# IDENTIFYING THE TRUSTWORTHINESS OF COVID-19 INFORMATION SOURCES: ENHANCING INFORMATION RECEPTION ACROSS THE POPULATION

**Final project report**

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## EXECUTIVE SUMMARY

Trust is likely to be important element in whether people accept information about personal health and risk during a crisis like a viral pandemic. We therefore need to understand more clearly how far people trust different information sources, and for what reasons. We also need to understand how far trust in different information sources varies between different groups within the population, particularly among 'marginalised' individuals in low socio-economic groups and ethnic minority groups.

To explore what information about the coronavirus people look to, how far they trust different information sources, which factors explain this trust, and what the effects of trust are, research was conducted in two countries: the United Kingdom (UK) and the United States (US).

***Which sources of information do people look to?***

The results of our surveys show that people deem scientific and medical experts to be the most useful sources of information on the coronavirus. The media is seen as useful by more than one-half of people in the UK, although the figure is lower in the US. In both countries, senior government officials are seen as useful sources of information by only around three in ten of respondents, while social media platforms are deemed useful by only around one-fifth of respondents.

Educated and affluent individuals are more likely to see scientists as useful sources of information than less-educated and poorer individuals. There is less of a gap when it comes to ethnicity. In the US, though, Black individuals are less likely than White individuals to see local doctors as a useful source of information. (→ Section 7.1 for further details)

***Which sources of information do people trust?***

Scientists and medical experts are also widely trusted by citizens when it comes to providing information on the coronavirus. People in both the UK and US express high levels of trust in both local doctors and scientists advising the government. Local authorities – local councils in the UK and state governments in the US – also gained a trust rating around the midpoint of 5. In the UK, television news is trusted a little more than information from newspapers. In both countries, trust in the national government falls below the midpoint of 5.

In both the UK and US, trust in information sources tends to be higher among more educated and affluent individuals than among less educated and poorer ones. When it comes to ethnicity, there are no marked variations in trust in scientists between Whites and ethnic minority members. Yet ethnic minority members (in the US, specifically Blacks) are less trusting in local doctors than are Whites. And although trust in ethnic group leaders and faith leaders is fairly low across the population, it tends to be higher among ethnic minority group members than among Whites. (→ Section 7.2)

***What explains people's trust in different information sources?***

The results from the focus group discussions suggest that many people form trust judgements about actors like government officials and scientists on somewhat different grounds. In the case of scientists, trust appears to be heavily shaped by considerations of competence and expertise. In the case of politicians, however, trust appears to be less strongly shaped by competence, and more by considerations about politicians' concern for other people, and by the integrity of their actions. Trust is always a complex judgement, and is rarely reducible to one or two factors. Yet our results highlight a different balance between these factors in the case of people's trust judgements about scientists and government officials.

This finding is largely supported by the results from a conjoint experiment fielded as part of the surveys. Data from this exercise shows that people's trust in scientists falls particularly sharply when they are presented as lacking competence and expertise. People's trust in politicians appears to be sensitive to a broader set of considerations: not only their competence, but also how in touch with other people they are and how concerned they are with ordinary people and their lives.

Our data also point to the importance for scientists of being seen as independent from government. The results of the conjoint experiment show that scientists who are described as considering the scientific evidence but adjusting their decisions to reflect what politicians believe are marked down on trust, while scientists who do not adjust their decisions in this way are marked up. When it comes to taking into account wider considerations such as the needs of business, our results suggest that scientists who ignore such considerations and stick to the scientific evidence are not marked up or down on trust. Yet politicians who do the same are marked down on trust. This highlights the tricky balancing act facing government officials. On the one hand, they – like scientists – need to follow the scientific evidence and not be swayed by political pressures. Yet at the same time, they must also juggle the scientific evidence with the needs of business. In this sense, politicians face a more difficult balancing act in securing public trust than do scientists.

There is little evidence from the focus groups or from the conjoint experiment that different groups within the population appraise the trustworthiness of actors like government officials and scientists on different grounds. There is more evidence that different groups appraise trustworthiness on similar considerations; any variations in trust appear to reflect different judgements on these considerations rather than the use of different considerations. (→ Section 7.3 for further details)

***What are the effects of trust?***

We find that people's willingness to listen to information on the coronavirus from different sources, and to follow recommendations made by these sources, is closely linked to their feelings of trust in each source. However, we also note that people sometimes deem a source to provide useful information about the coronavirus without necessarily trusting it.

People's reported willingness to get vaccinated in future is related to their trust in different sources; people who express high trust are generally more likely to report being willing to get vaccinated in future than people who express low trust. In the UK, this relationship is

stronger for people's trust in scientists than for their trust in government officials. In the US, the relationship with vaccination intentions is also strong for people's trust in government. This may reflect the partisan nature of trust among Americans, and the links that partisan attitudes have to public health measures like vaccination.

There is also a positive association between people's trust in scientists and their support for such social restrictions as compulsory mask-wearing, working at home and COVID-19 'vaccination passports'. In the US, trust in the federal government has a similarly strong association with support for lockdown measures. Attitudes to national politicians appear to be an important element in people's reactions to social restrictions in the US while they are less so in the UK. (→ Section 7.4 for further details)

## 1. PROJECT TEAM

This project comprises a collaboration between researchers at two UK universities and one US university. The Principal Investigator of the project is Ben Seyd from the University of Kent. The Co-Investigators are Will Jennings from the University of Southampton, and Joseph A Hamm from Michigan State University. The project draws on research assistance provided by Jennifer Gaskell, Lawrence McKay and Viktor Valgarðsson at the TrustGov project at the University of Southampton, Sandra Hicks at the University of Kent and Meridith Anness at Michigan State University.

The project is funded by a collaboration between the UK British Academy and the US Social Science Research Council and Science and Innovation Network. The project investigators are grateful to these funders for their support. We should emphasise that all the information provided in this report is the work of the project investigators, and does not necessarily represent the views of the funders.

Readers interested in the project and its research are invited to visit its website, where details of further publications, including academic journal articles and commentaries, will be posted. The project website can be accessed at: https://research.kent.ac.uk/information-trust/.

## 2. PROJECT OVERVIEW

A noteworthy feature of the coronavirus pandemic has been the variation in people's receptiveness to coronavirus information and advice[1], rates of compliance with official rules[2] and uptake of coronavirus vaccinations.[3] There are numerous reasons that might explain

[1] Dominic Abrams et al (2020a) *Community, Connection and Cohesion during COVID-19: Beyond Us and Them Report*, Belong: The Cohesion and Integration Network; Emily Morrison et al (2020) *The Social Implications of Covid-19 on Communities*, London: Institute for Community Studies.
[2] L.E. Smith et al (2020) 'Factors associated with adherence to self-isolation and lockdown measures in the UK: A cross-sectional survey', *Public Health*, 187: 41-52.
[3] Melinda Mills et al (2020) *COVID-19 Vaccine Deployment: Behaviour, Ethics, Misinformation and Policy Strategies*, Royal Society/British Academy preprint.

these variations including, importantly, feelings of trust, which studies have shown to be closely related to health-compliant behaviour[4] and to vaccination uptake.[5]

Trust is important as it shapes people's access and responsiveness to information. The role of official information in informing and guiding the public on issues around personal health and risk management has increased during the coronavirus pandemic. In times of crisis, when information is provided to help individuals to make effective decisions, citizens must decide whether to accept such information and to comply with official guidance or rules. Studies have long stressed the importance in these decisions of trust.[6] The role of trust arises because people often lack the requisite technical knowledge to evaluate the accuracy of official information about risk, and instead fall back on cognitively simpler evaluations such as perceived trustworthiness of the source.[7] [8] As a result, trust is widely seen to be a key element in shaping citizens' receptiveness to, and compliance with, information about risk. This point was emphasised in previous health scares in Britain, which highlighted the crucial role of trust in ensuring effective communication of risk to the public.[9]

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[4] Abel Brodeur et al (2020) 'Stay-at-home orders, social distancing and trust', Discussion Paper 13234, Bonn: IZA – Institute of Labor Economics.

[5] Heidi J Larson et al (2018) 'Measuring trust in vaccination: A systematic review', *Human Vaccines and Immunotherapeutics*, 14:7, 1599-1609.

[6] Carl I Hovland et al (1953) *Communication and Persuasion*, New Haven, CT: Yale University Press; Chanthika Pornpitakpan (2004) 'The persuasiveness of source credibility: A critical review of five decades' evidence', *Journal of Applied Social Psychology*, 34:2, 243–281; Michael Siegrist and George Cvetkovich (2000) 'Perception of hazards: The role of social trust and knowledge', *Risk Analysis*, 20:5, 713-720; Mathew P White and J Richard Eiser (2007) 'A Social Judgement Analysis of Trust: People as Intuitive Detection Theorists', in Michael Siegrist et al, eds, *Trust in Risk Management: Uncertainty and Scepticism in the Public Mind*, London: Earthscan; Anneloes Meijnders et al (2009) 'The Role of Similarity Cues in the Development of Trust in Sources of Information about GM Food', *Risk Analysis*, 29:8; Louise Cummings (2014) 'The "Trust" Heuristic: Arguments from Authority in Public Health', *Health Communication*, 29:10, 1043-1056.

[7] Ortwin Renn and Debra Levine (1991) 'Trust and Credibility in Risk Communication', in Roger E Kasperson and Pieter Jan M Stallen, eds, *Communicating Risks to the Public: International Perspectives*, Dordrecht: Springer; Michael Siegrist and George Cvetkovich (2000) 'Perception of hazards'; Georgina Cairns, Marisa de Andrade and Laura MacDonald (2013) Reputation, Relationships, Risk Communication, and the Role of Trust in the Prevention and Control of Communicable Disease: A Review, *Journal of Health Communication*, 18:12, 1550-1565.

[8] Note, however, that trust in a source may exert a less persuasive effect among individuals who already hold attitudes on the relevant issue. See G Tarcan Kumkale et al (2010) 'The effects of source credibility in the presence or absence of prior attitudes: Implications for the design of persuasive communication campaigns', *Journal of Applied Social Psychology*, 40:6, 1325-1356. For such people, evaluations of information can be formed on the basis of existing attitudes rather than on the basis of a heuristic like trust. Among such people, trust may be particularly important for individuals whose attitudes are discordant with the guidance provided by a source; where attitudes are more congruent with that guidance, acceptance may rest less on trust. See Chanthika Pornpitakpan (2004) 'The persuasiveness of source credibility'.

[9] BSE Inquiry Report (2000) *The Inquiry into BSE and Variant CJD in the United Kingdom, Volume 1 – Findings and Conclusions*, available at: https://webarchive.nationalarchives.gov.uk/ukgwa/20060525120000/http://www.bseinquiry.gov.uk/report/volume1/toc.htm (p266).

At the same time, levels of trust vary significantly within the population, for example between people in different socio-economic groups and geographical communities.[10] Trust is therefore a potentially important factor in shaping variations in health engagement and vaccination uptake across different groups within the population.

Yet our understanding of people's trust in information sources – in particular which factors account for variations in levels of trust in different sources and between different individuals – is, to date, partial. A British Academy workshop in 2020 concluded with the need to "know more precisely who people will trust and why people trust certain sources of influence or information rather than others".[11]

This project was designed to address this issue, by exploring how and why people trust different sources of information about the coronavirus. Much of the information people use to understand the coronavirus comes from government sources, but also from scientific and medical experts. This raises the question of how citizens evaluate the trustworthiness of these actors? Are the grounds, or criteria, on which individuals form trust judgements about scientists and medical experts similar to those they use in assessing the trustworthiness of senior political figures? Or do people use specific considerations when assessing whether they should trust information provided by scientists? At a time when scientists and medical experts have been given an important role in fighting the coronavirus by advising and guiding the public, we need to understand how the public evaluates these actors.[12]

In exploring how and why citizens trust different sources of information about the coronavirus, the project also examined patterns and variations among key groups within the population. It explored whether there are differences in how far key groups within the population trust key information sources, and in particular whether there is an issue with low trust among particular ethnic and socio-economic groups. If certain 'marginalised' groups within the population have been less engaged in public health measures around the coronavirus – for example, by being less likely to access relevant information, and to take up vaccination opportunities – might this partly reflect differences between groups in whether key information sources are deemed trustworthy or not?

The project focused on citizens in two countries, the United Kingdom and the United States. Its findings are designed to provide important and useful lessons and benefits for policy-

[10] José Javier Olivas Osuna et al (2021) 'Place matters: Analyzing the roots of political distrust and Brexit narratives at a local level', *Governance*, 34:4, 1019-1038; Michael Kenny and Davide Luca (2021) 'The urban-rural polarisation of political disenchantment: An investigation of social and political attitudes in 30 European countries', *Cambridge Journal of Regions, Economy and Society*, 14:3, 565–582; Lawrence McKay et al (2021) 'Political trust in the "places that don't matter"', *Frontiers in Political Science*, 3.

[11] Dominic Abrams et al (2020b) What factors make a community more vulnerable to COVID-19? London: British Academy, page 14.

[12] Andrea Lavazza and Mirko Farina (2020) 'The Role of Experts in the Covid-19 Pandemic and the Limits of Their Epistemic Authority in Democracy', *Frontiers in Public Health*, 8; Dheepa Rajan et al (2020) 'Governance of the Covid-19 response: A call for more inclusive and transparent decision-making', *BMJ Global Health*, 5:e002655.

makers in these countries, and in other countries too. In particular, by providing a clearer understanding of how individuals judge the trustworthiness of key information sources, the project provides resources for policy-makers in designing future communication strategies that increase public receptiveness to important information and guidance in areas of social risk. Understanding how trust in different information sources varies between individuals in different social groups will also facilitate more targeted and specific public health campaigns. Overall, we hope the project's results will inform policy strategies to deliver more effective and socially equitable responses to future health crises.

## 3. PROJECT OBJECTIVES AND KEY TASKS

The project focused on four main questions:

*Q1. What are the principal sources used by people to gain information about the coronavirus?*

The project sought to identify which sources of information people see as most useful in helping them to understand the coronavirus. These sources include 'direct' information providers (such as government officials and scientific advisers) and 'indirect' or 'mediated' information providers (such as newspapers, TV news channels and social media platforms). The project also examined whether there were variations within the population in the perceived usefulness of these information sources.

*Q2. How far do people trust these different information sources?*

The project identified people's trust in various key sources involved in providing information about the coronavirus, and explored variations in levels of trust between individuals in different groups within the population. In particular, the project explored how far levels of trust in information sources differ among individuals within various 'marginalised' communities.

*Q3: Which factors shape individuals' trust in different information sources?*

The project explored the grounds on which individuals judge information sources to be trustworthy or untrustworthy. While there are potentially numerous grounds on which the trustworthiness of a source might be judged, the project focused on the features or attributes of the sources themselves. In particular, the project examined how individuals appraise trustworthiness in the case of scientific and medical experts, and compared these appraisals to assessments of trustworthiness in the case of politicians. This focus enabled the project to identify how far people's trust in scientific experts reflects similar or distinctive considerations to their trust in political actors. The project also explored whether the bases of trust in different information sources varied between individuals within the population.

*Q4: What are the effects of people's trust in different information sources?*

Finally, the project moved beyond identifying levels of trust in different information sources, and the reasons for trust among individuals, to explore how trust might be

associated with important attitudes and behaviours among citizens. The data collected by the project are observational and limited to a particular time-point. Strictly speaking, then, they do not allow us to identify the causal effects of trust. Yet they do allow us to examine the associations that trust has with various attitudes and behaviours, such as vaccination uptake and support for official lockdown measures. In particular, the project explored whether the associations with such attitudes and behaviours are stronger when it comes to people's trust in scientific and medical experts than when it comes to their trust in politicians.

## 4. CONDUCT OF THE PROJECT

The project involved the collection of various data, using qualitative (focus groups) and quantitative (surveys of the wider population) methods. The design of these data-gathering exercises is laid out in this section, while the contribution of each exercise to the project's core questions is summarised in Table 1. The project also involved a review of existing research studies, which informed the design of the data-collection exercises.

### 4.1 Review of existing studies

The project conducted a short review of the literature designed to identify existing research on people's use of sources to gain information about the coronavirus, their levels of trust in these sources, the factors shaping trust judgements, and the association between those trust judgements and people's take-up of vaccination opportunities. The review also explored variations between population sub-groups in information usage, trust and coronavirus-related attitudes and behaviours.

The literature review focused on the UK and US, but also extended to significant studies conducted among other national populations. Due to time constraints, the literature review involved identifying key academic and policy studies on each of the main issues covered by the project, and by following citations within these studies to previous analyses, as well as to citations of these studies. The review thus comprised an 'identification and snowballing' approach to sampling rather than a systematic approach based on an exhaustive search of academic databases. This mapping approach to the literature review was appropriate given the limited time available to the exercise and its goal: to inform the design and conduct of the project's data-collection.

### 4.2 Qualitative analysis using focus groups

To identify and explore the reasons individuals report for trusting or distrusting different sources of information about the coronavirus, the project commissioned a set of focus groups. The groups were designed to identify the criteria people report drawing on in assessing the trustworthiness of information sources, and to explore how far these criteria varied across different sources. The project implemented an innovative qualitative approach first developed in the ESRC-funded TrustGov project, which had previously fielded similar

questions in 62 focus groups across eight countries.[13] This provided additional assurances of the robustness of the approach and design, as well as enabling comparability with other data.

[13] See https://trustgov.net/.

**Table 1: Key research questions and project components**

| | Key question | Project component | Contribution of component to question | Comparison between UK-US? |
|---|---|---|---|---|
| Q1 | What are the principal sources used by people to gain information about the coronavirus? | Surveys of UK and US populations | The surveys include questions asking respondents about the usefulness of key sources in the context of understanding the coronavirus. (For analysis, see Section 7.1) | Yes: comparison between usefulness of information. |
| | How does the use of different information sources vary by population sub-group? | Surveys of UK and US populations | Survey measures of demographic, socio-economic and race/ethnicity features enable breakdowns of information use. (→ Section 7.1). | Yes: comparison between sub-groups on usefulness of information. |
| Q2 | How far do people trust different information sources? | Surveys of UK and US populations | The surveys include questions asking respondents about their trust in a range of information sources (→ Section 7.2). | Yes: comparison between trust in different information sources. |
| | How does public trust in different information sources vary by population sub-group? | Surveys of UK and US populations | Survey measures of demographic, geographical, socio-economic and race/ethnicity features will enable breakdowns of trust (→ Section 7.2). | Yes: comparison between sub-groups on trust in information sources. |
| Q3 | Which factors shape individuals' trust in different information sources? | Focus groups | In-depth group discussions on the criteria that people draw on to assess trust in different information sources (→ Sections 6.1-6.6). | Partial: some comparison between the factors involved in trust in different information sources. |
| | | Surveys of UK and US populations | Conjoint experiment allows test of how a variety of key features shape people's trust in government officials and scientific experts (→ Section 7.3). | Yes: comparison between the features associated with trust in government officials and scientific experts. |
| | How far do the key factors in trust vary between population sub-groups? | Surveys of UK and US populations | Breakdown of conjoint experiment results by key population sub-groups (→ Section 7.3). | Yes: comparison between the key factors in trust by key population sub-groups. |

| | | | | |
|---|---|---|---|---|
| Q4 | What are the effects of people's trust in different information sources on coronavirus attitudes and behaviours? | Surveys of UK and US populations | The surveys include questions asking about attitudes to, and behavior around: vaccination and official containment measures (→ Section 7.4). | Yes: comparison between the effects of trust on people's attitudes and behaviours. |

The project commissioned Ipsos-MORI to run six focus groups in the UK (details of this exercise are provided in Table 2). The groups were conducted online in December 2021. We selected a variety of locations for the groups, including a 'central' territorial location (London, two groups) and a more 'peripheral' location (Newcastle upon Tyne, two groups). A further two groups were held among participants living in a major regional city (Birmingham). We also varied the socio-economic profile of participants, with two groups comprising individuals from higher socio-economic categories (social groups ABC1) and two groups comprising individuals from lower socio-economic categories (social groups C2DE). The ethnic profile of participants was also varied; one group in London comprised Black Caribbean and Black African participants, while one group in Birmingham comprised South Asian (Bangladeshi or Pakistani) participants; all other groups comprised White British participants. The focus groups were also stratified by age, and each group contained an equal gender mix and a mix of political parties supported by individuals.

