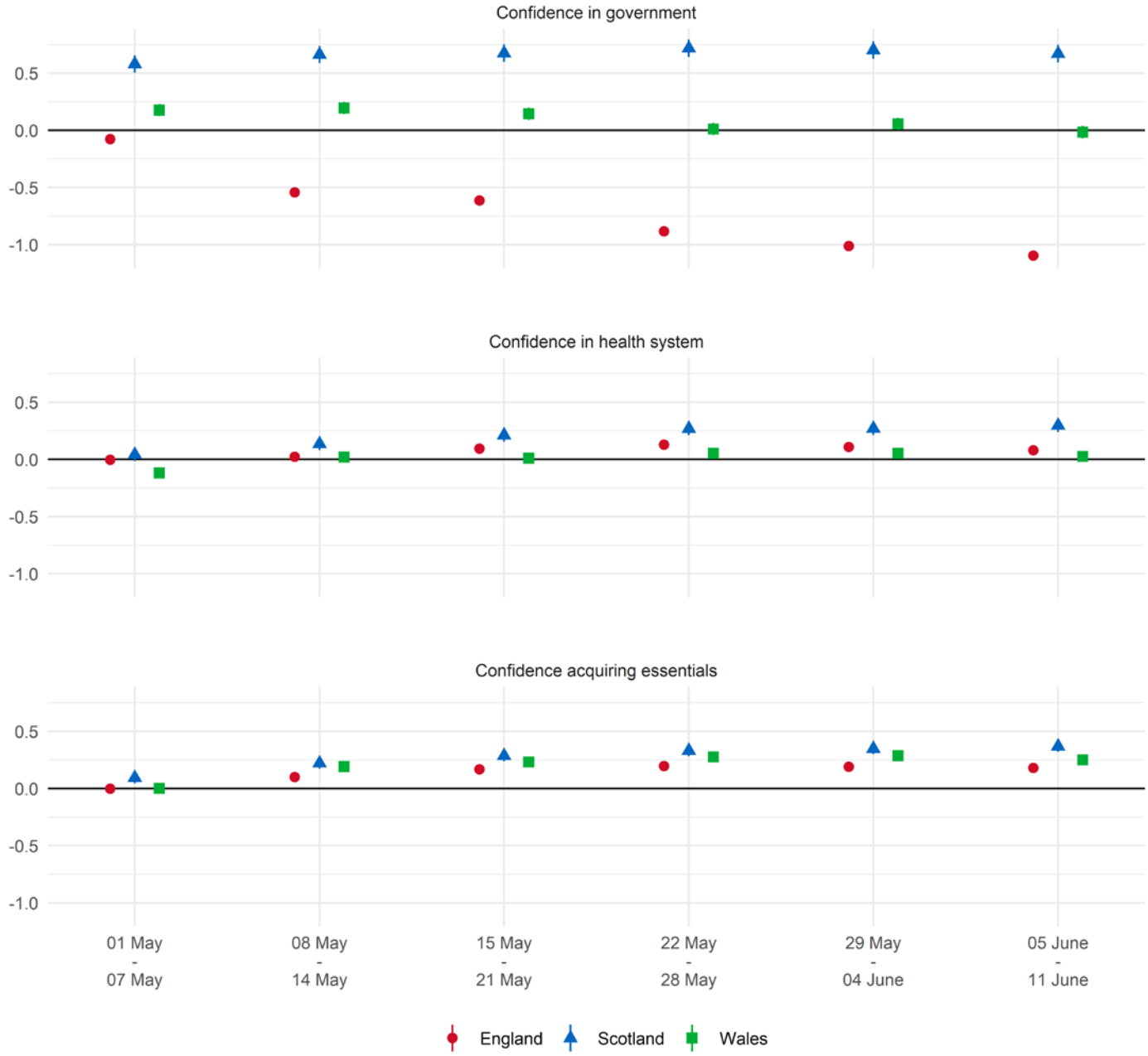
Standardized daily average response (+ 95% CIs) to questions on confidence in (a) (devolved nation) government, (b) health system, and (c) acquiring essentials, relative to country-specific average response on 24 April. Grey dotted line at 10 May indicates date UK Government plans to ease lockdown. Dashed line at 22 May indicates date Daily Mirror and Guardian newspapers released information on Dominic Cummings' journey to Country Durham. **(Standardized using overall standard deviation.)**

