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Did Increased Media Coverage of Climate Change and the COVID19 Pandemic Affect Climate Change Concern and Issue Salience in the UK in 2021?

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ABSTRACT

Evidence from high-income countries suggests that greater media coverage of climate change is associated with greater public concern, while societal "shocks" reduce concern. Conducted in 2021, this UK study of adults ($n = 6082$) investigates climate change concern, its identification as among "the most important issues" and as "the single most important issue" facing the UK. It does so in the context of increased media coverage of climate change associated with the UK's hosting COP26 and the COVID19 pandemic with its associated restrictions on everyday life. In analyses that took account of sociodemographic factors, neither increased media coverage around COP26 nor the COVID19 pandemic had an effect on climate change concern or its identification as an important issue for the UK. Its identification as the single most important issue was at its lowest at the height of the COVID19 pandemic, with no evidence that increased climate change coverage affected its issue salience.

Introduction

Surveys point to increasing public concern about climate change, including in the UK (BEIS, 2021; Milfont et al., 2021). In studies of high-income countries, greater media coverage of climate change has been linked to greater public concern (Brulle et al., 2012), although studies of the increased coverage associated with specific climate events have found limited effects (Wonneberger et al., 2020). Public concern is seen to be vulnerable to societal disruptions: as a more immediate personal threat, the coronavirus disease (COVID-19) pandemic had the potential to reduce climate change concern and its importance relative to other issues ("issue salience") (Ebi et al., 2021; Schipper et al., 2021).

Our UK study investigates these questions. The study was conducted across 2021, the year in which the UK hosted the 26th meeting of the Conference of Parties (COP26) to the UN Framework Convention on Climate Change (UNFCCC) and faced both continuing COVID infections and restrictions on daily life. We hypothesize that, in line with other evidence (BEIS, 2021; Evensen et al., 2021), climate change concern remained high – but the disruptions to people's lives reduced the salience of climate change as an important issue (Smirnov & Hsieh, 2022). In this context, we also hypothesize that COP26-related media coverage had no discernible effect on either climate change concern or its issue salience.

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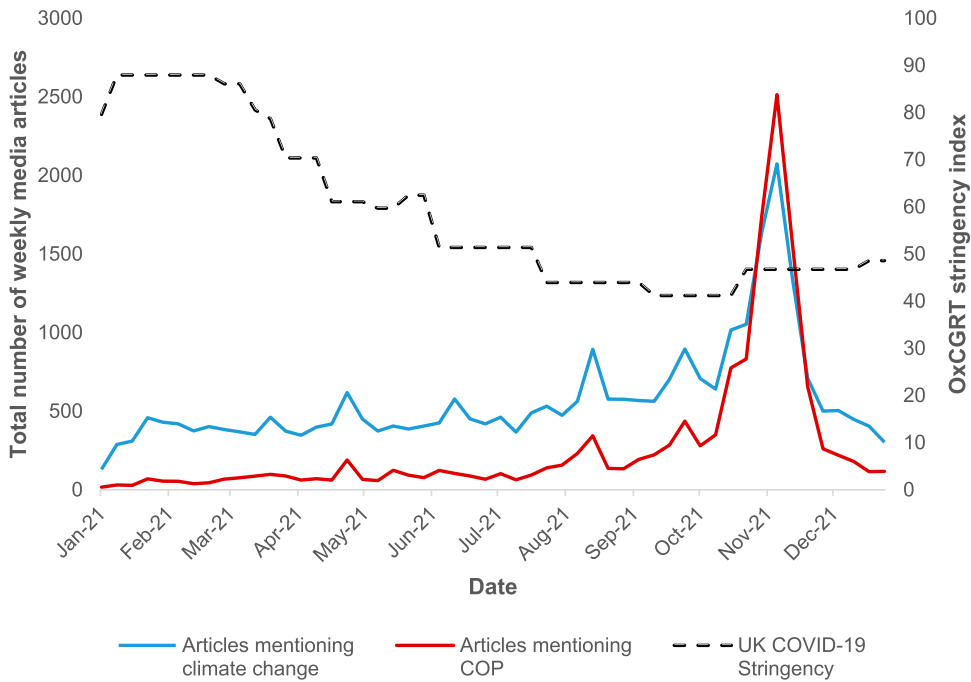
Figure 1. UK newspaper coverage of climate change (weekly number of articles in UK media outlets containing climate change and COP-26 keywords, print and online formats) and COVID19 restrictions (OxCGRT UK stringency index).