We also drew on eight focus groups conducted in the United States as part of a separate exercise run by the TrustGov project (details are provided in Table 2). These groups were conducted online in February and May 2021. The groups were conducted in locations in the Midwest (Ohio and Cincinnati), the North East (New York) and the South (Baytown, Phoenix, Houston and Buckeye). Groups were held in an equal mix of urban and rural locations. Composition of the groups was also stratified by age, with both males and females participating in each group.

To identify the criteria that people draw on in assessing the trustworthiness of different information sources, we designed the UK focus groups around three core exercises:

1) Group participants were first asked to identify which features they associated with trustworthy and, separately, untrustworthy government minister. The same exercise was then conducted for scientists. The US focus groups involved a similar exercise for politicians, but not for scientists.

2) Group participants were then asked to rank the trustworthiness of different information sources. Participants were asked to rank eight actors: government ministers, scientific and medical advisers, academics working in universities (to provide a point of comparison with scientific advisors), local healthcare workers, the local council, community leaders and the local and national media. Having ranked the trustworthiness of these actors, participants were then asked to explain their choices. By fielding a number of actors, the exercise enabled us to assess participants' evaluations of trustworthiness across a range of information sources, and also to identify how far those evaluations differed according to the source's territorial location (ie. located at the local or national level).

3) Group participants were finally asked to evaluate the trustworthiness of real information provided by a politician and by a scientist. Participants were exposed to short filmed excerpts of a press conference hosted in Downing Street by the Prime Minister, the Chief Medical Adviser and the Chief Scientific Adviser. Participants were shown a set of

questions from a journalist, followed by separate film clips of answers from the Prime Minister and the Chief Scientific Adviser.[14] They were then asked to indicate how much they trusted the information provided by each speaker and the reasons for their evaluations.

**Table 2: Details of focus groups**

| Number | Location | Age | Gender | Social group | Ethnicity |
|---|---|---|---|---|---|
| **UK** | | | | | |
| 1 | London | 45+ | F: 3, M: 2 | ABC1 | White British |
| 2 | London | 18-44 | F: 2, M: 3 | Mix | Black Caribbean and Black African |
| 3 | Newcastle (rural) | 45+ | F: 2, M: 3 | ABC1 | White British |
| 4 | Newcastle (urban) | 18-44 | F: 3, M: 3 | C2DE | White British |
| 5 | Birmingham | 45+ | F: 3, M: 3 | Mix | South Asian (Bangladeshi or Pakistani) |
| 6 | Birmingham | 18-44 | F: 3, M: 2 | C2DE | White British |
| **US** | | | | | |
| 1 | Ohio | 45+ | F: 4, M: 2 | n/a | n/a |
| 2 | Cincinnati | 18-44 | F: 3, M: 3 | n/a | n/a |
| 3 | New York City | 18-44 | F: 2, M: 4 | n/a | n/a |
| 4 | New York State | 45+ | F: 3, M: 3 | n/a | n/a |
| 5 | Baytown, TX | 45+ | F: 2, M: 3 | n/a | n/a |
| 6 | Phoenix, AZ, | 18-44 | F: 4, M: 2 | n/a | n/a |
| 7 | Houston, TX | 18-44 | F: 5, M: 2 | n/a | n/a |
| 8 | Buckeye, AZ | 45+ | F: 4, M: 2 | n/a | n/a |

Transcripts of the focus groups were analysed manually, with an emphasis on the criteria used by participants in assessing trustworthiness, along with any variations in these criteria across different information sources. Since many of the criteria of trust have previously been identified and discussed in the wider subject literature[15], the transcripts were analysed using these existing concepts or themes. The analysis thus took the form of a thematic category-based approach.[16]

### 4.3 Quantitative analysis using population surveys

The project commissioned Ipsos-MORI to conduct surveys of the adult populations in the UK and the US. In each country, a nationally representative quota sample of adults aged 18+ was interviewed online. Quotas were set in both countries on age, gender, region and working status. The results were then weighted to the known offline population proportions

[14] The film can be seen at: https://www.youtube.com/watch?v=CBMC6S7Hf1E. We used the journalist questions at 14:22 followed by excerpts (around 60 seconds) of the responses by the Prime Minister and the Chief Scientific Advisor.

[15] For example: Margaret Levi and Laura Stoker (2000) 'Political Trust and Trustworthiness', *Annual Review of Political Science*, 3: 475-507; Roger C Mayer, James H. Davis, and F. David Schoorman (1995) 'An Integrative Model Of Organizational Trust', *Academy of Management Review*, 20:3, 709–34.

[16] Graham Gibbs (2007) *Analyzing Qualitative Data*, London: Sage.

for age, working status, social grade within gender and government office region (for the UK sample) and for age within gender, region, working status and household annual income (for the US sample). The surveys included just over 40 questions, and were designed to take respondents around 20 minutes to complete. The total number of respondents achieved was 1,501 in the UK and 1,499 in the US.

The surveys were designed to provide accurate population estimates of individuals' attitudes towards different sources of information about the coronavirus; their level of trust in these sources; their receptiveness to, and acceptance of, information about the coronavirus; their uptake of existing coronavirus vaccine opportunities and their attitudes to future vaccination opportunities; and their attitudes to official measures designed to contain the spread of the coronavirus. Details of the survey questions and response options are provided in Appendix 1.

The features of politicians and scientists that individuals draw on in forming trust judgements were identified via a discrete choice (or conjoint) element within the survey. In both study countries, the samples were split into two (with ~750 respondents in each; each split-sample was separately weighted). Respondents in each split sample were exposed to pairs of a single actor: either a government minister (in the UK) or a state governor (in the US), with responsibility for COVID-19; or a scientist advising government on COVID-19. The features of the actors within each pairing were varied across eight different attributes. Respondents were asked to select which actor within the pair they would trust more to provide reliable information. Each respondent was asked to make four pairwise choices. An example of the paired comparison as it appeared to survey respondents is presented in Figure 1.

**Figure 1: Choice presented to respondents in conjoint exercise**

Based on this information, which **ONE** of these two people would you tend to **trust more?**

**card 1 of 4**

| Scientist A | Scientist B |
|---|---|
| The quality of their work is judged by colleagues to be average | The quality of their work is judged by colleagues to be high |
| Makes public all of the data and information they use in their work | Makes public only some of the data and information they use in their work |
| Is in touch with everyday life and people like yourself | Is very out of touch with everyday life and people like yourself |
| Is not very concerned about the lives of ordinary people | Is very concerned about the lives of ordinary people |
| Always admits when the evidence does not fully support what they have said in the past | Rarely admits when the evidence does not fully support what they have said in the past |
| Often uses technical language when presenting information | Always presents information in an easy-to-understand way |
| Considers the scientific data alone, and does not adjust their decisions to reflect what politicians believe | Considers the scientific data, but adjusts their decisions to reflect what politicians believe |
| In making decisions, they balance the scientific evidence with other considerations, like the needs of business | In making decisions, they focus only on the scientific evidence and do not take into account other considerations, like the needs of business |
| ○ | ○ |

Previous Next

The features or attributes of the information sources tested in the conjoint exercise were selected to represent the key features likely to be relevant to people's appraisal of their trustworthiness. These attributes were identified from the review of the existing literature (see Section 5), from the UK focus groups (see Section 6) and from similar experiments fielded by the TrustGov research project in other countries. These attributes cover source competence, transparency, representativeness, benevolence, honesty, communication style, independence from political pressures[17] and the priority placed on the scientific evidence relative to other desiderata such as the needs of business. The eight attributes, and the levels within each attribute, are detailed in Table 3.

**Table 3: Attributes and levels used in conjoint design (for scientists)**

| Attribute | Levels |
|---|---|
| *Competence* | The quality of their work is judged by colleagues to be high<br>The quality of their work is judged by colleagues to be average<br>The quality of their work is judged by colleagues to be low |
| *Transparency* | Makes public all of the data and information they use in their work<br>Makes public only some of the data and information they use in their work<br>Makes public none of the data and information they use in their work |
| *Representativeness* | Is in touch with everyday life and people like yourself<br>Is sometimes a bit out of touch with everyday life and people like yourself<br>Is very out of touch with everyday life and people like yourself |
| *Benevolence* | Is very concerned about the lives of ordinary people<br>Is somewhat concerned about the lives of ordinary people<br>Is not very concerned about the lives of ordinary people |
| *Honesty* | Always admits when the evidence does not fully support what they have said in the past<br>Sometimes admits when the evidence does not fully support what they have said in the past<br>Rarely admits when the evidence does not fully support what they have said in the past |
| *Communication* | Often uses technical language when presenting information<br>Always presents information in an easy-to-understand way |
| *Independence* | Considers the scientific evidence, but adjusts their decisions to reflect what politicians believe<br>Considers the scientific evidence alone, and does not adjust their decisions to reflect what politicians believe |
| *Values* | In making decisions, they balance the scientific evidence with other considerations, like the needs of business<br>In making decisions, they focus only on the scientific evidence and do not take into account other considerations, like the needs of business |

[17] For evidence that people are less likely to support policy choices when the underpinning science is seen to be politicised, see Toby Bolsen, James N. Druckman and Fay Lomax Cook (2014) 'How Frames Can Undermine Support for Scientific Adaptations: Politicization and the Status-Quo Bias', *Public Opinion Quarterly*, 78:1, 1–26.

## 5. LITERATURE REVIEW

The review of existing studies was designed to identify what is already known about the links between information sources, trust and behavioural outcomes, in particular uptake of coronavirus vaccinations. The review focused on studies that explore:

- How far vaccination acceptance and uptake varies within the population (section 5.1).
- How far individual decisions on vaccination uptake and other health-related behaviours are shaped by feelings of trust in key actors (section 5.2).
- Levels of individual trust in different sources of information on the coronavirus (section 5.3)
- Which factors explain people's trust in different information sources (section 5.4).
- Which sources individuals rely on to get information about the coronavirus (section 5.5).

The review also explored the evidence related to variations within the population – particularly when it comes to socio-economic and ethnic grouping – on each of these issues. A summary of the key questions informing the review, of the key findings arising from the existing research base, and of additional questions relevant for the project, is provided in Table 4.

**Table 4: Summary of literature review: Key questions, results and questions arising**

| Section | Key question | Summary of results in literature | Questions arising for the project |
|---|---|---|---|
| 5.1 | How far do coronavirus vaccination acceptance and uptake rates vary within the population? | Vaccine rates vary significantly within the population. Rates are generally higher for affluent and educated individuals, and for Whites relative to Black and minority ethnic individuals. | |
| 5.2 | How far are individual decisions on vaccination uptake and other health-related behaviours shaped by trust? | Vaccination uptake is higher among individuals who express high trust in institutions compared to low trust individuals. | |
| | | Vaccination uptake is more closely associated with individuals' trust in scientists and healthcare bodies than with their trust in political actors. | Evidence for this is limited; can the finding be replicated in studies of the UK and US populations? |
| 5.3 | How much trust do individuals have in different sources of coronavirus-related information? | There is a large variation in trust in different sources to provide information on the coronavirus: trust is generally high in the case of doctors and scientists, moderate in the case of government and low in the case of media and personal contacts. | |
| | | The evidence on whether local (proximate) or national (distant) sources of information are more trusted by people is limited and unclear. | How far do people trust local or community sources of information on the coronavirus over national sources of information? |
| | | Trust in 'official' information sources (eg. government agencies and scientific advisors) is generally found to be higher among better-educated and more affluent individuals. It is also higher among Whites than among Blacks and other ethnic minority groups. Yet trust in some information sources – for example, faith leaders – is higher among Blacks than among Whites. | How far do levels of trust in other sources of information about the coronavirus vary by individuals' socio-economic and ethnic status? |
| 5.4 | Which factors explain people's trust in different information | Limited research base; what evidence there is suggests trust in scientific experts may reflect considerations of expertise, while politicisation of | Which criteria do people use to assess the trustworthiness of different |

| | | | |
|---|---|---|---|
| | sources? | information may generate distrust.<br><br>Low levels of trust among Blacks and other ethnic minority individuals appear to reflect experiences of racism and discrimination. This appears to apply as much to people's trust in the healthcare system as to their trust in government. | information sources? |
| 5.5 | Which sources do individuals rely on to get information about the coronavirus? | People rely on a range of information sources, although more on institutional sources (eg. the media, government agencies, scientific experts) than personal sources (eg. other people).<br><br>Use of information sources varies by socio-economic status and ethnicity. Less educated individuals rely less on 'institutional' information sources like scientific experts, healthcare bodies and the media, and more on 'personal' information sources like other people. There is also some evidence of ethnic variations in information use; for example, Blacks appear to draw on information from faith leaders more than do Whites. | Data on the use of different information sources by groups within the population is fairly limited. Can we identify variations between groups in the usefulness of different sources in providing information about the coronavirus? |

**5.1 Vaccination patterns**

Over the course of the coronavirus pandemic, we have seen clear differences within national populations in COVID-19 infection and mortality rates, along with differences in the take-up of COVID-19 vaccinations.[18] The effects of the coronavirus have been argued to significantly reflect – and indeed to have exacerbated – existing ethnic and socio-economic inequalities within national populations.[19]

Numerous studies – conducted on samples in the UK, US and other countries – have found differential rates of stated or actual coronavirus vaccine uptake within national populations. Among individuals, high income and high levels of education are generally found to predict higher rates of vaccine uptake or intentions relative to low-income and less well-educated individuals.[20] In the UK, vaccination rates have also been shown to be lower among individuals living in deprived areas than among individuals living in more affluent areas.[21] Similar results have also been found in the US, where vaccine hesitancy has also been found to be higher among rural, than among urban, residents.[22]

Variations in vaccine acceptance and uptake have also been identified among different ethnic groups. Studies in the US have highlighted higher rates of coronavirus vaccination among Whites than among Blacks[23] and Hispanics.[24] In the UK, vaccination rates have been identified as particularly low among individuals with an African ethnicity, but also low

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[18] Mills et al (2020) *COVID-19 vaccine deployment*.
[19] Emily Morrison et al (2020) *The Social Implications of Covid-19*; Public Health England (2020) *Beyond the data: Understanding the impact of COVID-19 on BAME groups*, London: Public Health England.
[20] For cross-national reviews, see Cheryl Lin et al (2021) 'Confidence and Receptivity for COVID-19 Vaccines: A Rapid Systematic Review', *Vaccines*, 9:1; Rasmeih Al-Amer et al (2022) 'COVID-19 vaccination intention in the first year of the pandemic: A systematic review', *Journal of Clinical Nursing*, 31:1-2. For UK studies, see Jamie Murphy et al (2021) 'Psychological characteristics associated with COVID-19 vaccine hesitancy and resistance in Ireland and the United Kingdom', *Nature Communications*, 12:29; ONS (2022) 'Coronavirus and vaccination rates in people aged 18 years and over by socio-demographic characteristic and occupation, England: 8 December 2020 to 31 December 2021', London: Office for National Statistics; Elise Paul and Daisy Fancourt (2022) 'Predictors of uncertainty and unwillingness to receive the COVID-19 booster vaccine: An observational study of 22,139 fully vaccinated adults in the UK', *The Lancet Regional Health - Europe*, 14: 100317. For US studies, see Yasmin Farah et al (2021) 'COVID-19 Vaccine Hesitancy in the United States: A Systematic Review', *Frontiers in Public Health*, 9: 770985.
[21] ONS (2022) 'Coronavirus and vaccination rates'.
[22] Jagdish Khubchandani et al (2021) 'COVID-19 Vaccination Hesitancy in the United States: A Rapid National Assessment', *Journal of Community Health*, 46: 270–277; Yue Sun and Shannon M Monnat (2021) 'Rural-urban and within-rural differences in COVID-19 vaccination rates', *Journal of Rural Health*, in press.
[23] Ritu Agarwal et al (2021) 'Socioeconomic privilege and political ideology are associated with racial disparity in COVID-19 vaccination', *Proceedings of the National Academy of Sciences*, 118: 33, e210787311; Jill Diesel et al (2021) 'COVID-19 Vaccination Coverage Among Adults — United States, December 14, 2020–May 22, 2021', *Morbidity and Mortality Weekly Report*, 70:25; Yasmin Farah et al (2021) 'COVID-19 Vaccine Hesitancy'; Melissa B Reitsma et al (2021) 'Quantifying and Benchmarking Disparities in COVID-19 Vaccination Rates by Race and Ethnicity', *JAMA Network Open*, 4:10, e2130343.
[24] Melissa B Reitsma et al (2021) 'Quantifying and Benchmarking'.

among those with a Caribbean ethnicity. Vaccination rates among individuals from a South Asian background appear to be slightly higher, although still below rates among Whites.[25] Other studies point to variations within ethnic groups, with higher vaccination willingness among White British individuals than among White non-British individuals, and among individuals from an Indian British ethnic group than among those from a Pakistani or Bangladeshi British ethnic group.[26]

**5.2 The role of trust**

*What is the relationship between trust and vaccination across the population?*

Over the course of the coronavirus pandemic, studies have confirmed the importance of trust, by pointing to higher rates of COVID-19 vaccine acceptance among people who express trust rather than distrust in government[27] and in scientists and doctors.[28]

The project did not explore why trust should be associated with vaccination uptake. However, we note that people's willingness to get vaccinated may be shaped by their feelings of trust towards the vaccination, the process by which a vaccination is developed or administered, or the institution recommending or providing vaccination.[29] Vaccination decisions may therefore reflect various different aspects or considerations around the nature or sponsor of the vaccine. A recent study suggests that the effects of trust on vaccination intention run through – or are mediated by – attitudes towards, and perceptions about the safety of, vaccines. This finding implies that trust in an official actor or agency might act as a

[25] Shaun Griffin (2021) 'Covid-19: Ethnicity vaccination gap narrows in England, but concerns remain', *British Medical Journal*, 372:n505; Martine Stead et al (2021) 'National survey of attitudes towards and intentions to vaccinate against COVID-19: Implications for communications', *BMJ Open*, 11: e055085.

[26] SAGE (2021) 'Factors influencing COVID-19 vaccine uptake among minority ethnic groups', paper prepared by the ethnicity sub-group of the Scientific Advisory Group for Emergencies; Atiya Kamal et al (2021) 'Rapid Systematic Review of Factors Influencing COVID-19 Vaccination Uptake in Minority Ethnic Groups in the UK', *Vaccines*, 9:10, 1121; ONS (2022) 'Coronavirus and vaccination rates'.