Supplementary Figure 4



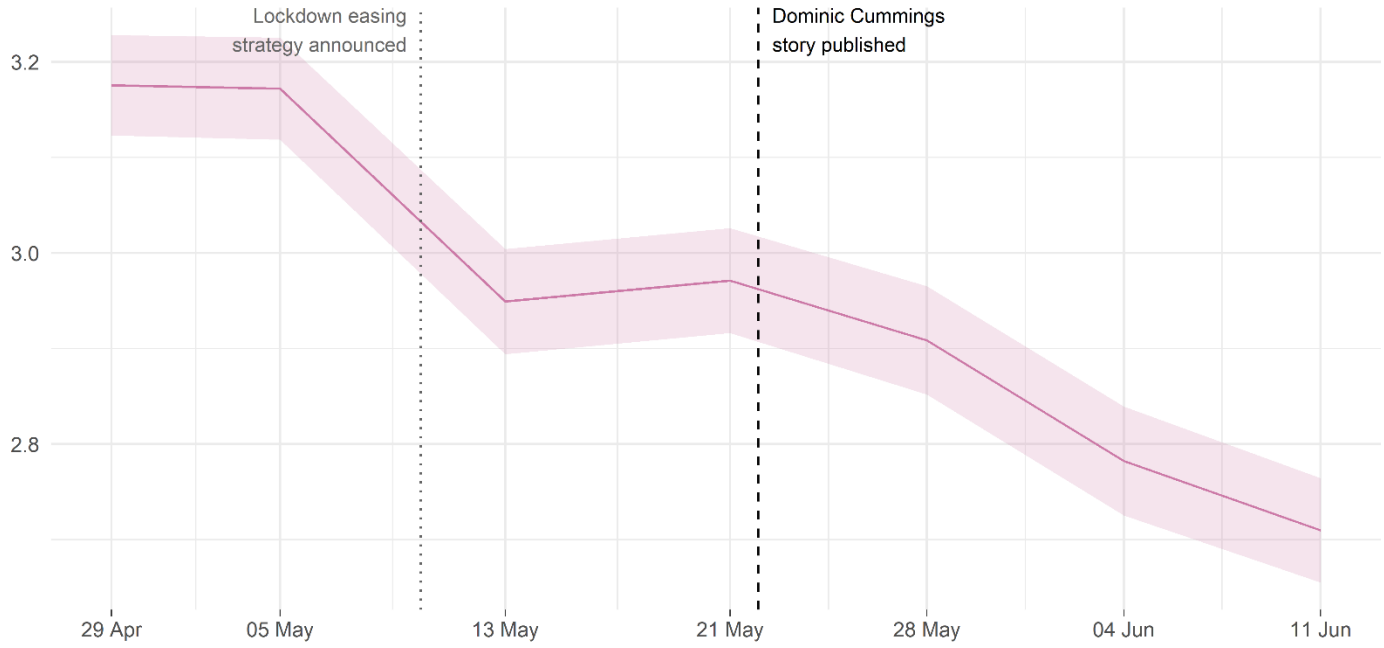
Google Trends data on relative popularity of search term “cummings”, 15 May – 04 June 2020 (equal to 100 at date with highest search volume). Data accessed 29 June 2020 (link). Dashed line indicates date when Daily Mirror and the Guardian stories broke on Dominic Cummings’ journey to Country Durham.