Sources: Lexis Nexis Newspaper archive (authors' analysis); OxCGRT data accessed at https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker.

Figure 1 maps newspaper coverage of climate change in the most-read UK news sources using keywords for climate change and for COP26 (see supplementary file for search strategy and sources). In line with studies of previous COPs (Wonneberger et al., 2020), COP26 (31 October–12 November) was associated with a spike in mainstream media change coverage, with a similar pattern in social media coverage (Brüggemann & Sadikni, 2020). The Figure also maps the government's response to COVID, using the Oxford COVID government response tracker (OxCGRT) stringency index (scaled from 0 to 100) (BSG University of Oxford, 2020). The index is based on 23 indicators, including school, workplace and public transport closures, home confinement, restrictions on personal movement and social gatherings, and public information campaigns. The Figure confirms that 2021 was a year of extensive restrictions on people's everyday lives.

Materials and methods

Data collection

Cross-sectional surveys of UK adults aged ≥18 years were conducted using the Qualtrics survey platform (Graham et al., 2022b) at four time-points in 2021: January/February ($n = 1014$), July ($n = 1018$) and before (October, $n = 2040$) and after COP26 (December, $n = 2010$), with a total sample size of 6082. Quotas matched the national profile for gender, age group, ethnic group (UK Government, 2021), educational attainment (International Standard Classification of Education, ISCED) (International Standard Classification of Education (ISCED)), and location (UK country/English region) (DEFRA, 2021). The surveys were approved by the Health Sciences Research Governance Committee, University of York (ref: HSRGC/2020/409/C).

Variables

Outcome variables

Three outcome measures were used: (i) concern about climate change; (ii) its identification as an important UK issue and (iii) as the single most important issue. The question on climate change concern was based on the Public Attitudes Tracker administered by the Department for Business, Energy and Industrial Strategy (BEIS, 2021). Participants were asked "How concerned, if at all, are you about climate change?", with four response options (not at all concerned, not very concerned, fairly concerned, very concerned). For the multivariate analyses, a binary measure was constructed: very concerned vs not at all, not very and fairly concerned.

The two questions on issue salience were adapted from YouGov surveys (YouGov, 2020). Participants were asked "In your view, what are the most important issues facing the UK today?" and were invited to select up to three randomly-ordered options from a list that included the coronavirus (COVID) pandemic, NHS (National Health Service), Britain leaving the EU (Brexit), and climate change and environmental issues. "Other" and "none" were also options. Excluding those answering "none" (less than 2% across the four surveys), participants were then asked "Of the issues you selected in the previous question, what do you see as the single most important facing the UK today?" For the 82 respondents selecting only one option in the previous question, this issue was treated as their priority issue. Two binary measures were constructed, respectively, based on whether respondents selected climate change and environmental issues in their top three issues and, if so, whether they then selected it as their priority issue.

Predictor variables

Based on which survey the respondent completed, other contextual variables were assigned to enable inclusion of measures of both COVID19 and climate change media coverage in the analysis (see Table 1). Apart from the stringency index, where the mode was taken due to its relatively unchanging character, these used data averaged over the survey period plus an additional two weeks before the survey. Two weeks was chosen based on robustness analyses comparing no additional weeks, one week and two weeks. In addition, measures of participant's identities and circumstances were included in the analysis, including: gender, age group, ethnic group, self-reported general health, educational attainment, location of residence (UK country, region, and type of area lived in), housing tenure, and employment status.