[27] Alexandre de Figueiredo et al (2020) 'Mapping global trends in vaccine confidence and investigating barriers to vaccine uptake: A large-scale retrospective temporal modelling study', *Lancet*, 396: 898-908; Jeffrey Lazarus et al (2020), 'A global survey of potential acceptance of a COVID-19 vaccine', *Nature Medicine*, 27:2; Jamie Murphy et al (2021) 'Psychological characteristics'; Michael Bang Petersen et al (2021) 'Transparent communication about negative features of COVID-19 vaccines decreases acceptance but increases trust', *Proceedings of the National Academy of Sciences*, 118:29, e2024597118. See also the meta-analyses by Heidi J Larson et al (2018) 'Measuring trust in vaccination' and Ricvan Dana Nindrea et al (2021) 'Acceptance of COVID-19 vaccination and correlated variables among global populations: A systematic review and meta-analysis', *Clinical Epidemiology and Global Health*, 12: Oct–Dec.

[28] Philip Hyland et al (2021) 'Detecting and describing stability and change in COVID-19 vaccine receptibility in the United Kingdom and Ireland', *PLoS ONE*, 16:11, e0258871.

[29] Vicki S Freimuth et al (2017) 'Determinants of trust in the flu vaccine for African Americans and Whites', *Social Science & Medicine*, 193, 70-79.

(cognitively easy) surrogate for (cognitively more complex) evaluations of medical interventions like vaccinations.[30]

Studies also suggest that people's decisions relating to their health – such as their choice to get vaccinated – are more closely associated with their trust in scientists, medical practitioners and healthcare organisations than with their trust in political actors like governments.[31] In the US, recommendations from the Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO), and trust in the CDC and scientific bodies, have been found to increase individuals' acceptance of, and trust in, vaccines more than a recommendation from, or trust in, the incumbent President, Donald Trump.[32] Similarly, when it comes to other forms of coronavirus-related behaviour – for example, wearing a face covering – the associations with trust in scientific figures have been observed to be stronger than the associations with trust in political actors.[33]

*Are there variations within the population in the association between trust and vaccination?*

The existing research base also provides some evidence that differences in trust between individuals might help explain variations within the population in vaccine uptake. Studies have suggested that vaccine resistance among some minority ethnic groups reflects the

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[30] Mario R Paredes et al (2021) 'Predicting COVID-19 Vaccination Intention: The Roles of Institutional Trust, Perceived Vaccine Safety, and Interdependent Self-Construal', *Health Communication*, DOI: 10.1080/10410236.2021.1996685.

[31] Daniel Allington et al (2021a) 'Coronavirus: Who the public trust on the pandemic', Kings College London: Policy Institute; Daniel Allington et al (2021c) 'Coronavirus conspiracy suspicions, general vaccine attitudes, trust and coronavirus information source as predictors of vaccine hesitancy among UK residents during the COVID-19 pandemic', *Psychological Medicine*, 1-12; Philip Hyland et al (2021) 'Detecting and describing stability'; Will Jennings et al (2021) 'Lack of trust, conspiracy beliefs, and social media use predict COVID-19 vaccine hesitancy', *Vaccines*, 9:6, 593; John R Kerr et al (2021) 'Correlates of intended COVID-19 vaccine acceptance across time and countries: Results from a series of cross-sectional surveys', *BMJ Open*, 11:e048025; Marie Fly Lindholt et al (2021) 'Public acceptance of COVID-19 vaccines: Cross-national evidence on levels and individual-level predictors using observational data', *BMJ Open*, 11:e048172; Jamie Murphy et al (2021) 'Psychological characteristics'.

[32] Sarah Kreps et al (2020) 'Factors Associated With US Adults' Likelihood of Accepting COVID-19 Vaccination', *JAMA Network Open*, 3:10, e2025594; Carl A Latkin et al (2020) 'An assessment of the rapid decline of trust in US sources of public information about COVID-19', *Journal of Health Communication*, 25:10, 764-773.

[33] Simone Dohle et al (2020) 'Acceptance and adoption of protective measures during the COVID-19 pandemic: The role of trust in politics and trust in science', *Social Psychological Bulletin*, 15:4, e4315; Nejc Plohl and Bojan Musil (2020) 'Modeling compliance with COVID-19 prevention guidelines: The critical role of trust in science', *Psychology, Health & Medicine*, 26:1, 1-12; Yan Algan et al (2021) 'Trust in scientists in times of pandemic: Panel evidence from 12 countries', *Proceedings of the National Academy of Sciences of the United States of America*, 118: 40, e2108576118; Ryan P Badman et al (2021) 'Trust in Institutions, Not in Political Leaders, Determines Covid-19 Public Health Compliance in Societies across the Globe', preprint of paper (available at: https://psyarxiv.com/4dy8a); Christina Bicchieri et al (2021) 'In science we (should) trust: Expectations and compliance across nine countries during the COVID-19 pandemic', *PLoS ONE*, 16:6: e0252892; Sara Kazemian et al (2021) 'The role of race and scientific trust on support for COVID-19 social distancing measures in the United States', *PLoS ONE*, 16:7, e0254127.

absence of important guiding information conveyed by relatable and trusted sources.[34] In the US, vaccine hesitancy among Black Americans has been shown to be closely linked to distrust of information provided by the government and healthcare organisations.[35] Similarly, in the UK, higher levels of vaccine hesitancy among Black, Asian and minority ethnic (BAME) groups have been found to substantially reflect negative evaluations of government (measured by responses to survey items "Public officials don't care much about what people like me think" and "People like me don't have any say in what the government does")[36] and of medical and healthcare organisations.[37] Among BAME individuals with positive evaluations of government, levels of vaccine hesitancy have been found to be lower than among Whites.[38]

This suggests that the higher rates of vaccine hesitancy among some ethnic minority groups might be substantially explained by the lower rates of trust in government and healthcare organisations within these groups. This finding has been confirmed in other studies, which have found the association between ethnic minority status and vaccination uptake to weaken in models which control for individuals' feelings of trust relative to models that exclude trust.[39]

**5.3 Levels of trust**

*How far do people trust different sources of information on health risks?*

Multiple surveys have highlighted variations in people's trust in different public actors. These variations in trust are also apparent when it comes to the provision of information (or 'epistemic trust'[40]) about the coronavirus. Surveys have found substantial differences in people's trust in information provided by different sources, with medical professionals and scientists usually judged by the public as being more trustworthy than politicians or media outlets.[41] [42] [43]

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[34] Seilesh Kadambari and Samantha Vanderslott (2021) 'Lessons about COVID-19 vaccine hesitancy among minority ethnic people in the UK', *The Lancet: Infectious Diseases*, 21:9, 1204-1206.
[35] Laura M Bogart et al (2021) 'COVID-19 Related Medical Mistrust, Health Impacts, and Potential Vaccine Hesitancy Among Black Americans Living With HIV', *Journal of Acquired Immune Deficiency Syndromes*, 86:2, 200-207.
[36] Kausik Chaudhuri et al (2022) 'COVID-19 vaccine hesitancy in the UK: A longitudinal household cross-sectional study', *BMC Public Health*, 22: 104.
[37] Atiya Kamal et al (2021) 'Rapid Systematic Review'.
[38] Kausik Chaudhuri et al (2022) 'COVID-19 vaccine hesitancy'.
[39] Daniel Allington et al (2021b) 'Trust and experiences of NHS healthcare do not fully explain demographic disparities in coronavirus vaccination uptake in the UK', *SocArXiv*, doi:10.31235/osf.io/9vaeq; Daniel Allington et al (2021c) 'Coronavirus conspiracy suspicions'.
[40] Friederike Hendriks et al (2015) 'Measuring laypeople's trust in experts in a digital age: The Muenster Epistemic Trustworthiness Inventory (METI)' *PLoS ONE*, 10:10: e0139309.
[41] However, certain politicians may be trusted quite highly; in an Ipsos-MORI survey of UK citizens in winter 2020, Scotland's First Minister (Nicola Sturgeon) was found to be more trusted (67% great deal/fair amount of trust) on the coronavirus than the UK's Chief Medical Officer (Chris Whitty) (61%) and Chief Scientific Advisor (Patrick Vallance) (60%). See Daniel Allington et al (2021a) 'Coronavirus: Who the public trust'.

At the start of the coronavirus pandemic, in spring 2020, a YouGov survey found that 89% of British people trusted information about the coronavirus from national health organisations, while almost as many (87%) trusted information from scientists, doctors and health experts. Rather fewer people trusted national government (69%) and news organisations (60%), although even here the proportion expressing trust easily comprised a majority. By contrast, only 35% of people trusted information from people they knew. The figures for people in the US were generally somewhat lower. Perhaps an important difference in the US is that people reported trusting information from people they knew (44%) almost as much as they did information from government (45%).[44]

A study of UK citizens by the Wellcome Trust in April 2020 similarly found high levels of trust in coronavirus information provided by healthcare professionals (with 85% trusting this source 'completely' or 'a great deal'), health scientists and researchers (where the figure was 72%), Public Health England (68%) and government scientific advisers (63%). Trust in the UK government was lower (52%), as was trust in friends and family (28%), journalists and the media (13%) and religious leaders (11%).[45]

A survey of UK citizens conducted in January and February 2021 found high levels of trust in information about the COVID-19 vaccination from doctors (81% indicating they trusted 'completely' or 'a great deal') and scientific advisers (where the figure was 79%). Trust was lower in the government (44%), friends and family (25%), the media (8%), faith and community leaders (5%) and social media (3%).[46]

In the US, trust in healthcare-related government agencies (eg. the CDC) appears to be higher than trust in partisan institutions such as the White House.[47] Moreover, people's trust in science and scientists in the US appears to have increased with the onset of the

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[42] There do not appear to be major differences in people's general trust in actors and their trust in those actors specifically on the coronavirus. For example, YouGov asked respondents how much they trusted various actors to "tell the truth" and, separately, how much they trusted them "on the issue of the coronavirus". Results showed broadly comparable levels of trust in different actors across the two 'domains' of trust. YouGov (2021b), 'Who do BAME Britons trust when it comes to COVID-19?' See also the results of the present project presented in Section 7.2.

[43] Rasmus Kleis Nielsen et al (2020a) *Communications in the Coronavirus Crisis: Lessons for the Second Wave*, Reuters Institute, University of Oxford, Figure 7; Daniel Allington et al (2021a) 'Coronavirus: Who the public trust'; Volker Gehrau et al (2021) 'The impact of health information exposure and source credibility on COVID-19 vaccination intention in Germany', *International Journal of Environmental Research and Public Health*, 18:9, 4678; Martine Stead et al (2021) 'National survey of attitudes'; YouGov (2021b) 'Who do BAME Britons trust?'.

[44] Rasmus Kleis Nielsen et al (2020b) *Navigating the 'Infodemic': How People in Six Countries Access and Rate News and Information about Coronavirus*, Reuters Institute, University of Oxford, Figure 5.

[45] Wellcome (2020) *Wellcome Monitor 2020: COVID-19 Study*, London: Wellcome Trust.

[46] Martine Stead et al (2021) 'National survey of attitudes'.

[47] Ilona Fridman et al (2020) 'Association between public knowledge about COVID-19, trust in information sources, and adherence to social distancing: Cross-sectional survey', *JMIR Public Health Surveillance*, 6:3; Carl A Latkin et al (2020) 'An assessment of the rapid decline'.

coronavirus pandemic.[48] In the UK, while trust in information provided by scientists and doctors appears to have declined only slightly, trust in information provided by the government appears to have slipped more markedly, from 67% in April 2020 to 45% in August 2020.[49]

In the US, there is little evidence that people trust localised actors over more distant ones; the national-level CDC and the international-level WHO have been found to be as trusted or more trusted than local physicians and hospitals.[50] However, in the UK, there is some evidence that people trust local sources of information – such as municipal councils – more than they trust national sources of information – such as central government.[51]

*Are there variations within the population in levels of trust in different information sources?*

The existing literature highlights variation within the population in levels of trust in key sources of information about the coronavirus. Trust in official information sources such as government departments and agencies, universities and scientific experts has been found to be higher among better-educated and more affluent individuals than among poorly-educated and less affluent individuals.[52] A survey commissioned by the Wellcome Trust in April 2020 found that financially secure individuals (those reporting they were 'living comfortably') were generally more trusting in institutional sources of information – particularly healthcare scientists, the WHO and government scientific advisors – than financially insecure individuals (those reporting 'finding it quite or very difficult' to get by). By contrast, financially insecure individuals were slightly more trusting in friends and family than were their financially secure counterparts.[53] In another study, however, socio-economic status was not found to be a significant predictor of trust in friends and family.[54]

There is some evidence from the UK and US that trust in scientific advisors is lower among certain ethnic minority groups than among Whites.[55] A pre-COVID-19 study in the US found lower levels of trust in the CDC among non-Whites than among Whites, although non-

[48] Wellcome (2021) *Wellcome Global Monitor*.
[49] Rasmus Kleis Nielsen et al (2020a) *Communications in the Coronavirus Crisis*, Figure 7.
[50] Scott E Robinson et al (2021) 'The Relevance and Operations of Political Trust in the COVID-19 Pandemic', *Public Administration Review*, 81:6, 1110-1119.
[51] Dominic Abrams et al (2020a) *Community, Connection and Cohesion*; Dominic Abrams et al (2021) *Public Perceptions of UK and Local Government Communication about COVID-19*, Belong: The Cohesion and Integration Network.
[52] Carl A Latkin et al (2020) 'An assessment of the rapid decline'; Rasmus Kleis Nielsen et al (2020b) *Navigating the 'Infodemic'*; Martine Stead et al (2021) 'National survey of attitudes'.
[53] Wellcome (2020) *Wellcome Monitor 2020*; Martine Stead et al (2021) 'National survey of attitudes'.
[54] Martine Stead et al (2021) 'National survey of attitudes'.
[55] Paul B Brewer and Barbara L Ley (2013) 'Whose Science Do You Believe? Explaining Trust in Sources of Scientific Information about the Environment', *Science Communication*, 35:1, 115-137; Daniel Allington et al (2021a) 'Coronavirus: Who the public trust'; Daniel Allington et al (2021b) 'Trust and experiences of NHS healthcare'; Martine Stead et al (2021) 'National survey of attitudes'.
Allington, Daniel et al (2021c) 'Coronavirus conspiracy suspicions'.

Whites were found to have higher levels of trust in the federal government.[56] A survey of Americans conducted in 2020-21 similarly found higher rates of trust in "the scientific community" among Whites than among Blacks, but lower levels of trust in government.[57] A survey of Americans' trust in health-related information conducted prior to the coronavirus pandemic found significantly higher levels of trust among Blacks than among Whites in information provided by charities and religious leaders.[58]

In the UK, a YouGov survey in February 2021 found lower rates of trust in scientists, the National Health Service (NHS) and family doctors among most BAME groups than among the British population as a whole, but higher rates of trust among BAME groups when it came to civil servants and journalists.[59] A separate YouGov survey conducted in November 2020 found higher rates of trust in scientific information among Whites than among members of an ethnic minority.[60] A Wellcome-commissioned survey in April 2020 found variations in trust between Whites and BAME members in the cases of health professionals and scientists, the WHO, government scientific advisers and the UK government; in each case, trust among Whites was substantially higher than among BAME individuals.[61] In the cases of friends and family and the media, the gap was smaller or non-existent (although this may reflect low levels of trust, or 'floor effects'), and in the case of religious leaders, trust was higher (at 22%) among BAME individuals than among Whites (at 9%).[62]

Evidence from stakeholders has also identified low trust in healthcare personnel and services as a barrier to engagement for many BAME individuals.[63] People from BAME groups have been found to express higher trust than White individuals in sources such as community and faith leaders[64], partly because these sources are felt to represent their needs more closely.[65]

### 5.4 Explanations of trust

*What explains people's trust in different information sources?*

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[56] Sarah D Kowitt et al (2017) 'Awareness and trust of the FDA and CDC: Results from a national sample of US adults and adolescents', *PLoS ONE*, 12:5, e0177546.
[57] Anisah B Bagasra et al (2021) 'Racial differences in institutional trust and COVID-19 vaccine hesitancy and refusal', *BMC Public Health* 21, 2104.
[58] Devlon L Jackson et al (2019) 'Americans' Trust in Health Information Sources: Trends and Sociodemographic Predictors', *American Journal of Health Promotion*, 33:8, 1187-1193.
[59] YouGov (2021b) 'Who do BAME Britons trust?'
[60] Rachael Gooberman-Hill et al (2021) 'Public views of coronavirus science and scientists: findings from a cross-sectional survey', *Wellcome Open Research*, 6: 166.
[61] The gap in trust with Whites was found to be lower for Asians than for Blacks. Wellcome, 2020 *Wellcome Monitor 2020*: Fig 4.4. Trust in the sources of coronavirus information is therefore highest among Whites, somewhat lower among Asians and substantially lower among Blacks.
[62] Wellcome (2020) *Wellcome Monitor 2020*.
[63] Public Health England (2020) *Beyond the data*.
[64] Martine Stead et al (2021) 'National survey of attitudes'.
[65] Atiya Kamal et al (2021) 'Rapid Systematic Review'; Public Health England (2020) *Beyond the Data*.

There are numerous criteria that individuals might draw on in assessing an object's trustworthiness. Yet it is unclear whether individuals draw on similar or different criteria when evaluating the trustworthiness of different sources, particularly those providing technical information on issues involving social risk and health. Information sources may be judged across criteria like competence, warmth and empathy, and honesty,[66] although evaluations of technical experts – such as scientists and medics – may rest on a subset of perceptions, principally how expert a source is seen to be.[67]

Our review of the literature identified relatively few studies that explicitly identify individuals' reasons for trusting different information sources during the coronavirus pandemic. One study that sought to identify these reasons – conducted in 2020 on a sample of Arkansas residents – used open-ended survey questions to allow respondents to explain their trust ratings in different information sources. Analysis of these questions showed that people's trust in academic scientists and medics largely reflected perceptions of these actors' expertise and competence.[68] Trust in local healthcare providers arose in part out of a perception that local medics understood the key issues at stake, due to their first-hand experience of dealing with the coronavirus. When it came to distrust, the study found evidence of some people marking down sources due to the perceived changes of information and guidance, and the confusion this was seen to generate (a finding also identified in reviews of public health communications[69] and in this project's UK-based focus groups; see Section 6.3, below). In addition, national-level health agencies, such as the CDC in the United States, were sometimes distrusted due to the perceived 'politicisation' of the information they provided (again, a finding identified in the project's UK-based focus groups and the survey data collected by the project).[70]

*How do we explain differences in trust in information sources between population sub-groups?*

Lower levels of trust in some information sources among members of ethnic minority groups have been found to reflect negative experiences of the healthcare system and cultural insensitivities in source messages.[71] The association between feelings of trust and vaccination

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[66] Susan T Fiske and Cydney Dupree (2014) 'Gaining trust as well as respect in communicating to motivated audiences about science topics', *Proceedings of the National Academy of Sciences*, 111:supplement 4, 13593-13597; Michael Blastland et al (2020) 'Five rules for evidence communication', *Nature*, 587: 362-364.

[67] Mirko Heinzel and Andrea Liese (2021) 'Expert authority and support for COVID-19 measures in Germany and the UK: A survey experiment', *West European Politics*, 44: 5-6, 1258-1282.

[68] Rachel S Purvis et al (2021) 'Perceptions of adult Arkansans regarding trusted sources of information about the COVID-19 pandemic', *BMC Public Health*, 21, 2306. However, previous studies on public reactions to environmental hazards suggest that trust in scientific information is shaped more by whether scientists are seen to share citizens' interests than by their expertise. See J Richard Eiser et al (2009) '"Trust me, I'm a Scientist (Not a Developer)": Perceived Expertise and Motives as Predictors of Trust in Assessment of Risk from Contaminated Land', *Risk Analysis*, 29:2, 288–297.