Supplementary Figure 5



Estimated change (+ 95% CIs) in confidence in (a) (devolved nation) government, (b) health system, and (c) acquiring essentials, by week, relative to week 1 (24 April – 30 April). Results drawn from fixed effects models.

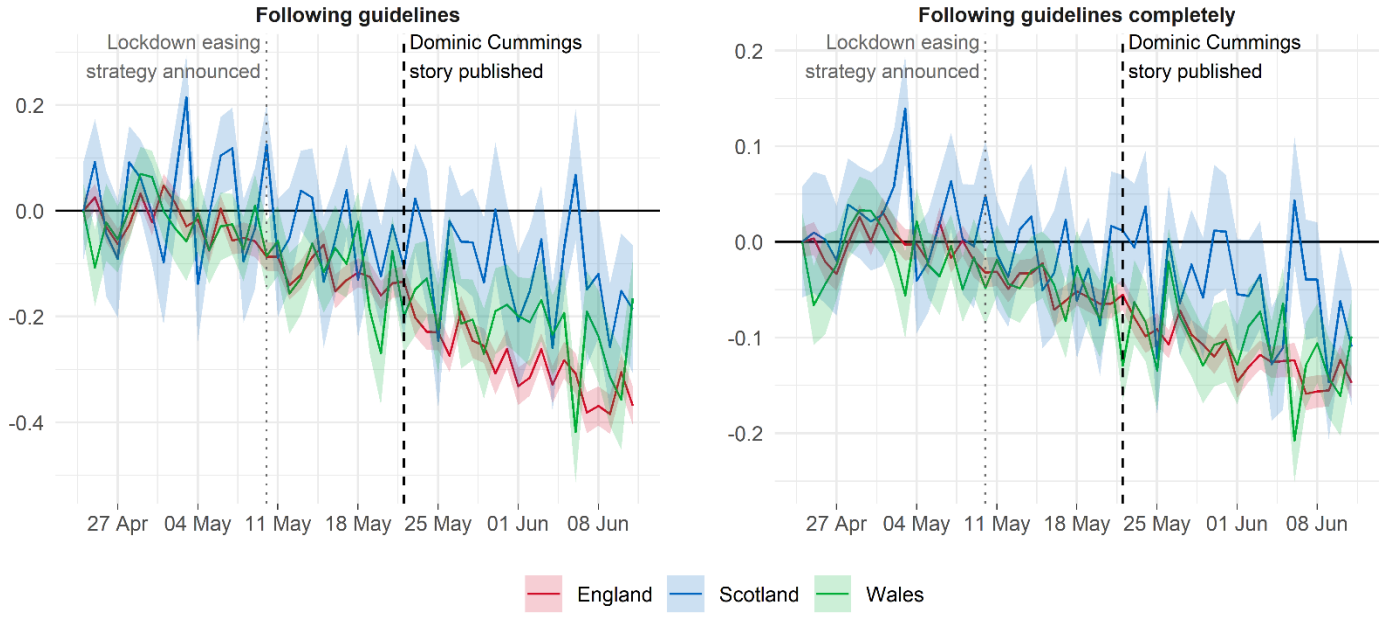
Supplementary Figure 6



Average response to question: "To what extent do you have confidence in the UK Government's ability to handle the Coronavirus situation as it continues to develop?" (1 = Not at all confident; 5 = completely confident). Grey dotted line at 10 May indicates date UK Government plans to ease lockdown. Dashed line at 22 May indicates date Daily Mirror and Guardian newspapers released information on Dominic Cummings' journey to Country Durham. (Data are displayed reverse coded so larger values indicate higher confidence.)