Analysis

Initial bivariate analyses were undertaken to highlight associations between predictor and outcome variables, using either chi-square tests (for categorical variables) or Spearman Rank tests (for continuous variables). Logistic regression was used to take account of factors shown to have an impact in prior perceptions research. These included gender (De Jalón et al., 2013; Ergun et al., 2021; Fletcher et al., 2021; McCright, 2010; Swim & Geiger, 2018), age (De Jalón et al., 2013; Driscoll, 2019; Milfont et al., 2014, 2021), ethnic group (Ballew et al., 2021; Benegal, 2018; Clements,

Table 1. Additional contextual variables assigned to respondents relating to climate change media coverage and COVID19.

Measure	Information
Climate change media coverage	Average number of articles mentioning a climate change key term ("climate change" or "global warming") over the survey period and the previous two weeks. This is an average across 22 UK sources.
COVID19 case percentage change	Percentage change in cases over the previous two weeks (up to the beginning of the survey period) (UK Government, 2022)
COVID19 deaths	Average deaths over the survey period plus the previous two weeks (UK Government, 2020)
COVID19 stringency index	Mode Oxford Stringency Index (*OxCGRT*) over the survey period

2012; Milfont et al., 2015) and region of residence (Graham et al., 2022a) as well as measures of socio-economic status (Ballew et al., 2020; Eom et al., 2018), such as educational attainment (Echavarren et al., 2019; Milfont et al., 2014; Panzone et al., 2016; Semenza et al., 2008), employment status (Spence et al., 2012), and housing tenure (Graham et al., 2022a). The survey date was also included as a control variable.

Any other significant associations in the bivariate analyses were also explored. Following tests for collinearity between variables, Akaike's Information Criterion (AIC) and Bayesian Information Criterion (BIC) were used for final variable selection, where a lower AIC or BIC indicates a better quality of model (Ward, 2008). Interactions between variables were also included if significant.

Results

Results: bivariate analysis

Climate change concern over time

Figure 2 describes the patterns of concern across the 2021 surveys. Public concern (very concerned or fairly concerned) remained at over 80% across the 2021 surveys (Figure 2). It peaked at 89% in January/February 2021, months in which there was very limited media coverage of climate change and government restrictions were at their most stringent (Figure 1); in these months, the proportion who were "not at all concerned" was significantly lower ($p < 0.001$). There are no significant differences in concern pre-COP (October 2021) and post-COP (December 2021).

Important issues facing the UK

Across 2021, COVID19, the NHS, and climate change and environmental issues were consistently the three "most important issues facing the UK today" (Figure 3). The proportions selecting COVID19 were related to the severity of COVID restrictions but the proportion selecting climate change and environmental issues remained between 41% and 44%. There were no significant differences over time, including pre-COP and post-COP.
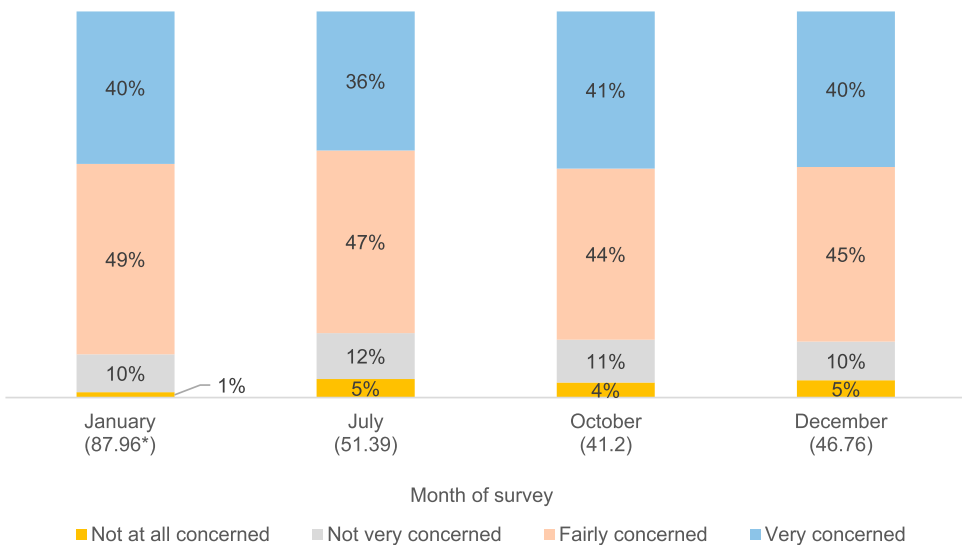

Figure 2. Climate change concern in the UK across 2021.