[69] Melissa MacKay et al (2021) 'A Review and Analysis of the Literature on Public Health Emergency Communication Practices', *Journal of Community Health*, in press.

[70] Rachel S Purvis et al (2021) 'Perceptions of adult Arkansans'.

[71] M.S. Razai et al (2021) 'Covid-19 vaccine hesitancy among ethnic minority groups', *British Medical Journal*; 372: n513.

behavior (see Section 5.2, above) has been identified as particularly strong among older generations within BAME communities, suggesting that historic and deep-rooted perceptions might be shaping the reluctance of older BAME individuals to get vaccinated.[72] In the US, the low levels of trust in Black communities in particular are often traced to abuses like the Tuskegee Syphilis Study, dating back to the 1930s.[73] More recent examples of racial discrimination experienced by individuals have also been shown to negatively affect confidence.[74] One study in the UK found that unfair treatment and racial discrimination affected individuals' confidence particularly in the healthcare system rather than in central government. Moreover, the effect of discrimination on vaccine refusal was found to be mediated by confidence in the healthcare system but not by confidence in central government.[75]

Particularly in marginalised communities and/or among more socially excluded individuals, trust in politicians and some local health bodies is low, reflecting broader patterns of inequality and a perceived lack of concern or responsiveness on the part of official actors and service providers.[76]

### 5.5 Sources of information

*What are the key sources of information on the coronavirus?*

Most citizens are not in the position to draw on personal knowledge to inform themselves about the coronavirus, but instead must rely on information gained from other sources. There are numerous secondary sources on which individuals might rely to gain information about the coronavirus. These cover the news media (television, radio and newspapers), social media, public bodies (notably government departments and agencies), experts and practitioners (scientists, doctors and other medical professionals) and personal contacts (family, friends and people in the community). A survey conducted in spring 2020 at the outbreak of the coronavirus pandemic found large proportions of the UK population drawing on news organisations (59% of the population), national government (56%) and organisations and individuals involved in healthcare (national health organisations: 48%, scientists, doctors and health experts: 35%, and global health organisations: 29%). Fewer people relied for information on ordinary people (24%). Compared to the UK, the same project found the US population to rely rather less for information on national government

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[72] Kausik Chaudhuri et al (2022) 'COVID-19 vaccine hesitancy'.

[73] Vicki S Freimuth et al (2017) 'Determinants of trust'; Rueben C Warren et al (2020) 'Trustworthiness before Trust — Covid-19 Vaccine Trials and the Black Community', *New England Journal of Medicine*, 383:e121.

[74] Jerel M Ezell et al (2021) 'The blueprint of disaster: COVID-19, the Flint water crisis, and unequal ecological impacts', *The Lancet Planetary Health*, 5:5, e309-315.

[75] Elize Paul et al (2021) 'Racial discrimination and covid-19 vaccine uptake: Is mistrust of the health service behind vaccine refusal?' *MedRxiv* (available at: https://www.medrxiv.org/content/10.1101/2021.08.26.21262655v1)

[76] Institute of Community Studies (2021) *Understanding Vaccine Hesitancy through Communities of Place: Abridged Report*, London: Institute of Community Studies; Christopher P Palmedo et al (2021) 'Exploring Distrust in the Wait and See: Lessons for Vaccine Communication', *American Behavioral Scientist*, in press.

(35%) and national health organisations (29%), and rather more on scientists, doctors and health experts (49%) and ordinary people (36%).[77]

Across the population, then, while there are some differences in the information typically drawn on by individuals in the UK and US, both show the importance of political bodies (national government), medical-related agencies and actors (health organisations and doctors) and the media as sources of information on the coronavirus. We cannot easily separate these sources; some people may access information from national government or from scientific experts through the media, while others may access that information directly from relevant websites or social media feeds. In other words, information can be accessed directly or through another channel in a 'mediated' form. Irrespective, it appears – at the pandemic's outset at least – that people looked to a range of key sources for information on the coronavirus.

*Are there variations within the population in the use of key sources of information about the coronavirus?*

There is also some evidence of variation within the population in the use of particular information sources. In the UK, people with lower levels of education have been shown less likely than their more highly educated counterparts to draw on information from news organisations, health organisations and medical and scientific experts.[78] In the US, people with lower levels of education have, compared with highly educated individuals, been found to resort less to information gleaned from the government[79], and to resort more to information gleaned from other people.[80] Non-White individuals have also been found to draw on information from doctors and religious leaders rather more than their White counterparts.[81]

Many individuals also use social media to gain information about the coronavirus. In spring 2020, one third or more of people in the UK and US reported using Google search or Facebook to access coronavirus information, while one fifth reported using Twitter for a similar purpose.[82] However, the use of social media to access information about the coronavirus appears to have fallen over time. In June 2020, just 12% of the UK population reported using Facebook or Twitter for this purpose.[83] By August 2020, roughly the same

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[77] Rasmus Kleis Nielsen et al (2020b) *Navigating the 'Infodemic'*. For the US, see also Ilona Fridman et al (2020) 'Association between public knowledge', Table 3.

[78] UK citizens with lower levels of education and from lower income groups have also been shown to access a lower volume of information about the coronavirus than their more highly educated and financially resourced counterparts; Rasmus Kleis Nielsen et al (2020a) *Communications in the Coronavirus Crisis*, Figures 5-6.

[79] Sharmir H Ali et al (2020) 'Trends and Predictors of COVID-19 Information Sources and Their Relationship With Knowledge and Beliefs Related to the Pandemic: Nationwide Cross-Sectional Study', *JMIR Public Health Surveillance*, 6:4, e21071.

[80] Rasmus Kleis Nielsen et al (2020b) *Navigating the 'Infodemic'*, page 10.

[81] Sharmir H Ali et al (2020) 'Trends and Predictors'.

[82] Rasmus Kleis Nielsen et al (2020b) *Navigating the 'Infodemic'*, Table 2.

[83] Rasmus Kleis Nielsen et al (2020c) 'Most in the UK say news media have helped them respond to COVID-19, but a third say news coverage has made the crisis worse', UK COVID-19 New and

proportion of UK citizens used social media to access information about the coronavirus as used radio and print newspapers (at roughly one quarter). More people (roughly one half) relied for their information on the television.[84] These figures may mask variations within the population; use of social media – and presumably therefore access to coronavirus-related information – appears to be higher among younger people and among those with lower levels of education.[85]

Survey evidence also points to considerable public scepticism about the information gained through social media. In the UK, just 14% deemed coronavirus information obtained via social media to be trustworthy; in the US, the figure was 25%.[86] Among US citizens, there appears to be less trust in social media as a source of information on the coronavirus than in more traditional media forms, such as television and newspapers.[87]

**5.6 Summary: Lessons from the existing research base**

This review of some key existing studies has identified various results, as well as identifying areas where further research is required to more fully understand how trust shapes individuals' engagement with information about issues like the coronavirus. These results and questions arising for this project are summarised in Table 4 and briefly explained here.

*Vaccination*
There are significant variations within the population in vaccination uptake, with lower vaccination rates among ethnic minority groups than among Whites, and among less affluent and educated individuals.

*Role of trust*
Vaccination uptake is higher among individuals who express at least some trust in institutions than among less-trusting individuals. Vaccination uptake is more closely associated with people's trust in scientists and healthcare bodies than with their trust in political actors.

There is some evidence that variations in vaccination uptake rates between ethnic groups may reflect differences in levels of trust between these groups.

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Information Project, Factsheet 10, Reuters Institute, University of Oxford, Figure 2. In most cases, social media is not intentionally used to access coronavirus information. For example, 78% of British people indicated they saw news about COVID-19 on Facebook when they accessed the platform for other reasons (*ibid*; Figure 3).

[84] *Ibid*: Figure 2.

[85] Rasmus Kleis Nielsen et al (2020b) *Navigating the 'Infodemic'*, page 11. Use of social media for access to information about the coronavirus also appears to be higher among people who are resistant to being vaccinated than among people who accept the need for vaccination. Vaccine-resistant individuals have also been found less likely to access information from traditional (television, radio, print) sources, than their vaccine-accepting counterparts. See Daniel Allington el et al, 'Coronavirus conspiracy suspicions'; Jamie Murphy et al, 'Psychological characteristics'.

[86] Rasmus Kleis Nielsen et al (2020b) *Navigating the 'Infodemic'*, Figure 7.

[87] Ilona Fridman et al (2020) 'Association between public knowledge'; YouGov (2021a) 'Global survey: Which sources of information do people trust on COVID-19?'.

*Levels of trust*
There is substantial variation in people's trust in different sources to provide information on the coronavirus. Trust in information provided by scientists and healthcare professionals tends to be higher than trust in information provided by government. Trust in information from the media and personal contacts is lower still. There is less evidence about whether people trust information sources at the local or community level as much as they do sources at the national level.

There are variations in trust in information sources within the population. Trust in 'official' or 'institutional' information sources (like government agencies and scientific advisors) appears to be higher among better-educated and more affluent individuals than among less educated and poorer individuals, and among Whites than among Blacks and members of other ethnic minority groups. There is some evidence of higher rates of trust in 'community' information sources, notably faith leaders, among Blacks than among Whites.

*Factors shaping trust*
There is limited evidence about the factors shaping people's trust in different sources of information about the coronavirus. What evidence exists suggests that people's trust in scientific experts primarily reflects considerations of expertise, while perceptions of the politicisation of information may stimulate distrust among people.

Lower levels of trust evident among Blacks and members of other ethnic minority groups may reflect experiences, and deep-rooted perceptions, of racism and discrimination. These experiences and perceptions appear to shape people's trust in the healthcare system as much as their trust in government.

*Use of information sources*
People rely on a range of sources to gain information about the coronavirus. 'Institutional' sources (such as the media, government officials and scientific experts) are drawn on more than 'personal' sources (such as other people).

Within the population, there are some variations by socio-economic status and ethnicity in people's use of different information sources. Individuals with lower levels of education rely less on sources like scientific experts, healthcare bodies and the media, and more on sources like other people. There is also some evidence that non-White individuals draw on information from faith leaders more than do Whites.

**5.7 Implications for policy-makers and questions arising for this project**

The review of existing studies identifies various results relevant for policy-makers involved in communicating important health-related information to citizens. The first key result is that trust in information sources is closely associated with people's compliance with public health guidelines, notably on taking up vaccination opportunities. The association with vaccination appears particularly strong for people's trust in scientific and healthcare actors, which emphasises the importance of the public role played by these sources in a health emergency. At the same time, however, there is evidence that rates of trust in scientific and

medical experts may be low among some 'marginalised' groups, particularly low socio-economic status individuals and individuals from minority ethnic groups. There is thus a need to explore how the concerns among these groups can be addressed, and how their trust can be stimulated. One way of approaching this task will be to examine whether individuals in marginalised groups trust particular information sources for similar or different reasons to individuals in other groups.

We pick up this issue in the following sections, which analyse the data gathered by the project. In particular, we extend the somewhat limited focus in the existing literature on why people trust different information sources, particularly in the context of the coronavirus pandemic. As we have seen, few studies have explored the bases of individuals' trust in different sources of information, and sought to identify whether people's trust in key scientific experts reflects a set of different considerations or criteria to their trust in sources like government actors. The existing literature is clear that trust matters for people's receptiveness to official information and their compliance with official guidance. But does that trust reflect similar or distinctive considerations when it comes to different information sources? Addressing this question will be a major contribution of this project.

The project will also extend our understanding on other important issues not fully addressed by the existing research base. While previous studies suggest that people's compliance with health-related behaviour such as vaccination uptake is more closely associated with their trust in scientific experts than with their trust in governments, we need to explore whether the same associations are also visible when it comes to individuals' attitudes to coronavirus rules. Similarly, while existing studies find that variations in vaccination uptake between ethnic minority groups reflect differences in trust in key information sources, there is less evidence about whether trust also explains variations in vaccination rates among socio-economic groups, notably less affluent and educated groups.

Section 6 explores these issues through the data collected in the UK and US focus groups. Section 7 does the same for the data collected through the large-scale surveys of the UK and US populations.

## 6. FINDINGS FROM FOCUS GROUPS

The focus groups conducted in the UK and US were designed to provide a detailed understanding of how people form trust judgements about various sources of information. The design and conduct of the focus groups was outlined earlier (see Section 4.2). We start here by exploring how focus group participants identified the features of trustworthy and untrustworthy government ministers (in the UK focus groups) and politicians (in the US focus groups). Following this, we replicate – for the UK focus groups only, as no comparable exercise was conducted in the US focus groups – the exercise for scientists. We then extend the focus to explore – again, for the UK only – trustworthy and untrustworthy features of a wider set of information sources, located at the local and national levels. We conclude by considering – again, for the UK only – whether the evidence from the focus groups points to variations in people's trust in information sources at the local and national levels, and variations in trust between different individuals. To provide an order or structure to the

numerous features and attributes of trustworthiness identified by participants, we group them under broader headings reflective of some of the key dimensions of trustworthiness identified in the academic literature.[88]

**6.1 What makes for trustworthy government ministers and politicians?**

Focus group participants in the UK identified numerous features or attributes of government ministers and politicians that contributed to their evaluations of trustworthiness. These features fall within four broad headings: benevolence, integrity, transparency and fairness. Most of the features identified by respondents concerned either benevolence or integrity; fewer features related to transparency or fairness.

Government ministers were judged to be trustworthy if they were seen to be concerned with other people's needs and interests. Various aspects of such concern or benevolence were identified by focus group participants. One aspect was understanding the lives of ordinary people and appreciating the effects that government decisions had on their lives. Most focus group participants felt that ministers lacked such understanding and appreciation, and so performance on this criterion was often cited as a reason for an absence of trust (see the discussion of untrustworthiness in the following section). There was some disagreement between participants on whether politicians were more likely to be aware of other people's lives and needs if they themselves came from 'ordinary' or 'humble' backgrounds. While some focus group participants felt that social representation was important for trust, other participants disagreed that this feature was necessary. A second feature was a concern for the lives and needs of other people, manifested in putting the needs of the wider population – sometimes defined by focus group participants in specific terms, such as the locality or constituency, and sometimes in more general terms, relating to people across the country – before their own personal and party interests.

Alongside benevolence, the principal feature of trustworthy government ministers identified by focus group participants was integrity. Within this general feature, three more specific attributes were identified. The first attribute was honesty, where participants equated trustworthiness with telling the truth (see next paragraph on transparency). Some participants suggested that politicians should be (more) realistic in their promises to voters, given uncertainty about the future. Such uncertainty was seen to require realism and avoiding raising people's expectations through unrealistic promises. Greater honesty about the future, and in what could be promised, was felt necessary to avoid the distrust that arose from failing to meet people's expectations. The second attribute was fidelity, where participants identified as key elements of trustworthiness acting consistently with promises ("doing what they say they'll do") and observing collectively-binding rules ("practicing

[88] See Roger C Mayer, James H. Davis, and F. David Schoorman (1995) 'An Integrative Model' and Margaret Levi and Laura Stoker (2000) 'Political Trust and Trustworthiness'. For the relevance of the fairness criterion, see E Allan Lind and Tom Tyler (1988) *The Social Psychology of Procedural Justice*, New York: Plenum Press. For the relevance of transparency as a criterion, see L.J. Frewer, J.C. Howard, D. Hedderley and R. Shepherd (1996) 'What Determines Trust in Information About Food-Related Risks? Underlying Psychological Constructs', *Risk Analysis*, 16:4, 473-486.

what they preach").[89] The third attribute was authenticity. Participants indicated that trustworthiness arises from politicians being true to themselves. Even where individuals may not share their values, a trustworthy politician was seen as a person who acted consistently with a set of personal principles and beliefs.

Closely allied to integrity, and in particular to the attribute of honesty and truthfulness, is transparency. This attribute might have been prominent in the group discussions given the attention paid in the exercise to trust in the context of information provision. Participants identified the requirement for trustworthy ministers to be honest and truthful in the information they provided, and also to admit when they had made mistakes.[90] Such openness was seen to be compromised when ministers and other politicians trumpet a party line rather than being more neutral or objective in their discourse.[91] Politicians who provide clear and precise information also aid accountability, according to one focus group, since the nature or meaning of that information is less easily changed or twisted at a later date.

Finally, there was mention of the need for ministers to be fair, by treating people equitably (although what equitable treatment might consist of in practice was not probed in the group discussions).

**6.2 What makes for untrustworthy government ministers and politicians?**

When it came to features of government ministers that group participants associated with untrustworthiness, rather more characteristics were listed than was the case with trustworthiness (perhaps unsurprisingly, given the predominantly negative disposition of many British citizens towards their politicians). As with trustworthiness, however, these features can be readily structured under a broader set of headings relating to benevolence, integrity and transparency. For most of these features, moreover, the qualities identified as signifying untrustworthiness in participants' minds were the obverse of those signifying trustworthiness.

The largest number of features identified as indicative of untrustworthy government ministers (measured by the total number of mentions across the six UK groups and the number of groups in which they were mentioned) related to integrity. If trustworthy ministers and politicians are characterised as giving answers or providing information in an honest, open and straightforward way, their untrustworthy counterparts are seen as being dishonest, as concealing facts, and as 'spinning' information (see also the discussion of

[89] Focus group participants may have had coronavirus rules in mind in identifying rule-following as an aspect of trustworthiness. An unresolved issue in this exercise is whether, and if so how, the criteria people use in evaluating the trustworthiness of actors like government ministers reflect the timing of the exercise and the issues or events that are salient in people's minds at that point.

[90] For a similar observation drawn from studies on effective communications during health emergencies, see MacKay et al (2021) 'A review and analysis'.

[91] It is worth noting here that some focus group participants showed an awareness of the competing pressures facing politicians. In relation to honesty and openness, they suggested that privileging objective information over an agreed party line might lead to claims or perceptions of party disunity, which could be politically damaging (see also footnote 97).

transparency, below). Focus group participants identified untrustworthy politicians as parroting a party line or a 'rehearsed' answer – designed to benefit themselves or their party – rather than being open and objective in the information they provide. This also applies to claims about the future. We have seen that trustworthiness in part reflects considerations of whether politicians are realistic in their promises; untrustworthy politicians are seen as making politically expedient, but unrealistic, promises and as thus unduly shaping people's expectations. When it comes to the past, untrustworthy politicians are seen as unwilling to admit to mistakes, and as sometimes attempting to deflect blame for those mistakes onto other people.

Likewise, while trustworthy politicians are seen as upholding and following promises and claims ('fidelity'), untrustworthy politicians are characterised as "saying one thing but doing another" and as failing to keep their promises. Respondents in different UK focus groups pointed to various examples of a perceived lack of fidelity on the part of politicians. A first example was the perceived derogation by government ministers from promises over housing safety after the Grenfell fire disaster in 2017. A second example was the abandonment of government promises to extend high-speed rail links (HS2) to the North of England in autumn 2021. A third example concerned ministers' promises of normal Christmas celebrations in 2021, which were rapidly followed by the imposition of restrictions on social gatherings. A different aspect of fidelity identified by participants was the failure of some senior politicians to observe social norms and rules; by the time the focus groups were held (in December 2021), it was fairly easy for participants to point to examples of British politicians and officials failing to abide by official lockdown and social distancing rules that applied to the rest of the population.