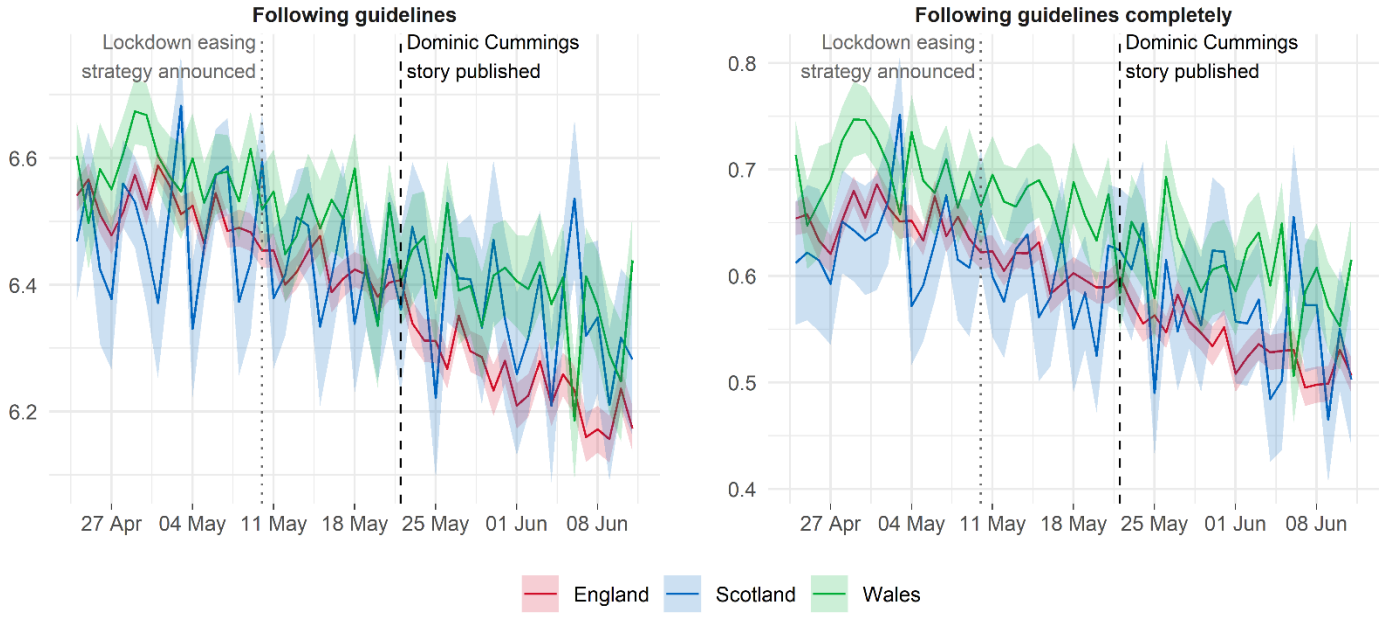
Source: weekly survey data from Opinium https://www.opinium.co.uk/wp-content/uploads/2020/06/Opinium-Political-Report-19th-June-2020.pdf. Data downloaded on 29 June 2020.