Note: *bracketed numbers refer to the OxCGRT score and demonstrate the average (mode) strength of policy response to COVID at the time.
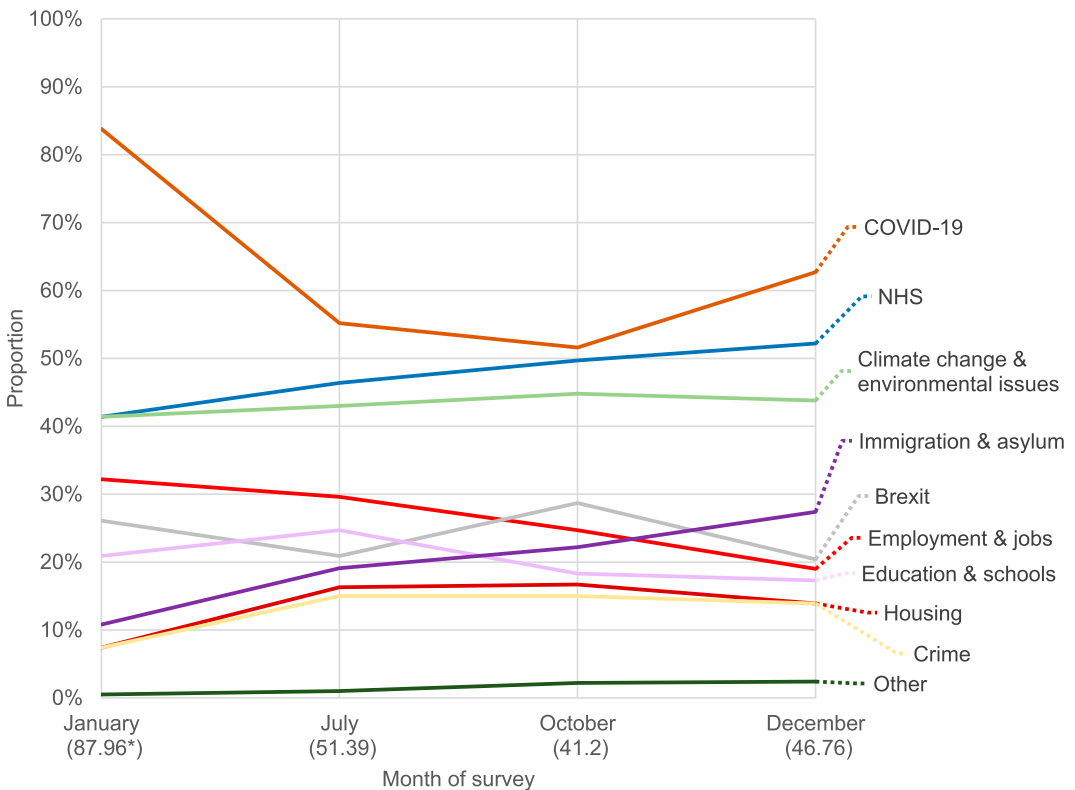
Figure 3. Most important issues facing the UK at four time-points in 2021 (participants could select up to three).

Single most important issue facing the UK

Across 2021, COVID19 was consistently identified as the single most important issue (Figure 4). Over 70% selected it in January/February 2021 when COVID19 infections were highest (UK Government, 2022) and government restrictions at their most stringent. In these months, only a small proportion (8%) identified climate change and environmental issues as the most important. The proportions were higher ($p < 0.05$) in the July (16%), October (19%) and December (16%) surveys, with no evidence that the November spike in media coverage of climate change was associated with an increase in its identification as the primary issue facing the UK.