Many of the features of trustworthy politicians identified by focus group participants appeared to reflect what were seen as *desirable* characteristics, while many of the features of untrustworthy politicians appeared to reflect what were seen as *actual* characteristics.[92] Thus, for example, a trustworthy government minister was seen to be honest and open. Among many focus group participants, however, many politicians were seen to lack probity, and to be motivated by personal gain, money and staying in political office.

When it comes to benevolence, we have already noted how trustworthy government ministers are identified as those with an awareness of, and concern for, the lives of ordinary people. Yet these criteria may often generate feelings of untrustworthiness, as many respondents in our focus groups suggested that government ministers lacked such awareness and concern. Individuals in various groups felt that ministers and politicians did not live the same kind of existence as 'ordinary' people, and as a result were 'disconnected' from many people's experiences. An example given in one group concerned the rise in gas prices in autumn and winter 2021, which politicians were seen to be slow to appreciate as a significant economic pressure on many people's household budgets. Not only were ministers and politicians seen by many focus group participants as unaware of the lives lived by ordinary people, they were also seen by some as being unconcerned with those lives. We have seen that trustworthiness reflects politicians being concerned to help other people; yet many of our participants regarded politicians in practice as lacking that concern,

[92] We say "appeared" as this was not something that was formally probed in the focus groups.

and as instead being motivated by personal interests, party concerns, or the interests of their own social cliques. An example of this provided by one group (located in Newcastle, in the north east of the UK) related to the lack of electricity suffered by many homes in Scotland and the North of England in late November and early December 2021. The perception among individuals in this group was that the delay in resolving the problem reflected politicians' lack of concern with people in these regions; the suspicion was that the problem would have been attended to, and resolved, more quickly if it had arisen closer to London.

Finally, untrustworthy government ministers were seen to lack openness and transparency. In particular, politicians were seen to ignore, or to cover up, information when it was unhelpful to their interests and to use information and evidence only when it furthered those interests. In contrast to the trustworthy politician who is seen as being open about their activities, the untrustworthy politician is seen as selective and partial in what they reveal to the public. The focus group participants appeared to equate this partiality with a desire to avoid admitting mistakes, but also – and perhaps more seriously – to conceal their motivations and goals ("hidden agendas" in the words of a participant in one group).

Although the US focus groups were conducted separately to those in the UK, we find that many of the features of trustworthy and untrustworthy government ministers identified in the UK groups also applied to considerations of trust in politicians among the US group participants. The most commonly identified trait of trustworthy politicians among the US groups was acting for the greater good, similar to the 'benevolence' attribute identified among the UK groups. Truthfulness also arose as a key feature of trustworthiness in politicians among the US groups, as did authenticity. The major difference between the UK and US samples in the criteria used in assessing trustworthiness related to competence. While competence was rarely identified as a key feature of politicians' trustworthiness among the UK sample, getting things done was more frequently identified as a key element of trust judgements by participants in the US groups. A focus on delivery is captured in this observation made by one focus group participant in the US:

> *"Well, I don't like politicians that rule on emotion. I like politicians that do things. I like them to accomplish the things that they set out to do. I don't think that the Congress has really passed any laws or taken care of any problems. So, what they're thinking is not as important to me as what they actually accomplish and do."*
> *(Diane, US Focus Group 1)*

It is unclear whether the emphasis among the US focus group participants on competence and delivery as an element of trustworthiness reflects a genuine difference between the two country populations in their criteria for trust (due, perhaps, to the difficulties faced by politicians in the US in passing legislation; an issue identified in the quote just provided) or instead is merely an artefact of timing (the US focus groups were held when American deaths from COVID-19 were only just declining from a high in early February 2021; by contrast, the UK groups were held when British deaths from COVID-19 were low and stable). Irrespective, it appears as though competence in delivering favourable outputs may be a more important attribute of politicians' trustworthiness in the US than in the UK. This is an issue which will be tested more systematically through the survey element of this project (see Section 7.3). We will return to people's evaluations of government ministers in a later

section, where we compare people's evaluations of trust in government ministers and scientists. Before then, we consider how people (primarily based on focus groups in the UK) go about evaluating the trustworthiness of scientists.

**6.3 What makes for trustworthy scientists?**

The first thing to note is that, while participants in some of the UK focus groups encountered difficulties in identifying the characteristics of a trustworthy or untrustworthy scientist, most were able to do so fairly readily. In part, no doubt, this reflects the higher profile of scientists in advising national governments and the wider public during the coronavirus pandemic. Some focus group participants made explicit reference to this profile in enabling them to form evaluations of these actors. Among some participants, this profile appeared to have stimulated more positive (ie. trusting) attitudes. Among other participants, however, scientists' high profile appears to have stimulated more negative (ie. distrusting) sentiments.

The features identified by focus group participants as relevant to trust judgements about scientists concerned competence, integrity, transparency and benevolence. When it came to features of scientists that participants associated with trustworthy behaviour, competence emerged as a key attribute alongside integrity. When the focus shifted to features associated with untrustworthy behaviour, attributes relating to integrity – or rather a lack of integrity – were more frequently identified.

People appear to trust scientists in substantial part because they are seen to be competent and to possess expertise in their subject. We do not know whether this judgement in any way reflected focus group participants' own level of subject expertise (scientists may be deemed expert particularly where individuals lack personal scientific knowledge), which we did not measure. Almost certainly – not least because the focus group discussions were framed in light of the coronavirus pandemic – participants' appraisals of scientists were substantially influenced by their evaluations of scientists' role during the coronavirus pandemic. Across most, but not all, of the groups, participants identified a trustworthy scientist as being expert, qualified and experienced. This judgement is captured in a comment by one of the UK focus group participants:

> *"I'd probably say with the scientist they specialise in the areas. Um, such as, with this recent COVID and the government they specialise in speaking to people and taking charge, they don't specialise in vaccines and that sort of thing so you'd listen – it's almost as if you'd, you'd rather hear it from the horse's mouth as opposed to being passed through people."*
> *(Laura, UK focus group 6)*

Trustworthiness in scientists was also widely seen by focus group participants to involve integrity. This partly involved the perceived 'objectivity' of scientific processes and data, which resulted in scientists being perceived as likely to identify and report results in an objective manner rather than twisting evidence to suit their own purposes or the purposes of other groups. Such a view was expressed by one UK focus group participant, who commented on scientists:

> *"They've got the facts and figures and back up to whatever they seem to quote, they don't just come out with something without having the proof or knowledge to, to back it up, um. Like how the fact it's going to spread or previous cases in previous countries, what the track is looking like and they don't just, sort of, make wild accusations they, sort of, have done research into the trends possibly."*
> *(Helen, UK focus group 3)*

Participants in one group contrasted what they perceived as scientists' concern to provide the public with information that enabled individuals to make effective decisions with politicians' concern to provide, or to use, information in a way designed to shape individuals' decisions. This feature emerged in focus group participants' evaluations of a Downing Street press conference, a televised clip of which each of the groups was asked to watch.[93] The response to a journalist's questions provided by the scientist (Sir Patrick Vallance, the government's Chief Scientific Adviser) was seen by participants as more fact-based than the response provided by the prime minister (Boris Johnson). Scientists were also seen as trustworthy if they were independent and not beholden to, or influenced by, other groups such as the government.

The trustworthiness of scientists was seen not only to comprise the way these actors report information, but also the type of knowledge they claimed to possess. Trustworthy scientists were seen as limiting their claims or opinions to issues or areas on which they possessed clear and supportive evidence, and as avoiding making claims in situations where that evidence was lacking.

The integrity of scientists was closely associated by focus group participants with the transparency of the data they dealt with and the information they provided. Participants felt that trust required scientists to be open about where their findings derived from and about the evidence on which their claims rested. As we see below, this criterion sometimes appears to have impelled participants to consider scientists to be untrustworthy. Participants in one group also felt that scientific openness required the communication of information and guidance in straightforward and easy-to-follow language. This suggests that people's trust in scientists requires that they at least minimally engage with, and understand, the information and claims made by scientists. If trust rests on evaluations of evidence provided by an actor – is the evidence credible? Is it biased? – this requires at least some public understanding of that evidence.

Finally, trustworthiness among scientists was associated with benevolence. Yet the importance of scientists being concerned with the public was identified as a feature of trustworthiness in only two of the focus groups. Otherwise, benevolence was not identified as a key attribute of a trustworthy scientist.

### 6.4 What makes for untrustworthy scientists?

We now turn to consider which features of scientists are associated with judgements of untrustworthiness. We have already seen that the perceived trustworthiness of scientists is

[93] See footnote 14.

closely associated with their expertise and competence. When we asked the focus group participants for features they associate with untrustworthiness, a lack of expertise or competence rarely arose in discussions, which suggests that people generally judge scientists to be high in these qualities. However, for some participants, information that is provided publicly but felt to be wrong or misleading serves to undermine trust in scientists. An example given by participants in one group concerned scientific predictions of coronavirus infection and hospitalisation rates that subsequently did not materialise. This feature also arose in discussions about trust in scientists among participants in the US focus groups.[94] For some in these groups, a lack of trust in scientists arose from a perceived lack of consistency in the information and guidance they provided. This is reflected in the observation of one US focus group participant:

> *"It makes the source less reliable. Like, right, right when COVID happened, Fauci, you know, basically said that masks, you know, won't, wouldn't really prevent the spread of COVID and then a month later he said, 'Oh, masks will.' So, it's like, okay, well which one is it? You know, and the CDC said the same thing."*
> *(Hunter, US focus group 7)*

The accuracy of public information aside, competence was generally not identified as a feature shaping judgements about the untrustworthiness of scientists. More central to such judgements were concerns over integrity. Participants in several UK groups equated the untrustworthy character of scientists with a lack of impartiality – whether driven by the interests of research funders or by scientists' own beliefs and priorities – and with mis-reporting, or even covering up, evidence and data. A participant in one of the UK focus groups put it like this, in the context of scientists being seen to present only some of their results in the name of pushing a particular message:

> *"A half-truth might show you some of the data but might not show you all of the data. It might not give you a general picture or the parameters that they may have put on whatever it is they're showing, unless you're in their field or know what they're referring to, you might not be able to make an informed choice or decision."*
> *(Enneton, UK focus group 2)*

Insufficiently robust scientific procedures were cited by participants in one group as a reason for judging scientists to be untrustworthy. In particular, they pointed to what they saw as the 'rushed' development of the coronavirus vaccine, especially given what they saw as prior information about a two-year vaccination development process.[95]

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[94] The US focus groups did not explicitly explore participants' trust in scientists. However, discussions on this issue arose from moderator questions about participants' trust in the government to provide coronavirus-related information and about how far participants felt the government was following scientific data and advice.

[95] We should note that the swift nature of the vaccine development was referenced by participants in another group as evidence of scientists' competence and expertise. Perhaps this highlights how initial attitudes to scientists and/or the coronavirus vaccine shape individuals' understanding and interpretation of information, in this case the length of time taken to develop a coronavirus vaccination.

Several participants – principally in two of the groups whose members appeared to observing members of the project team to be more sceptical of scientists and of their role in dealing with the coronavirus – identified a perceived lack of scientific independence from government as an important factor in judging scientists as untrustworthy. Participants in different groups suggested that the Chief Scientific Adviser (Sir Patrick Vallance) and the Chief Medical Adviser (Sir Chris Whitty) were close to, or at least not independent of, government, and this raised doubts about how far the information and guidance each provided to the public was based on scientific evidence as opposed to government priorities. Concerns over the independence of scientists from government are captured in this observation from a participant in one of the UK focus groups:

> *"it's kind of like, they're from the same tribe. Although you're supposedly a scientist, you're twisting science to correlate with the views of the politicians and the government."*
> *(Donna, UK focus group 2)*

A lack of perceived independence from politicians also arose among participants in the US focus groups. This might be expected, given the strength of partisanship in the US and the strong feelings triggered by the incumbent President at the time of the focus groups, Donald Trump. But one focus group participant at least perceived a taint in the scientific messages due to scientists' proximity to politicians:

> *"Then you have your medical experts, who are – science has become the handmaiden of government and capitalism. And they change their opinions based on how they want the – how the government wants them to behave. So, I think they do a lot of harm."*
> *(Diane, US focus group 1)*

We have seen that people see scientists as untrustworthy when they provide what is perceived as erroneous or misleading information. Such information partly undermines people's beliefs about scientists' competence; it also negatively affects their beliefs about scientists' integrity, particularly when there is a perceived reluctance on the part of a source to admit that information might have been mistaken.

**6.5 Summary: The trustworthiness of government ministers and scientists**

The focus group discussions provide useful information about the grounds on which individual appraise the trustworthiness of different actors, in this case UK government ministers and scientists. We find some overlap between the types of considerations on which people assess the trustworthiness of these two actors. For each actor, participants identified trust judgements as involving considerations of integrity (ie. a belief in doing the right thing, and following clear rules) and transparency (ie. being open about actions and decisions).

Yet we also found evidence of trust judgements in government ministers and scientists reflecting different considerations. In the case of scientists, trust appears to be heavily shaped by the criteria of competence and expertise; people seem to rest their appraisals of

scientists' trustworthiness in large part on considerations of knowledge and experience.[96] In the case of government ministers, on the other hand, trust appears to be less strongly shaped by competence judgements (although there was more reference to delivering solutions, an aspect of competence, in the trust judgements of participants in the US focus groups). Instead, trust in government ministers appears to reflect judgements about their concern towards, and understanding of, local communities and the wider public, and by how far their actions are characterised by honesty, probity and fidelity. Trust in government ministers also reflected considerations of fairness and equity in dealing with other people; these considerations did not emerge as important aspects of people's trust in scientists.

These variations in the considerations that underpin people's judgements of trust in different actors may well reflect variations in the roles or tasks that each of those actors is seen to play. The public role played by scientists rests largely on the subject expertise they offer to policy-makers and the general public, while a large part of politicians' role relates to representing individuals and groups which, in turn, stimulates public appraisals based on benevolence. Variations in the bases of trust might thus reflect differences in the core tasks and roles of government ministers and scientists.[97] A recent study employing a survey of the population (in this case of Germans) found that scientists were judged more likely than politicians to be competent, and as slightly more likely to act with integrity, but not to be more benevolent.[98] Since the US focus groups did not directly address the trustworthiness of scientists, we cannot tell how far the findings derived from our UK sample also apply to the US population. An exploration of the bases of trust in politicians and scientists, and a comparison of the results between the UK and US populations, are issues that we probe further in the survey element of this project.

**6.6 Why are other information sources seen as trustworthy or untrustworthy?**

The UK focus groups extended the discussion of the bases of trust in information sources beyond government ministers and scientists to a range of other actors. Participants in the groups were first asked to rank their trust in eight information sources; these rankings were then used to prompt group discussion about the reasons for low or high levels of trust in

[96] This might help explain why judgements about the competence of a science and healthcare-related institution, the World Health Organization (WHO), have been found to shape Americans' compliance with coronavirus rules, while judgements about the WHO's integrity were found not to be significantly associated with their compliance. See A Burcu Bayram and Todd Shields (2021) 'Who Trusts the WHO? Heuristics and Americans' Trust in the World Health Organization During the COVID-19 Pandemic', *Social Science Quarterly*, 102:5, 2312-2330.

[97] Some of our focus group participants also recognised that scientists and government ministers face different behavioural incentives. For example, while scientists were incentivised – through professional norms and practices – to present information and findings in an impartial manner, politicians – facing norms and expectations of party unity and message consistency – face incentives to modify information to align with personal and party positions (see also footnote 91).

[98] Inse Janssen et al (2021) 'Face Masks Might Protect You From COVID-19: The Communication of Scientific Uncertainty by Scientists Versus Politicians in the Context of Policy in the Making', *Journal of Language and Social Psychology*, 40: 5-6, 602-626.

each source.[99] The six sources participants were asked to evaluate – aside from government ministers and scientific and medical advisers – were academics working in universities, local healthcare workers, the local council, community leaders, the national media and local media. Time constraints precluded extensive discussion of each source in the groups, although there was sufficient time to identify at least some of the reasons why individuals judge each information source to be trustworthy or untrustworthy.

People's trust in local healthcare workers and university academics largely reflected similar considerations to those shaping trust in scientists. Healthcare workers (such as doctors) were seen to possess the necessary expertise to provide trustworthy information; exposure to patients meant doctors were seen to 'know what they are talking about'. University academics were similarly seen to possess technical knowledge and expertise. They were also seen to be motivated more by knowledge than by money or status, which seemed to bolster their perceived independence in people's minds. Focus group participants also seemed to infer from their 'university' status that the academics were independent of government.

In one area, however, participants' trust in local healthcare workers appeared to rest on a different feature to the trust those participants applied to scientists or university academics. Local doctors were widely seen to have a care ethic for the people in their community; to be concerned by local patients' health needs and have a desire to act on those needs. Trust in doctors thus appears partly to arise from judgements about the benevolent motivations of these actors.

Focus group participants identified few positive features of local councils that shaped their trust in this information source. At best, participants in one group identified local councils as largely irrelevant to official coronavirus measures and programmes, which were seen as largely driven by the national government.[100] At worse, participants in another group saw local councillors as lacking competence and effectiveness, and as being second-rate in comparison with national politicians.

When it came to community leaders, focus group participants were given the example of local faith leaders, although they were also encouraged to think about other community role-holders. Evaluations of the trustworthiness of information derived from community leaders were fairly divided. Participants in one focus group saw community leaders as being generally trustworthy, due to their roots in the locality, their understanding of local people's needs and their accountability for their actions. Participants in other groups, however, saw information provided by community leaders as less trustworthy. For these groups, community leaders lacked technical knowledge and expertise, while their community base meant they were likely to pursue a particular agenda. It might be relevant that the focus group manifesting the most favourable set of attitudes towards local faith leaders comprised

[99] Since participants in our focus groups do not comprise a representative sample of the population, we do not report the results of the ranking exercise. Identifying variations in levels of trust between different information sources is addressed in the survey element of the project.

[100] By which group participants no doubt meant the Westminster government. We did not convene focus groups in Scotland, Wales or Northern Ireland, so did not gauge people's views towards the administrations in these areas.

individuals from the Black African and Black Caribbean communities; this might reflect the findings of previous studies, which have identified higher levels of trust in local faith leaders among minority ethnic groups.[101]

Finally, although the media are likely to be a key source of information for many people, very few of our focus group participants saw the media – at either the local or national level – as trustworthy.[102] While knowledge of local communities was seen as an important feature of information sources, opinion on whether the local media understood and represented local needs and interests was mixed. Participants in one group (Newcastle) felt that local newspapers lacked a local focus and did not understand local needs, although participants in another group (Birmingham) felt the local media did focus on issues of concern to local communities, unlike the national media which was felt to be overly focused on events in the capital. In another group, the local media was also felt to be trustworthy on account of its focus on events; by contrast the national media was felt to operate more to various political agendas and to be less focused on what was happening 'on the ground'.

While opinion on the local media was somewhat mixed, opinion on the national media was uniformly negative. Participants in a number of groups perceived the media to be closely linked to, and not independent of, government. According to participants in one group, the media acted merely as the government's 'mouthpiece'. Information provided by the media was widely regarded as lacking objectivity, and was seen as being 'spun' to reflect a particular line. Participants in various groups also saw information in the media as sensationalized and scaremongering, designed to provide entertainment rather than to inform. There was more than one mention across the focus groups of the media's perceived role in 'creating' panic-buying among the British public of food-stuffs and household goods, in spring 2020, and of petrol, in autumn 2021. Participants in the US focus groups also tended to take a dim view of media organisations, with many suggesting that the media operated to financial and political agendas that stood in the way of factual and balanced news reporting.