Supplementary Figure 7



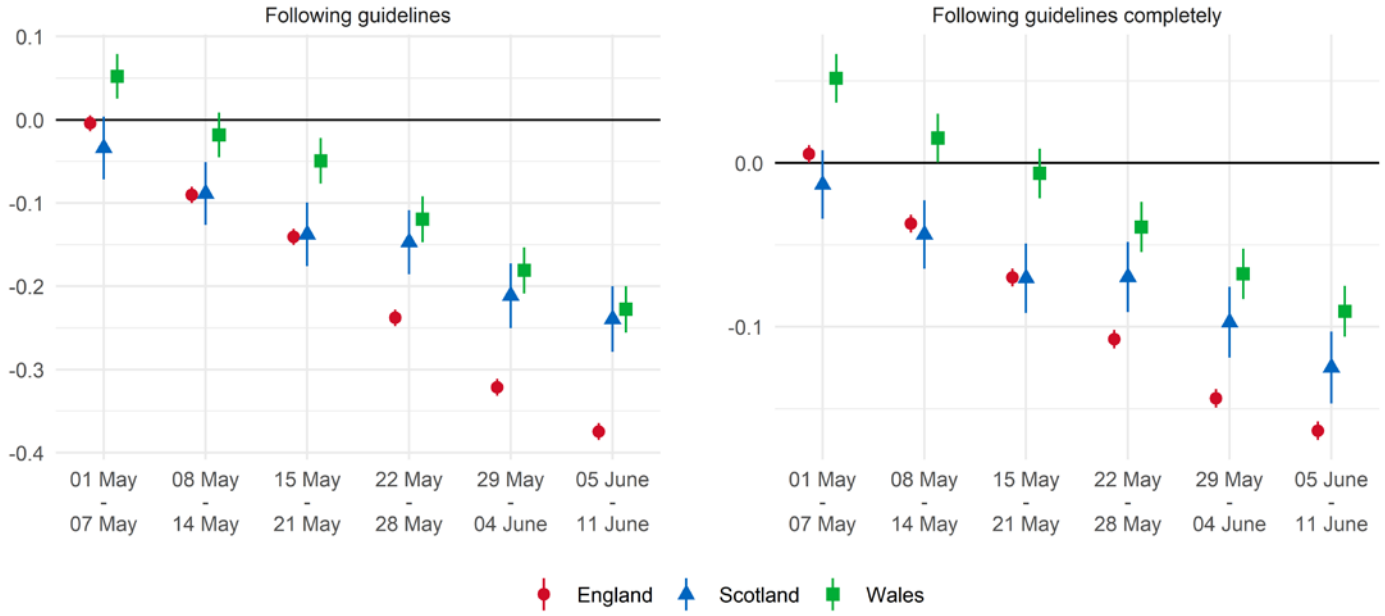
Adherence to COVID-19 guidelines by country **relative to country-specific level on 24 April 2020**. (a) Daily average response, (b) proportion reporting "very much" adhering to guidelines. Shaded bands are 95% confidence intervals. Grey dotted line at 10 May indicates date UK Government plans to ease lockdown. Dashed line at 22 May indicates date Daily Mirror and Guardian newspapers released information on Dominic Cummings' journey to Country Durham.

Supplementary Figure 8



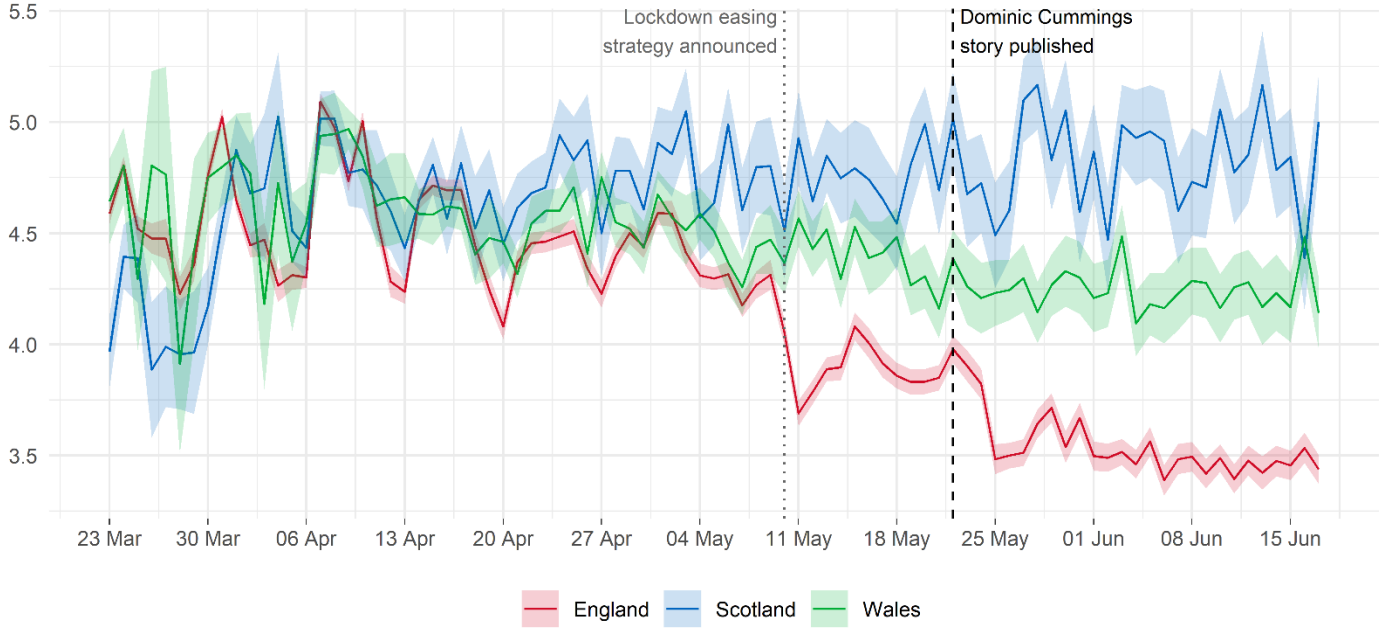
Adherence to COVID-19 guidelines. (a) Daily average response, (b) proportion reporting "very much" adhering to guidelines. Shaded bands are 95% confidence intervals. Grey dotted line at 10 May indicates date UK Government plans to ease lockdown. Dashed line at 22 May indicates date Daily Mirror and Guardian newspapers released information on Dominic Cummings' journey to Country Durham. **Note, y-axis scales are individual to each panel.**