Results: regression models

The regression models (Table 2) show no discernible effect of either the COVID19-related measures or climate change media coverage on the likelihood of respondents reporting that they are very concerned about climate change or the likelihood of their including climate change and environmental issues among the three most important issues facing the UK.

After selecting what they regard as the three most important issues facing the UK, respondents were asked which of these was the most important (if they only selected one, this was recorded as their priority issue). In contrast to climate change concern and whether they selected climate change among their top three issues, COVID19-related government restrictions emerge as a powerful predictor of whether climate change and environmental issues is selected as single priority issue, and this is mediated by age. An interaction within the model also highlights how those in the two higher age groups are significantly less likely to select climate change and environmental issues as their single most important issue at times of higher governmental COVID19-related stringency. For
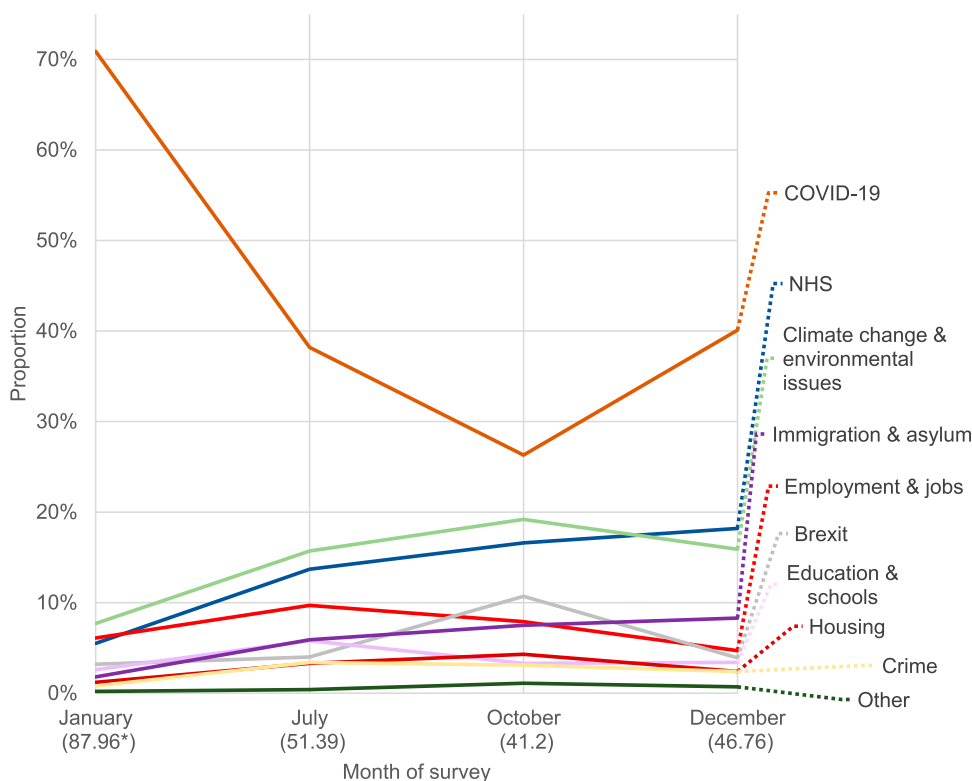
Figure 4. Single most important issue at four time-points in 2021.

Note: *bracketed numbers refer to the OxCGRT score (Ritchie et al., 2020) and demonstrate the average (mode) strength of policy response to COVID at the time.

every 10-point increase in the 100-point scale Oxford Stringency Index, the likelihood of a study participant in the 35–54 age group selecting climate change and environmental issues as their single most important issue decreases by 2.2% ($p < 0.05$), as compared to the 18–34 age group, while for those in the 55 and above age group the likelihood decreases by 2.8% ($p < 0.001$). Using this regression model against a test set of data, Figure 5 shows the relative likelihood of selecting climate change and environmental issues at the intersection between age and government stringency, and a clear difference between the two higher age groups and the lowest.