Although this part of the exercise was not designed to identify which information sources are more trusted than others (an issue we focus on in the survey element of the project), even the fairly brief discussions in the focus groups highlighted the wide variation in trust that appears to exist in relation to different information sources.

**6.7 Trust in sources at different territorial levels**

Previous studies have shown that individuals in Britain trust information about the coronavirus provided by local sources more than they do information provided by national sources.[103] In addition, it has been suggested that one of the reasons why individuals within BAME communities are often found to manifest lower trust in public officials is their

[101] Public Health England (2020) *Beyond the Data.*

[102] The focus group discussions did not distinguish between different media forms, nor did the moderator clarify what forms participants had in mind when discussing the national media.

[103] Dominic Abrams et al (2020) *Community, Connection and Cohesion*; Dominic Abrams et al (2021) *Public Perceptions*.

perception that these officials are not representative of, and responsive to, these communities.[104] Given these findings, we used the focus group discussions to identify whether local information sources might be more trusted than national sources. We explored this issue indirectly; not by asking people direct questions but by observing how they evaluated the trustworthiness of information sources located at different territorial levels (at the local level: local healthcare workers, community leaders, the local council and local media; at the national level: government ministers, scientific and medical advisors, university academics and national media).

Only for one of these sources was there evidence that a community location contributed to feelings of trustworthiness. Local healthcare workers were seen as knowledgeable about the coronavirus situation, and also as having a strong care ethic. Participants in some focus groups aligned these virtues with local doctors' knowledge of, and concern with, people in their community. In some cases, participants referenced personal contact with, and knowledge of, their local doctor. Trust in local healthcare workers thus appears to contain an important territorial element: doctors are trusted in part because of their awareness of, and care for, people living in the local community.

Aside from this example, however, it was not clear from our UK focus groups that people's trust is significantly shaped by the territorial location of different information sources. As we have seen, local councils were not consistently judged by group participants to be a trustworthy source of information on the coronavirus. The local media was occasionally perceived to be more attuned to local interests – and thus as more trustworthy – than the national media. But there was no clear evidence from the groups that the local media are more trusted than the national media. And while some of the groups manifested positive evaluations of, and trust in, community leaders, other groups marked them down on trust (we pick up the role of community leaders in the following section).

In the US focus groups, there was some discussion about people's trust in local versus national (federal) government. Here, there was more evidence of high trust in more proximate decision-making forums than in more distant ones. Local government was seen as easier to access and as more likely to take communities' needs into account than the more distant national government. However, the US focus groups did not explore the trustworthiness of information sources at different territorial levels beyond this.

Overall, the discussions in our UK focus groups did not provide any clear evidence of local or community-based information sources being more trusted than national sources. The only exception were local healthcare workers, whose community location was seen by some group participants as being an important factor in the trustworthiness of this source.

**6.8 Individual variations in trust**

To enable us to identify any differences in the nature of trust judgements between different groups of individuals, we stratified the focus groups by central-peripheral location, by ethnic group and by socio-economic status. We also stratified by age, although this was

[104] Public Health England (2020) *Beyond the Data*; Atiya Kamal et al (2021) 'Rapid Systematic Review'.

done to facilitate balance in the group compositions rather than for a specific research purpose.

Exploring the bases of trust in different information sources among the UK focus group participants did not reveal significant variations between individuals in centrally-located and more peripherally-located groups, and between groups comprising different socio-economic status individuals. Granted, some participants in one of the periphery-located groups (Newcastle) identified their remote location as one reason for government ministers' perceived lack of concern with their needs (the example provided by participants related to the lack of electricity supply faced by some residents in the North East region). Aside from this, however, there was little clear evidence that levels of trust, or the criteria involved in trust judgements, varied significantly between people located in geographically central or peripheral locations. Nor was there much evidence of such variation between groups comprising people from different socio-economic backgrounds. Across individuals from different socio-economic groups, levels of trust and the factors contributing to trust judgements again appeared to be more similar than distinct.

Only in one area did individuals' demographic characteristics appear to shape their trust in different information sources, and this related to individuals' ethnic identity. Two of our focus groups involved participants drawn from minority ethnic groups: one group (in London) comprised Black Caribbean and Black African participants, while another group (in Birmingham) comprised South Asian (Bangladeshi or Pakistani) participants. In both cases, participants in these groups appeared more sceptical of scientists than did participants in the other four groups (all of whom comprised White participants). In fact, participants in the first group (Black Caribbean/African, located in London) rather struggled to identify features of a trustworthy scientist, while more easily identifying features of an untrustworthy scientist. Participants in the two ethnic minority groups were also particularly likely to identify features of untrustworthy scientists, notably what were perceived as mistakes in forecasting (indicating low competence), the supposed privileging of results fitting an agenda rather than arising from an objective and transparent process (indicating low integrity) and the perceived lack of independence from government (indicating low impartiality and objectivity). Some of the negative evaluations within these two groups might have been stimulated by a concern about the speed with which coronavirus vaccinations were developed, a concern that was expressed by several participants in both groups. These participants felt that the rapid vaccine development process undermined its safety and the trustworthiness of the scientists involved in it.

By no means was the identification of untrustworthy features of scientists limited to these two groups. Rather, several features were identified only within these groups, and the number of untrustworthy features of scientists identified by participants was higher in these two groups than in the other four groups. We note that the scepticism of scientists among these two groups fits with the findings of existing studies (Section 5.3) that show trust in scientists to be lower among ethnic minority groups than among Whites.

By contrast, while assessed trust in community leaders was generally quite low among participants in the four groups comprising White participants, it was often rather higher among participants in the Black Caribbean/African and South Asian groups. Participants in

some of the former groups identified community leaders as lacking expertise and as seeking only to further the narrow interests of their local group. By contrast, participants in the London Black Caribbean/African group perceived community leaders as more understanding of local people's needs and as more accountable to local citizens for their actions. Again, we do not over-emphasise differences in trust between individuals from different ethnic groups. We merely identify what appears to be a somewhat greater trust in community leaders among individuals from particular ethnic groups that were deliberately sampled for the focus groups.

We also note that these differences between individuals relate mainly to levels of trust rather than the type of considerations involved in trust. With the possible exception of concerns over the speed of the vaccine development programme – which, as just noted, were raised in both the focus groups comprising ethnic minority individuals – we find little evidence that the bases or criteria involved in forming trust judgements differed between individuals. Instead, we find more evidence that levels of trust in particular actors might have varied between individuals. This is an issue we examine more systematically through the survey element of the project.

**6.9 Summary of focus groups**

The focus groups conducted in the UK and US have highlighted the considerable variations in trust that individuals have in different sources of information. There is also some evidence that individuals from ethnic minority groups attach different levels of trust to key sources such as scientists and local faith leaders than do Whites. Yet the focus groups did not identify any clear distinction in levels of trust between individuals in different socio-economic groups. Levels of trust among individuals in 'marginalised' communities thus remain unclear, and will be explored further in the survey element of the project.

More important than identifying levels of trust, the group discussions also help us to understand the potential reasons individuals have for viewing information sources as trustworthy or untrustworthy. Here, we found that, while some of the key considerations of trustworthiness applied across sources, the importance of some considerations differed between sources. In particular, we point to the strong basis of the perceived trustworthiness of scientists in expertise and knowledge. By contrast, the perceived trustworthiness of politicians appears to be rooted more strongly in judgements about benevolence and integrity. Granted, participants in the US focus groups aligned their appraisals of politicians' trustworthiness more closely with judgements of delivery and getting tasks done. But even this element of competence differs from the element attached to the trustworthiness of scientists, which is more related to expertise and subject knowledge. Our focus group results thus suggest that when individuals express 'trust' in key information sources such as politicians and scientists, that trust rests on somewhat different criteria or considerations. Variations in levels of trust between these sources may thus reflect not only differences in how each source is seen to perform (are they competent? are they benevolent?), but also differences in the features on which trustworthiness is assessed.

What was less evident in the focus groups is variation in these features of trustworthiness between different types of individual. We found little evidence that individuals in different

social groups – who differed in socio-economic status, territorial location and ethnic composition – draw on different considerations when forming trust judgements. We take forward this question about variations in the bases of trust to the next section, in which we explore the results from our surveys of the UK and US populations.

## 7. RESULTS FROM THE POPULATION SURVEYS

We outlined the design and conduct of the UK and US surveys in Section 3.3. We also provide the wording and response options for all the survey questions in Appendix 1. To recap, the purpose of the surveys was to identify:

1. The main sources people draw on for information about the coronavirus (see Section 7.1).
2. Levels of trust in these different sources of information, and how levels of trust vary between groups within the population (see Section 7.2)
3. The key considerations that underpin people's trust judgements in different information sources – in particular senior politicians and scientific experts – and whether these considerations vary between groups within the population (see Section 7.3)
4. How far trust in different information sources is associated with a range of individual attitudes and behaviours related to the coronavirus, in particular vaccination uptake (see Section 7.4).

### 7.1 Which sources of information do people look to?

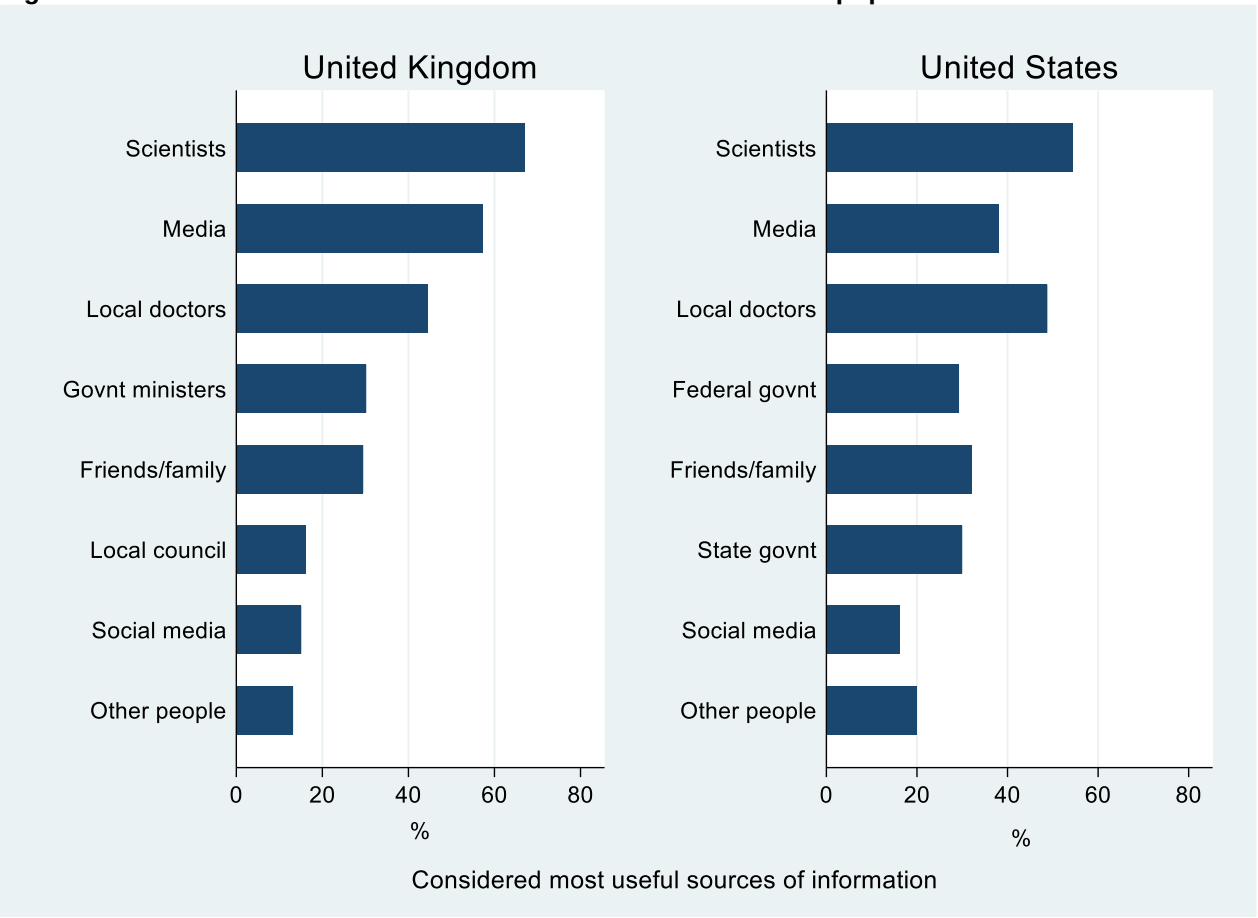
We begin by exploring which sources people look to for information about the coronavirus. We asked our survey respondents the following question: "Which sources of information, if any, have you found most useful in helping you to understand what is going on with the coronavirus?"[105] Respondents were allowed to select up to three sources. In Figure 2, we show how useful each source was deemed to be (ie. by how many people it was selected as a first, a second or a third most useful source of information).

The results are broadly consistent across the UK and US samples. In both cases, the most useful source was seen to be scientific and medical experts, identified by two-thirds (67%) of respondents in the UK and just over half (54%) of respondents in the US. Local healthcare workers and doctors were also seen as useful sources of information, identified by just under one-half of respondents in both countries. One difference between the UK and US was the adjudged usefulness of the media. While more than one-half (57%) of people in the UK saw television, newspapers and the radio as being useful information sources, this figure was just 38% in the US, perhaps an indication of the more partisan nature of much of the media in that country. By contrast, state governments were seen as useful sources of information by 30% of the US sample, twice the proportion who judged local councils in a

[105] This question did not seek to distinguish between people's evaluations of the creator or originator of any information (likely to be scientists and medical experts) and the source conveying this information (likely to be the media). We felt this distinction was unlikely to have been clear in all respondents' minds.

similar way in the UK (16%).[106] In both countries, government ministers and friends and family were nominated by around three in ten of the population. Information from people in the community and social media platforms was deemed useful by only one-fifth or less of the population in both countries.

**Figure 2: Assessed usefulness of information sources across the population**




There is some variation between different groups within the population in which information sources are seen as useful.[107] We describe these differences here; the full data are provided in Appendix 2. Education provides one such variation. In the UK, 73% of people holding a university-level degree deem scientific and medical experts to be useful sources of information. Among people who do not hold a university-level degree, the proportion falls to 62%. There is a similar difference in the US, where scientific experts are seen as useful sources of information by 59% of people holding a university-level degree, but only by 50% of those who do not hold such a qualification. When it comes to people's economic status (measured by reported household income), there are similar differences in the UK and the US. Among the most affluent group, more people deem scientists to provide useful

[106] Of course, state government in the US has a greater role in securing public health and in dealing with emergencies than do local councils in the UK.

[107] We should note that our surveys, while comprising samples of ~1,500 people, did not contain sufficiently large numbers of ethnic minority group members to provide detailed breakdowns within this category. We would commend further survey research, using bespoke or booster ethnic minority group samples, to further explore the findings we report here.

information than among the least affluent group (although in the UK, the gap is quite modest, and not statistically significant[108]).

There are also some stark variations in the perceived usefulness of information from different sources when it comes to ethnicity. In the UK, the limited number of people in our sample reporting an ethnic minority background means we limit our focus to comparisons between two groups: Whites and ethnic minority members. Among Whites, 68% of people deem scientific and medical experts to provide useful information; among members of an ethnic minority, the figure is 60%.[109] Whites similarly deem information provided by the media to be more useful than do ethnic minority members (58% to 50% respectively[110]), as is the case for information from government ministers (31% of Whites deem information from this source to be useful against 24% among ethnic minority members[111]). By contrast, people from ethnic minorities are more likely than their White counterparts to judge as useful information from friends and family and social media platforms.

In the US, there is no difference between ethnic groups in the perceived usefulness of scientific information; Blacks are almost as likely to deem as useful information from scientists as Whites (the proportions are 53% and 55%). Compared to Whites, Blacks and Asians are more likely to see information from the federal government as useful.[112] Blacks and Hispanics are more likely to see information from social media platforms as useful than Whites and Asians. Yet Blacks are, along with Asians, much less likely to deem as useful information from a local doctor's office compared with Whites.

These results point to the importance of scientific and medical experts as valuable sources of information for citizens in understanding the coronavirus. Both in the US and – even more so – in the UK, people look to scientific and medical experts for information about the coronavirus. By contrast, politicians are seen as less useful sources of information. Yet different types of individuals vary in which information sources they see as useful. More educated and affluent individuals are particularly likely to see scientists as providing useful information. The same is true in the UK of Whites compared to members of an ethnic minority. The same is not true in the US, however, where scientific information is not seen as less useful by Blacks than by Whites. Where there is a gap is in information from local doctors, which is seen as less useful by members of the former group than by members of the latter.

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[108] The difference in perceived usefulness of scientific information between income groups in the US is just statistically significant at the 5% level. Note that all differences between groups reported here are statistically significant at the 5% level unless otherwise indicated.

[109] This difference is statistically significant at the 10% level.

[110] As footnote 109.

[111] As footnote 109.

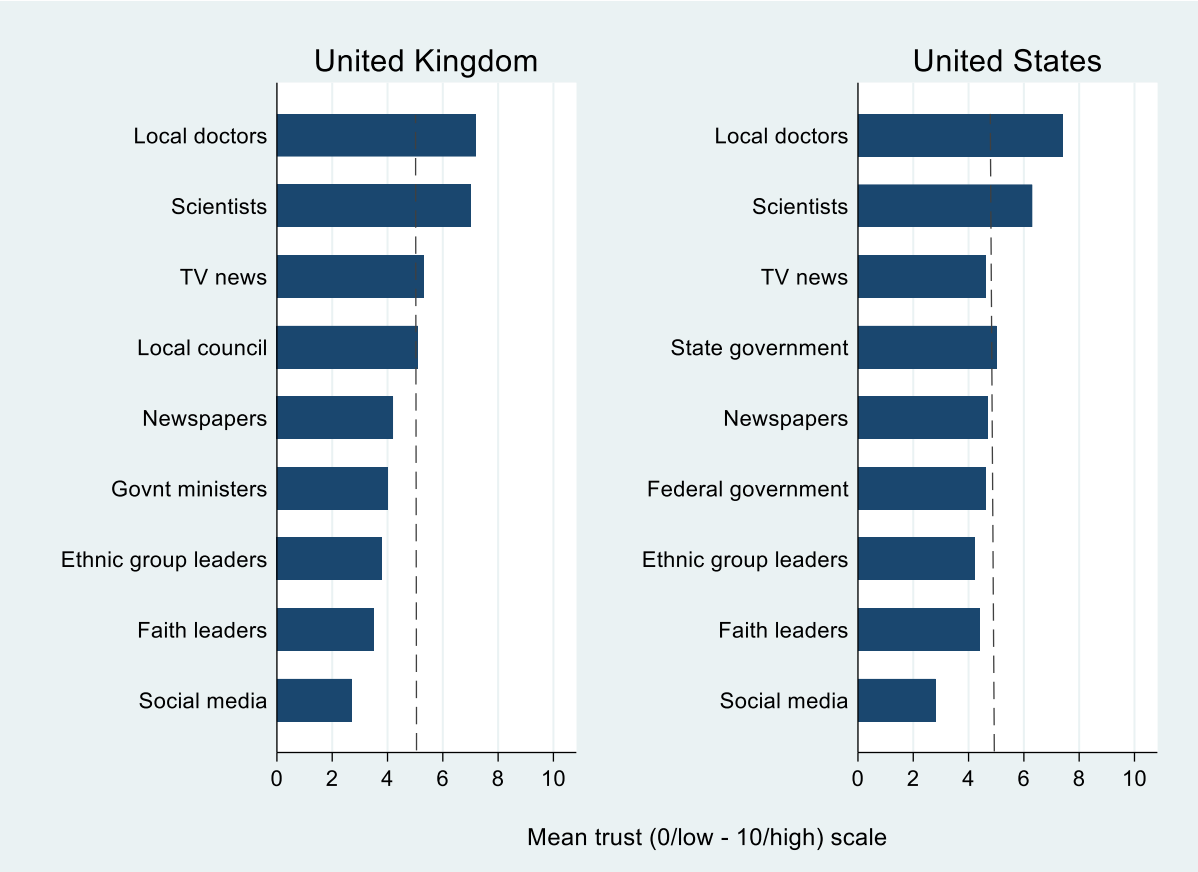
[112] The difference with the figure for Whites is statistically significant at the 10% level for Blacks and Asians.