Supplementary Figure 9



Estimated change (+ 95% CIs) in confidence in (a) adherence to guidelines and (b) "very much" adhering to guidelines, by week, relative to week 1 (24 April – 30 April). Results drawn from linear fixed effects models.

Supplementary Figure 10



Daily average response (+ 95% CIs) to question on confidence in (devolved nation) government by country. Grey dotted line at 10 May indicates date UK Government plans to ease lockdown. Dashed line at 22 May indicates date Daily Mirror and Guardian newspapers released information on Dominic Cummings' journey to Country Durham. **Note, y-axis scales are individual to each panel.**

Methods

Data

Data were drawn from the UCL COVID-19 Social Study; a large panel study of the psychological and social experiences of over 70,000 adults (aged 18+) in the UK during the COVID-19 pandemic. The study commenced on 21st March 2020 and involves online weekly data collection from participants for the duration of the COVID-19 pandemic in the UK.

The study is not random but it does contain a well-stratified sample that was recruited using three primary approaches. First, snowballing was used, including promoting the study through existing networks and mailing lists (including large databases of adults who had previously consented to be involved in health research across the UK), print and digital media coverage, and social media. Second, more targeted recruitment was undertaken focusing on (i) individuals from a low-income background, (ii) individuals with no or few educational qualifications, and (iii) individuals who were unemployed. Third, the study was promoted via partnerships with third sector organisations to vulnerable groups, including adults with pre-existing mental health conditions, older adults, carers, and people experiencing domestic violence or abuse. To account for the non-random nature of the sample, all data are weighted to the proportions of gender, age, ethnicity, education and country of living obtained from the Office for National Statistics [1].

The full study user guide (which includes the sample design, details of data cleaning, recruitment/response/retention rate, participant characteristics, weighting techniques and data dictionary) is available at www.covidsocialstudy.org/results. The study was approved by the UCL Research Ethics Committee [12467/005] and all participants gave informed consent.

Participants

For these analyses, we focused on participants from England, Scotland or Wales who were interviewed during the seven weeks between 24 April and 11 June 2020 (n = 50,627, observations = 240,965). We excluded cases with missing data on any of the variables used in this analysis and included all participants who had complete data on two or more occasions during this period. This left a total analytical sample size of 40,597 (220,755 observations).