Discussion

Focusing on the UK, this study explores climate change concern and its issue salience through four cross-sectional surveys conducted across 2021. It does so in the context of the COVID-19 pandemic, a societal "shock" anticipated to herald an era of increased global risks and abrupt disruptions to people's lives (Ebi et al., 2021). 2021 was also the year in which the UK hosted the major global climate change meeting, an event associated with heightened media engagement with climate change.

Some limitations of the survey design should be noted. Firstly, participants were recruited through an online survey platform, therefore excluding those without internet access (home connection or mobile device). While most (95%) UK adults have access, those in disadvantaged circumstances are over-represented among those without (Serafino, 2019). With the study conducted across 2021 and throughout the COVID19 pandemic, this potential bias was hard to avoid (Hlatshwako et al., 2021), though the population quotas ensured a representative sample more broadly.

Table 2. Binary logistic regression results for climate change concern (very concerned vs other options), selection of climate change as one of the three most important issues facing the UK or not, and selection of climate change as the single most important issue facing the UK.

	Climate change concern (selection of very concerned about climate change vs other options)				Selection of climate change as one of three most important issues facing the UK				Selection of climate change as the single most important issue facing the UK			
	co-eff	exp(B)	CI (2.5%–	97.5%)	co-eff	exp(B)	CI (2.5%–	97.5%)	co-eff	exp(B)	CI (2.5%–	97.5%)
Intercept	−0.84	0.43***	−1.10	−0.59	−0.99	0.37***	−1.41	−0.57	−2.07	0.13***	−2.78	−1.35
Average climate change media coverage	0.01	1.01	−0.01	0.03	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.01
C19 case percentage change	−0.10	0.90	−0.23	0.03								
C19 UK Stringency Index (+/−10 pt)					0.00	1.00	−0.01	0.00	0.00	0.99	−0.01	0.00
Gender: male (**female**)	−0.07	0.93	−0.17	0.04	−0.07	0.94	−0.17	0.04	0.19	1.20*	0.04	0.33
Ethnic group: white ethnic group vs other ethnic groups (**white ethnic group**)					0.39	1.47***	0.22	0.56				
Age group: 35–54 (**age group: 18–34**)	0.07	1.07	−0.06	0.20	0.11	1.12	−0.02	0.24	1.31	3.70***	0.64	1.98
Age group: 55+ (**age group: 18–34**)	0.30	1.34***	0.16	0.43	0.38	1.47***	0.24	0.52	1.70	5.47***	0.98	2.44
Region binary: London & South East (**other regions**)	−0.21	0.81**	−0.32	−0.09	−0.11	0.89	−0.23	0.01	−0.18	0.84*	−0.34	−0.02
Health binary: fair or bad (**good or very good**)	−0.03	0.97	−0.14	0.08								
Education: ISCED 3–4 (**ISCED 1–2**)	0.29	1.34***	0.14	0.45	0.43	1.54***	0.28	0.58	0.20	1.22	−0.01	0.42
Education: ISCED 5–8 (**ISCED 1–2**)	0.72	2.06***	0.57	0.88	0.66	1.93***	0.51	0.81	0.50	1.65***	0.29	0.72
Area type: urban (**rural**)									−0.21	0.80*	−0.38	−0.04
C19 UK Stringency Index (10 pt)/35–54 age group (**C19 UK Stringency Index (10 pt)/ age group: 18–34**)									−0.02	0.98***	−0.04	−0.01
C19 UK Stringency Index (10 pt)/55+ age group (**C19 UK Stringency Index (10 pt)/ age group: 18–34**)									−0.03	0.97***	−0.04	−0.02