### 7.2 Which sources of information do people trust?

The previous section explored how useful people deemed different sources to be in helping them to understand the coronavirus. In this section, we examine the (related) issue of how far each source is trusted. To identify levels of trust in the different sources, we asked the following question of survey respondents: "How much, if at all, do you trust each of the following when it comes to providing information about COVID-19?"

Overall, as can be seen in Figure 3, in both countries, there was a wide range in people's trust in different information sources. On a response scale running from 0 (do not trust source at all) to 10 (have full trust in source), respondents in both countries indicated high levels of trust in local doctors and scientists advising the government (although trust in scientists was a little lower in the US than in the UK). Local authorities – local councils in the UK and state governments in the US – also gained trust around the midpoint of 5. In the UK, television news is trusted more than information from newspapers, although in the US there is no difference in people's trust in the two sources. In both countries, trust in the national government falls below the midpoint of 5, and social media platforms are the least trusted sources of information.

**Figure 3: Trust in key information sources.**




Our review of previous academic studies (Section 5.3) suggests that people in lower socio-economic groups, and members of ethnic minority groups, were less trusting in institutions like government and scientific advisers than were people in higher socio-economic groups

and Whites. The data from the surveys in both the UK and US corroborate this, with higher levels of trust among more educated and affluent individuals (see Table 5). Among these groups, however, levels of trust are higher across all information sources, not just in the 'institutional' sources of information – such as government officials and scientific experts – identified in previous studies.

When it comes to ethnic differences, our results show that members of ethnic minority groups in the UK trust local doctors a little less than do Whites.[113] The same is the case in the US for Blacks, but not for Hispanics or Asians, among whom levels of trust are as high, or higher, as among Whites. In the US, levels of trust in the federal government are somewhat higher among Hispanics and Asians than among Whites[114] (although trust in state governments is somewhat lower among Blacks[115]). The same is true in both countries when it comes to newspapers; trust is generally higher among ethnic minority groups than among Whites. In both countries, trust also tends to be higher among minority groups in local ethnic group leaders and, in the UK at least, in local faith leaders.

Our survey question on trust referred to an actor's provision of information on the coronavirus. However, people's levels of trust may be sensitive to the particular task or function an actor is undertaking. That is to say that an individual may have more trust in an actor to undertake one task (say, to provide information) but less trust in that actor to undertake another task (say, to deal effectively with a problem). To test whether people's trust depends on the task or function they are evaluating an actor against, our survey asked respondents how much they trusted national government on three key tasks:

1. To reduce the spread of COVID-19
2. To accurately report how they have handled COVID-19
3. To treat people fairly in their handling of COVID-19

Respondents were asked to indicate their level of trust on a four-point scale (where 1=do not trust at all and 4=trust a great deal). In the US, there was very little difference in levels of trust in the federal government across the three tasks. In the UK, levels of trust in national government were slightly higher when it came to accurate reporting on handling COVID-19 (mean score of 2.8) than when it came to treating people fairly (mean of 2.6) and reducing the spread of COVID-19 (mean of 2.4). Although the UK and US have fairly similar COVID-19 death rates per capita, UK citizens seem to trust their government less than their US counterparts when it comes to dealing with the pandemic. Within the two populations, we find that these trust judgements are broadly consistent across social groups. Thus, for example, although mortality rates for COVID-19 among members of ethnic minority groups are generally higher than among Whites in both the UK and US, these groups are no more likely than Whites to express low trust in government when it comes to treating people fairly.

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[113] This difference is statistically significant at the 10% level. Note that the difference in trust in scientific experts between Whites and ethnic minority group members is not statistically significant.

[114] The difference in trust between Whites and Blacks is not statistically significant.

[115] The difference in trust in state governments between Whites and Blacks is statistically significant at the 10% level.

**Table 5: Trust in sources by population sub-group.**

| Source | Group | Britain % | US % |
|---|---|---|---|
| Local doctor | Low education | 7.1 | 7.1 |
| | High education | 7.4[1] | 7.6[1] |
| | Low income | 7.1 | 7.0 |
| | High income | 7.4 | 7.7[1] |
| | Whites | 7.3 | 7.5 |
| | Ethnic minority | 6.9[2] | - |
| | Black | - | 6.5[1] |
| | Hispanic | - | 7.5 |
| | Asian | - | 7.1 |
| Scientific and medical experts | Low education | 6.7 | 5.7 |
| | High education | 7.3[1] | 6.9[1] |
| | Low income | 6.8 | 6.0 |
| | High income | 7.2[3] | 7.1[1] |
| | Whites | 7.1 | 6.3 |
| | Ethnic minority | 6.7 | - |
| | Black | - | 6.0 |
| | Hispanic | - | 6.7 |
| | Asian | - | 7.0[3] |
| Local council (UK)<br>State government (US) | Low education | 4.9 | 4.4 |
| | High education | 5.4[1] | 5.5[1] |
| | Low income | 5.0 | 4.5 |
| | High income | 5.4[2] | 5.5[1] |
| | Whites | 5.1 | 5.0 |
| | Ethnic minority | 5.4[3] | - |
| | Black | - | 4.4[3] |
| | Hispanic | - | 5.4 |
| | Asian | - | 5.8[2] |
| Government ministers (UK)<br>Federal government (US) | Low education | 3.9 | 3.9 |
| | High education | 4.2[3] | 5.3[1] |
| | Low income | 3.7 | 4.4 |
| | High income | 4.5[1] | 5.4[1] |
| | Whites | 4.0 | 4.5 |
| | Ethnic minority | 4.1 | - |
| | Black | - | 4.8 |
| | Hispanic | - | 5.6[1] |
| | Asian | - | 5.6[2] |
| Local ethnic group leaders | Low education | 3.5 | 3.7 |
| | High education | 4.1[1] | 4.7[1] |
| | Low income | 3.6 | 4.1 |
| | High income | 4.6[1] | 4.7[2] |
| | Whites | 3.7 | 4.0 |
| | Ethnic minority | 4.6[1] | - |
| | Black | - | 5.3[1] |
| | Hispanic | - | 5.0[1] |
| | Asian | - | 4.9[2] |
| Local faith leaders | Low education | 3.3 | 4.1 |
| | High education | 3.8[1] | 4.6[2] |
| | Low income | 3.3 | 4.1 |
| | High income | 4.1[1] | 4.5 |

| | | |
|---|---|---|
| Whites | 3.4 | 4.4 |
| Ethnic minority | 4.7[1] | - |
| Black | - | 4.5 |
| Hispanic | - | 5.1[3] |
| Asian | - | 4.5 |

*Notes:* Education: low=below university degree; high=university degree or above. Income (annual household income): low=bottom income band (UK: <£19,999; US: <$25,000); high=top income band (UK: >£55,000; US: >£125,999). [1] p<0.01, [2] p<0.05, [3] p<0.10 (comparisons with base category i.e. 'low education', 'low income', 'whites')

**7.3 What explains people's trust in different actors?**

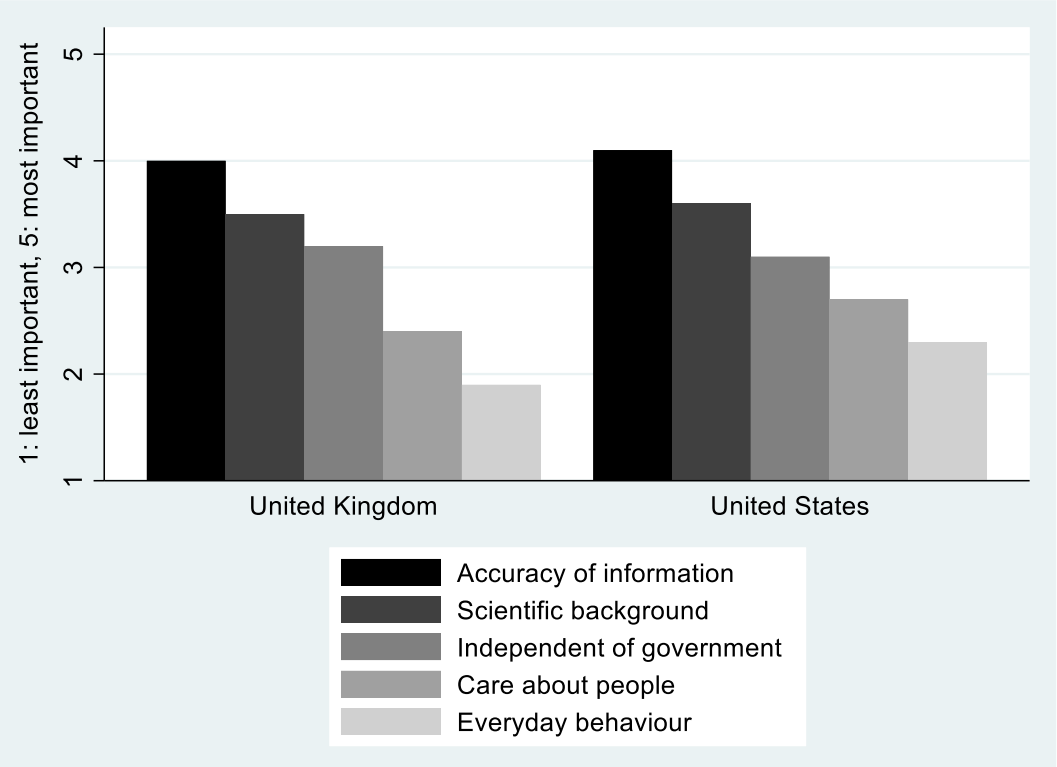
The survey results show that people trust scientific experts as sources of information on the coronavirus more than government ministers. This raises the question, why? What is it about scientists that make them more trustworthy in the public eye than senior politicians? There are many potential factors that might induce people to trust one actor more than another. For example, as we noted in the review of previous academic studies (see Section 5.4), there is some evidence that low trust in politicians and healthcare providers among Blacks and members of other marginalised communities in the UK and US reflects deep-rooted perceptions of a lack of responsiveness and outright discrimination. While acknowledging the existence of a wide range of factors that are likely to shape people's trust in different actors – some of which reflect historical events and long-standing experiences – this project focuses on how people's trust judgements are shaped by the key features or characteristics of these actors.

To explore this, we began by asking our survey respondents to identify which features of scientific experts they considered to be the most important in shaping their feelings of trust. The question we posed was:

"Thinking now about scientific and medical experts advising the government, what are the most important considerations for you in deciding how much, if at all, to trust them when it comes to providing information about COVID-19?"
- Their scientific background
- How they behave in their everyday life
- The accuracy of the information they provide
- The extent to which they care about people like you
- Whether they are independent of the government

Respondents were asked to indicate the importance of each consideration on a reversed 1 (=least important) to 5 (=most important) scale. The results are shown in Figure 4. For both countries, these largely confirm the findings from the UK focus groups (see Section 6.3), in that the most important considerations relate to scientists' expertise and competence. Thus, the most important feature identified by individuals for their trust in scientists is 'the accuracy of the information provided', followed by 'their scientific background'. Scientists' independence from government is also important. Less relevant for trust are 'the extent to which scientists' care about people' and 'how they behave in their everyday lives'.

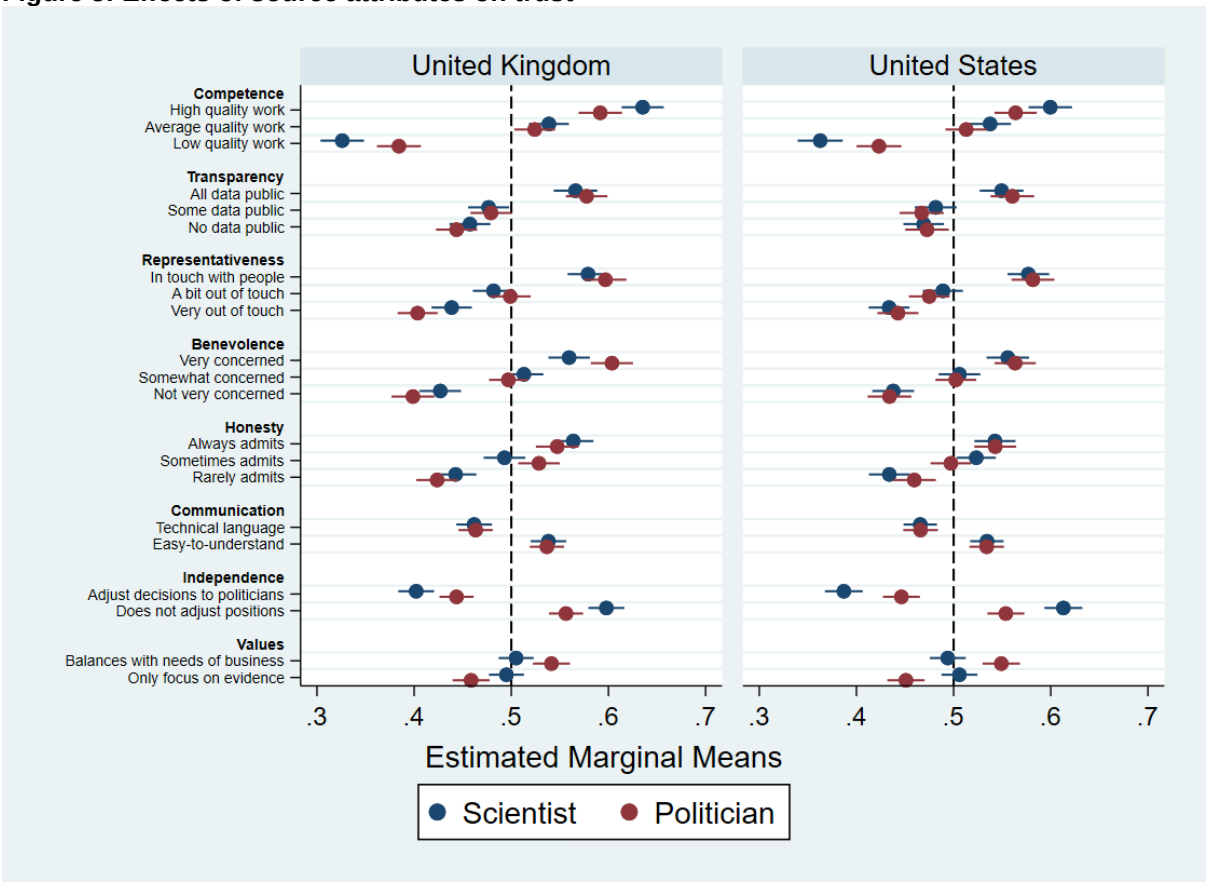
**Figure 4: Key considerations in trust judgements about scientists**




To explore more fully how people's feelings of trust are shaped by judgements about the different features or characteristics of actors, we proceed to the data from the conjoint choice experiment run within the UK and US surveys (details of which are provided in Section 4.3). In this exercise, survey respondents were asked to indicate which one among a pair of scientists or politicians (in the UK, the reference was to 'government ministers'; in the US, the reference was to 'state governors') they would trust more to give them reliable information. Each scientist or politician within the pair differed in the features (or 'attributes') they were described as possessing. The effects of each attribute on individuals' trust choices are presented in Figure 5.[116]

[116] The graphs present marginal means for the levels within each attribute. The coefficients (dots) represent the mean level of trust associated with the particular condition, averaging across the joint distribution of all the other attributes. For details of this approach, see Thomas J Leeper, Sara B Hobolt and James Tilley (2020) 'Measuring Subgroup Preferences in Conjoint Experiments', *Political Analysis*, 28:2, 207-221.

**Figure 5: Effects of source attributes on trust**




The results for the UK and the US are very similar.[117] Each of the eight attributes of the source has a significant effect on people's trust in that actor to give reliable information. That is, as the level of each attribute changes, so does people's expressed trust in that actor. What this tells us is that each of the eight attributes is important for people's trust in politicians and scientists. However, some of the attributes have more effect on people's trust than others, while some attributes are more important for people's trust in scientists than for their trust in politicians.

At the top of the chart, for example, we can see that 'Competence' has a strong effect on people's trust. When the quality of the scientist's or the politician's work is described as being low, there is a significant negative effect on people's trust compared to when the quality of their work is described as being high. Even when these actors' work is described as average, we find a positive effect on levels of trust (except in the case of politicians in the US).[118] Competence has a more substantial effect on trust than attributes like 'Transparency'. Again, as can be seen in Figure 5, scientists and politicians who make public only some, or none, of the data and information they use in their work are less trusted than their

[117] We show this more clearly in Appendix 3, where the effects of each source attribute on trust are shown side-by-side for the UK and US. The direction of the effects is consistent across the two country samples, as is – in general – the size of these effects.

[118] The effect of competence on people's trust in politicians appears to be no greater in the US than in the UK, a suggestion identified in our earlier review of evidence from focus groups (see Section 6.2). In fact, comparison of the effects of competence on trust in the two countries suggests an effect of broadly similar magnitude (see Appendix 3).

counterparts who make public all their data. Yet the effect of low transparency on trust is less than the effect of low competence.

Moreover, the effects of low competence are greater for people's trust in scientists to give reliable information than for their trust in politicians to do the same. The effect of low competence on people's trust in politicians is about the same as the effect of low 'Representativeness' (as captured by the condition 'politician is very out of touch with everyday life and people like yourself') and low 'Benevolence' (as captured by the condition 'politician is not very concerned about the lives of ordinary people'). Yet when it comes to scientists, low competence is associated with a much lower level of trust than for any of the other attributes. Being portrayed or perceived as lacking competence and expertise therefore appears to be particularly damaging for people's trust in scientists. Trust in politicians appears to be more sensitive to a broader set of considerations: not only how competent they are, but also how like other people they are and how concerned they are with ordinary people and their lives.

The conjoint exercise also allows us to examine how far people's trust in scientists and politicians to give reliable information is affected by how they present information, by how 'politicised' that information is, and by whether that information reflects considerations beyond the scientific evidence. We noted, above (Section 6.3), a point made in one of the UK focus groups that trust in scientists reflects how understandable people feel scientists' claims and evidence are; information that is not readily understandable is seen as less trustworthy than easily interpretable information. This observation finds support in the results from the conjoint experiment. Among both the UK and US populations, both scientists and politicians who present information using 'technical language' are seen as less trustworthy than their equivalents who use 'easy-to- understand' information. Trust therefore reflects not only the key features of a source, but also the way in which that source communicates information.