Measures

Confidence in government to handle the pandemic was measured by asking:

"How much confidence do you have in the UK GOVERNMENT that they can handle Covid-19 well? If you live in a devolved nation, we ask you to focus on the government within your country (e.g. the Scottish government / Welsh government / Northern Ireland Executive)"

Confidence in the health service was measured by asking:

"How much confidence do you have that the UK HEALTH SERVICE can cope during Covid-19? If you live in a devolved nation, we ask you to focus on the health service within your country (e.g. NHS Health Scotland / NHS Wales / HSCNI)"

Confidence in the access to essentials being maintained was measured by asking:

"How much confidence do you have that ESSENTIALS (e.g. access to food, water, medicines, deliveries) will be maintained during Covid-19?"

Each question was measured on a scale from 1 (none at all) to 7 (lots). We analyse each as continuous variables.

Compliance with government guidelines was measured by asking: *"Are you following the recommendations from authorities to prevent spread of Covid-19?"* Responses were on a scale from 1 (none at all) to 7 (very much so). We analyse these as both continuous (1-7) and binary (very much so vs lower compliance) variables.

Analyses

We carried out basic descriptive analysis and formal statistical analysis. For the descriptive analysis, we computed population-weighted daily average scores and 95% confidence intervals for each outcome variable in each country separately. We plotted these results both as levels (e.g. see Figure S2) and relative to the country-specific average score at beginning of follow-up (24 April; see Figure 1).

Next, we estimated a fixed effects regression model for each outcome separately, using the following functional form:

$$Y_{it} = \beta_K \cdot Country_i \cdot Week_{it} + \mu_i + \varepsilon_{it}$$

where Y_{it} is the outcome for individual i at time t. $Country_i$ is the country of residence for individual i and $Week_{it}$ is the interview week measured as a categorical variable (1 = 24 April – 30 April, …, 7 = 5 June – 11 June). β_K is a vector of coefficients which capture the country specific change in the outcome variable for a given week relative to the scores in that country in week 1 (24 April – 30 April). μ_i is person-specific time-invariant heterogeneity and ε_{it} is normally distributed i.i.d observation specific random error. The influence of μ_i on the outcome is adjusted for by construction when using the fixed effects

estimator as the estimator uses deviations from person-specific average levels for the dependent and independent variables (time invariant factors drop out as they have zero deviation).

Supplementary Table 1

	Variable	Unweighted	Weighted
Gender	Male	10,040 (24.73%)	16,974 (48.38%)
	Female	30,557 (75.27%)	18,111 (51.62%)
Age Group	18-29	2,716 (6.69%)	4,045 (11.53%)
	30-45	10,224 (25.18%)	7,248 (20.66%)
	46-59	13,185 (32.48%)	9,410 (26.82%)
	60+	14,472 (35.65%)	14,382 (40.99%)
Highest Qualification	GCSE or below	5,454 (13.43%)	10,999 (31.35%)
	A-levels or equivalent	6,935 (17.08%)	11,331 (32.3%)
	Degree or above	28,208 (69.48%)	12,755 (36.35%)
Ethnic Group	White	38,821 (95.63%)	31,846 (90.77%)
	Non-White	1,776 (4.37%)	3,239 (9.23%)
Income Group	<£16k	5,243 (14.25%)	6,168 (19.64%)
	£16k - £30k	8,934 (24.29%)	8,779 (27.96%)
	£30k - £60k	13,010 (35.37%)	10,271 (32.71%)
	£60k -£90k	5,640 (15.33%)	3,732 (11.88%)
	£90+	3,959 (10.76%)	2,450 (7.8%)

Descriptive statistics (n (%)).

References

1 Population estimates for the UK, England and Wales, Scotland and Northern Ireland - Office for National Statistics. https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualmidyearpopulationestimates/mid2018 (accessed May 13, 2020).