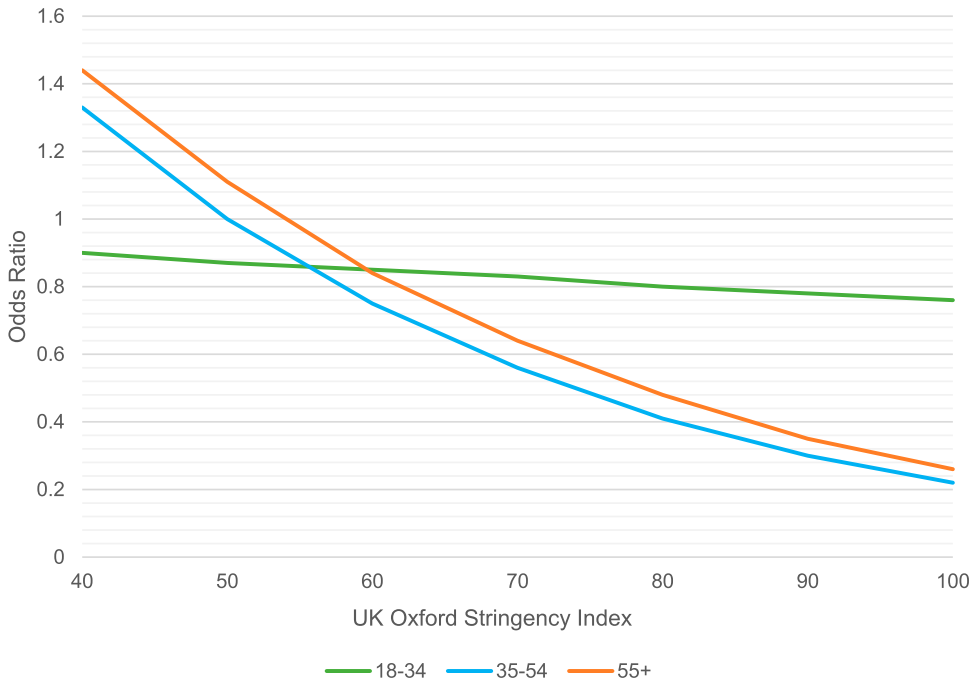* = $p < 0.05$, ** = $p < 0.01$, *** = $p < 0.001$.

Figure 5. Predicted odds ratio for different age groups by UK Oxford Stringency Index in the selection of climate change and environmental issues as most important issue facing the UK.

Secondly, based on cross-sectional surveys, the study tracks stability and change at the population level, not at the individual level; restricted to a single year, it is also not able to undertake a longer time series analysis. Thirdly, climate change perceptions, including in the UK, are known to be influenced by broader factors, including political preferences and ideologies (McCright et al., 2016; Pidgeon, 2012; Schmid-Petri, 2017; Većkalov et al., 2021). The relative stability in public concern and its position among the top three issues of importance for the UK points to the possible influence of factors beyond those investigated here (COVID19 and media coverage of climate change), including media coverage of other issues of high public concern. In addition, further research is required on potential differences in the salience of climate change and other environmental issues, such as biodiversity loss (Ware & Callaway, 2019).

Our first hypothesis, that the disruptions to people's everyday lives associated with the COVID-19 epidemic would reduce the issue salience of climate change, was only partially confirmed. Across 2021, the proportion placing climate change and environmental issues among the three "most important issues facing the UK today" remained stable at between 41 and 45%. However, consistent with our hypothesis, the higher the government's COVID19 stringency (e.g. home confinement, closure of workplaces and public venues), the lower the likelihood of respondents selecting climate change and environmental issues as the most important issue. As might be expected, given the positive relationship between age and vulnerability to COVID19 (Crimmins, 2020; Daras et al., 2021), an interaction in the regression also shows that this drop is more severe in those in higher age categories than in lower categories.

In line with our second hypothesis, the study suggests that COP-26 and the associated spike in media coverage of climate change had very little, if any, effect on the level of climate change concern or its issue salience: there were no significant differences over time in the three outcomes, including pre-COP and post-COP. This stability occurred in the context of a broader trend of increasing concern over time in the UK (BEIS, 2021; Milfont et al., 2021).

Overall, our study points to the stability of public concern about climate change and its importance as a priority issue in the UK. Public concern about climate change and its identification as a priority issue remained steady through a year when a pandemic took a heavy toll on people's health and government restrictions changed people's everyday lives. While under 10% selected it as their top priority when infections and restrictions at their most extensive (January 2021), the proportion increased to between 16 and 19% from July to December. Our study also suggests that global climate change events and associated media engagement do not change the patterns of public concern or its issue salience.

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