However, when it comes to how information and guidance is identified and adjusted, the effects on trust in scientists turn out to be minimal. There has been much discussion of how far the recommendations of scientific and medical experts should stick solely to the scientific evidence, and how far it should incorporate wider considerations, such as economic factors. We tested this in the conjoint exercise by asking respondents to select between a scientist (or a politician) who "balances the scientific evidence with other considerations, like the needs of business" and a scientist (or politician) who "focuses only on the scientific evidence and does not take into account other considerations, like the needs of business". As can be seen from Figure 5, these alternative ways of dealing with information have no effect on people's trust in scientists. But they do affect their trust in politicians. Levels of trust are higher in a politician who is presented as balancing a range of considerations such as the needs of business than in a politician who bases their decisions on the scientific evidence alone. Hence, scientific experts are trusted by the population, and scientists who stick to the scientific evidence only are not penalised when it comes to trust. Yet when politicians do the same – limiting themselves to 'following the science' – they appear to attract lower rates of public trust, perhaps reflecting the belief of some citizens that politicians have a different role which requires balancing different kinds of considerations..

What is more important for people's trust in scientists is their perceived independence from political pressures. We tested this by asking respondents to select between a scientist who "adjusts their decisions to reflect what politicians believe" and a scientist who "considers the scientific evidence alone, and does not adjust their decisions to reflect what politicians believe". The scientist whose guidance is adjusted to take into account politicians' views is substantially less trusted than the scientist whose guidance does not take these views into account. The same is true – albeit to a slightly lesser extent – of people's judgements about government ministers (in the UK) and state governors (in the US). In both cases, senior politicians who insulate themselves from wider political pressure by basing their decisions on the scientific evidence alone are deemed more trustworthy than their equivalents who consider the scientific evidence, but adjust their decisions to reflect the views of other politicians.

Adjusting decisions about the coronavirus to take into account the views of elected representatives is therefore damaging for people's trust, particularly for their trust in scientists. But politicians who focus only on the scientific evidence and do not adjust their decisions to reflect wider circumstances – such as the state of the economy – are also marked down when it comes to the public's trust. Politicians therefore appear to face a more difficult balancing act than scientists, in that they must be responsive to a wider set of considerations and public requirements (for example, the needs of business), but not adapt their decisions to reflect partisan pressures. By contrast, scientists apparently need not trim their guidance to reflect economic conditions. At the same time, though, their concern to appear independent of politicians appears to be justified; scientists who adjust their judgements to reflect politicians' concerns appear to sacrifice a substantial portion of the public's trust.

Finally, how far do the effects of these attributes on trust vary between different individuals within the population? To identify the existence of such variations, we divided the samples in both the UK and US by reported household income (into low, medium, and high income groups), education (into low, medium and high education groups) and ethnicity (into ethnic minority members and Whites) and re-analysed the data on each sample. The results (which at presented in Appendix 4) suggest that the association between each attribute and trust is broadly consistent across the population. There are no clear divisions between groups, and thus no evidence that different individuals are systematically placing more or less weight on particular attributes of an actor in their decisions about whom to trust.

**7.4 How are people's attitudes and behaviours linked to their trust?**

We now move on from exploring whether people trust different sources of information, and for what reasons, to consider the potential effects of trust. Some of these effects were highlighted in our review of the existing academic literature (see Section 5.2). To extend the results of these exercise, and in particular to identify how far people's behavior is shaped by feelings of trust in different information sources, we measured our survey respondents' attitudes and behaviours in a number of areas, notably their:

- Receptiveness to, and compliance with, information provided by different information sources.
- Existing and likely future vaccination status.

- Attitudes to coronavirus restrictions.

In each case, we examine the association between trust and people's wider attitudes and behaviours. Where associations are identified, this tells us that people's feelings of trust may shape what people think and how they behave. Note, though, that the existence of an association cannot tell us for sure whether trust causes these outcomes; it can only provide an indication of whether such a causal relationship might exist.

***Information receptiveness and compliance***

We start by considering a basic aspect of the relationship between citizens and information providers; whether individuals are willing to listen to information provided by different sources. To identify this, we asked survey respondents "When it comes to the coronavirus, how likely or unlikely are you to listen to information provided by…" followed by a number of sources (scientific and medical experts, government ministers, the local council, newspapers, television news, social media and friends and family). We also explored whether individuals are prepared to act on any guidelines provided by these sources through a survey question that asked: "Thinking about the coronavirus, how likely or unlikely are you to follow any recommendations made by…" again followed by a number of sources.

In Figure 6a, we plot the mean likelihood of listening to information from different sources by the mean levels of trust in those sources; in Figure 6b, we do the same for following recommendations from different sources. Since the results are very similar for the UK and US, we limit the presentation of results to the UK. The two figures highlight a very close relationship between trust and people's expressed willingness to listen to information and to follow recommendations. A perfect relationship between the two would consist of a diagonal line running from the bottom left to the top right points of the graph. As it is, in both graphs, the mean levels of trust and listening and following information fall pretty close to this diagonal line (the biggest divergence is between family/friends and scientists/medical experts, in that both enjoy high levels of trust but respondents are more likely to listen to, and follow, recommendations from the former source). What this signifies is that people's willingness to listen to information provided by a source, and to follow any recommendations, appears to be closely linked to how much they trust that source.

Yet while this suggests that people's receptiveness to information from a source – whether they listen to it or follow any recommendations – is closely related to their trust in that source, it does not mean that people only look to information that they trust. Earlier, we identified how useful people deem various sources when it comes to providing information on the coronavirus (Figure 2), and what levels of trust people have in these sources (Figure 3). Bringing together the data on trust and the data on perceived usefulness of information shows that while some sources are both trusted and deemed to provide useful information, other sources are deemed to provide useful information while not necessarily being highly trusted. A notable example here in the UK is the national media (television, newspapers and radio). Among people with high rates of trust in the media, 74% deem the media to provide useful information on the coronavirus. Yet even among people with low rates of trust in the media, 36% still deem the information it provides to be useful (the figure in the US is lower,

at 22%).[119] Conversely, even among people in the UK and US with high rates of trust in government, just 53% in the UK deem information from government ministers to be useful, while in the US, the figure deeming federal government information to be useful is 48%. Hence, it appears as though plenty of people deem information to be useful without necessarily trusting its source, while sometimes also judging a source to be trustworthy without seeing the information it provides as being useful.

**Figure 6a: Trust and likelihood of listening to information by source (UK)**

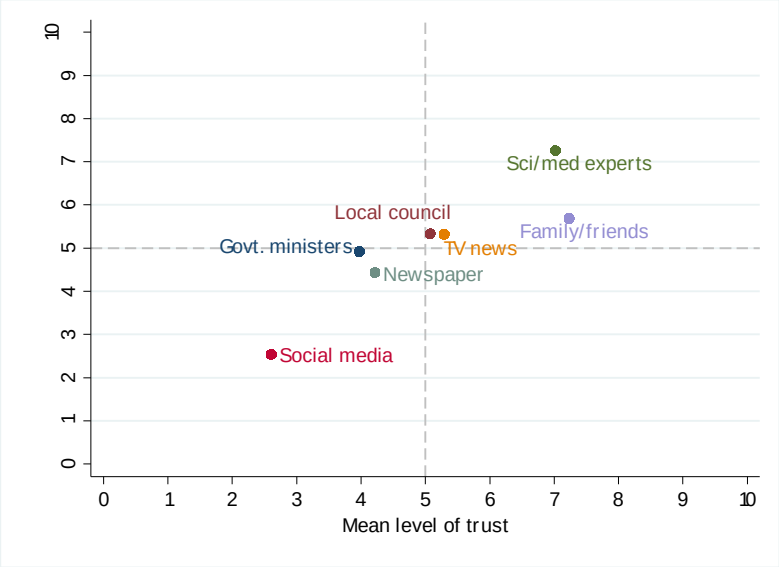
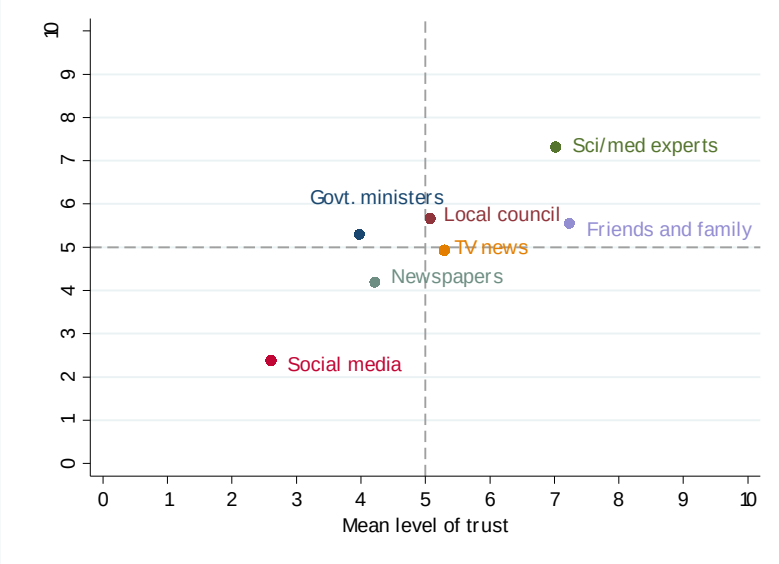



**Figure 6b: Trust and likelihood of following recommendations by source (UK)**




### *Vaccination behaviour*

To gauge existing vaccination take-up, we asked our survey respondents whether they, themselves, have already been vaccinated against COVID-19. The results are presented in Table 6 (under the columns headed 'Current status'). They show substantially higher

[119] Trust is measured on a 0 (low trust) to 10 (high trust) scale. Low trust = scores of 0-3. High trust = scores of 7-10.

reported vaccination rates among more affluent individuals than among poorer individuals in both the UK and the US, and higher reported vaccination rates among well-educated individuals than among less well-educated individuals in the US. There are also wide gaps in reported vaccination in the US by ethnicity, with substantially higher vaccination rates among Whites than among Blacks. There is less of a vaccination gap between Whites and ethnic minority members in the UK. However, data we do not report here show that, ethnic minority members are more likely than Whites to have only been partially vaccinated (having had one or two doses of the COVID-19 vaccination, but not the booster). By contrast, Whites are more likely than ethnic minority members to report being fully vaccinated (having had both vaccination doses plus the booster): the proportions are 77% to 58%.

We also asked the survey respondents about their likely behaviour if faced with a coronavirus vaccination in future. We asked for their reactions to the following question:

"Thinking beyond today, which of the following statements is closest to how you feel about getting future vaccines against COVID-19?"
- I would be likely to get any future vaccination as soon as it became available
- I might get a future vaccination, but I would wait to see how it affected other people first
- I would only get a future vaccination if it was required
- I would not get a future vaccination.

The results for the UK and US are reported in Table 6 (in the columns headed 'Likely future vaccination status'). Among the UK sample, there is a broad acceptance of getting vaccinated, with six in ten people (62%) indicating they would get vaccinated immediately. The equivalent figure among the US sample is lower, at 52%.

The likelihood of vaccination in the future increases quite substantially with education and income in the US, but more modestly in the UK. In both countries, the likelihood of future vaccinations is substantially higher among Whites than among ethnic minority group members (in the UK) and Blacks (in the US). However, only in the US do Blacks appear relatively more likely to reject the principle of future vaccinations. Here, 27% of Blacks indicate they would not get a vaccination in future. This compares to 17% of Whites and 13% of Hispanics.[120] In the UK, ethnic minority group members appear to be more vaccine 'hesitant', being more likely than their White counterparts to say they would wait before getting a vaccination or would only get vaccinated if required. The numbers ruling out future vaccination are similar across Whites (10%) and ethnic minority groups (12%). We cannot assume, of course, that reports of people's likely future behaviour turn out to be accurate. But if the results do provide a guide to how people might react in the case of any future vaccination programme, these results suggest there may be more of an issue with vaccine 'refusal' among certain parts of the US population than among equivalent parts of the UK population, where the issue may be more one of vaccine 'hesitancy' among some individuals.

[120] The difference between the figure for Whites and Blacks is statistically significant at the 10% level.

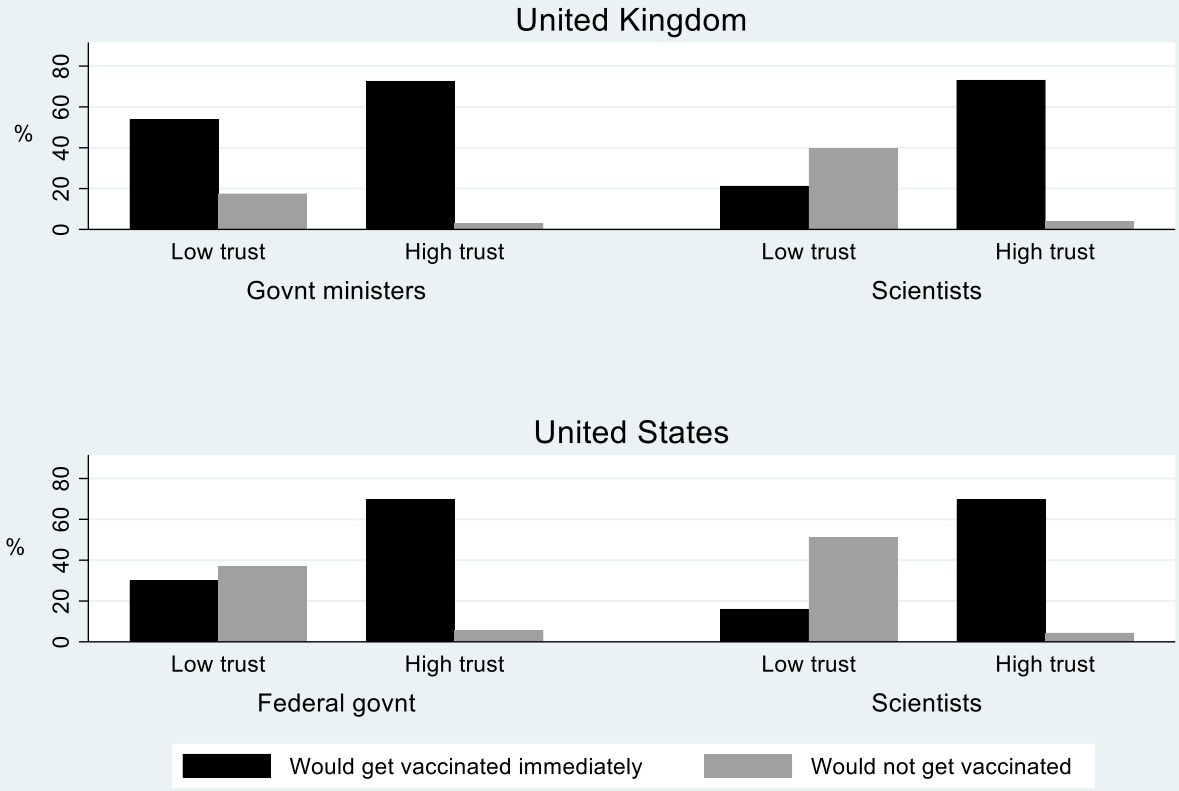
**Table 6: Self-reported vaccination rates by population sub-group**

| Group | Current status | | Likely future vaccination status | | | |
|---|---|---|---|---|---|---|
| | Fully or partly vaccinated* | No vaccination | Get vaccinated immediately | Would wait to see | Only if required | Would not |
| | % | % | % | % | % | % |
| **United Kingdom** | | | | | | |
| Total population | 91 | 9 | 62 | 9 | 18 | 10 |
| Low education | 89 | 11 | 59 | 9 | 19 | 13 |
| High education | 93 | 7 | 66 | 10 | 17 | 8 |
| Low income | 83 | 17 | 59 | 11 | 15 | 15 |
| High income | 97 | 3 | 62 | 9 | 21 | 8 |
| Whites | 92 | 8 | 65 | 8 | 17 | 10 |
| Ethnic minority | 88 | 12 | 41 | 19 | 29 | 12 |
| **USA** | | | | | | |
| Total population | 83 | 17 | 52 | 18 | 12 | 17 |
| Low education | 75 | 25 | 44 | 20 | 12 | 24 |
| High education | 90 | 10 | 59 | 17 | 12 | 12 |
| Low income | 71 | 29 | 44 | 19 | 14 | 22 |
| High income | 93 | 7 | 62 | 17 | 11 | 11 |
| Whites | 84 | 16 | 54 | 17 | 12 | 17 |
| Black | 65 | 35 | 41 | 17 | 15 | 27 |
| Hispanic | 83 | 17 | 44 | 27 | 14 | 13 |
| Asian | 90 | 10 | 47 | 23 | 11 | 19 |

*Notes:* The figures do not include people who answered ‘don’t know’ or ‘prefer not to say’.
Rows might not sum to 100% due to rounding.
* Indicates having had at least one dose of the COVID-19 vaccination.

How is people's likely behaviour in future over vaccination related to their feelings of trust towards key policy actors? We explored this by comparing the proportions who indicated a likelihood of getting vaccinated immediately and those who indicated they would not get vaccinated at all, by levels of trust in government ministers and scientific experts. The results, reported in Figure 7, show that people expressing high trust are, compared with their low trust counterparts, more likely to indicate a likelihood of getting an immediate vaccination. Yet the relationship with future vaccination behaviour is stronger for people's trust in scientists than for their trust in government ministers. This is particularly the case in the UK. Here, only one in five people (21%) expressing low levels of trust in scientists report being willing to get vaccinated in future, while the equivalent figure among people expressing high trust in scientists is 73%. By contrast, more than half (54%) of those expressing low trust in government ministers indicate that they will get vaccinated in future, not that far below the level among people expressing high levels of trust (73%).

**Figure 7: Future vaccination intentions by trust in national government and scientists**




Trust is measured on a 0-10 scale. 'Low trust'=scores of 0-3. 'High trust'=scores of 8-10.

In the US, trust in scientists is also strongly associated with people's reported likelihood of getting an immediate vaccination in the future, but here, the association with trust in the federal government is also quite strong. Among US citizens who express high trust in the federal government, 70% indicate they will get a COVID-19 vaccination as soon as it becomes available. This figure drops to just 30% among people with low trust in the federal government. We can speculate that this is because attitudes to national government – including feelings of trust – in the US are highly partisan, and partisanship is strongly associated with attitudes to vaccination.

These results reinforce previous studies that have shown the sensitivity of people's vaccination decisions to their beliefs about scientists (see Section 5.2). It highlights the importance of scientific and medical experts maintaining their trustworthiness in the eyes of the public; information and guidance provided by these sources appears to be particularly closely associated with people's decisions over whether to get vaccinated or not. Indeed, low trust in scientists is particularly closely associated with people indicating an unwillingness to get vaccinated at all in future. As we can see in Figure 7, among people expressing low trust in scientists, fully 40% in the UK and 51% in the US indicate they will not get vaccinated in future. While the numbers who do not trust scientists are lower than the numbers who do not trust politicians, the effects of trust in scientists on behaviour is considerably stronger.

***Attitudes to social restrictions***

Many advanced countries are now moving away from the personal restrictions and social lockdown measures virtually all of us have experienced over the past two years. The US government has reduced the time that infected individuals must spend in isolation, while the UK government recently announced the ending of mandatory isolation when a person contracts COVID-19. Nonetheless, many countries still have coronavirus restrictions in place, and even in countries where restrictions have been relaxed, any increase in infections driven by a new coronavirus variant may well entail their re-introduction. To explore people's attitudes to such restrictions, we asked our survey participants the following question:

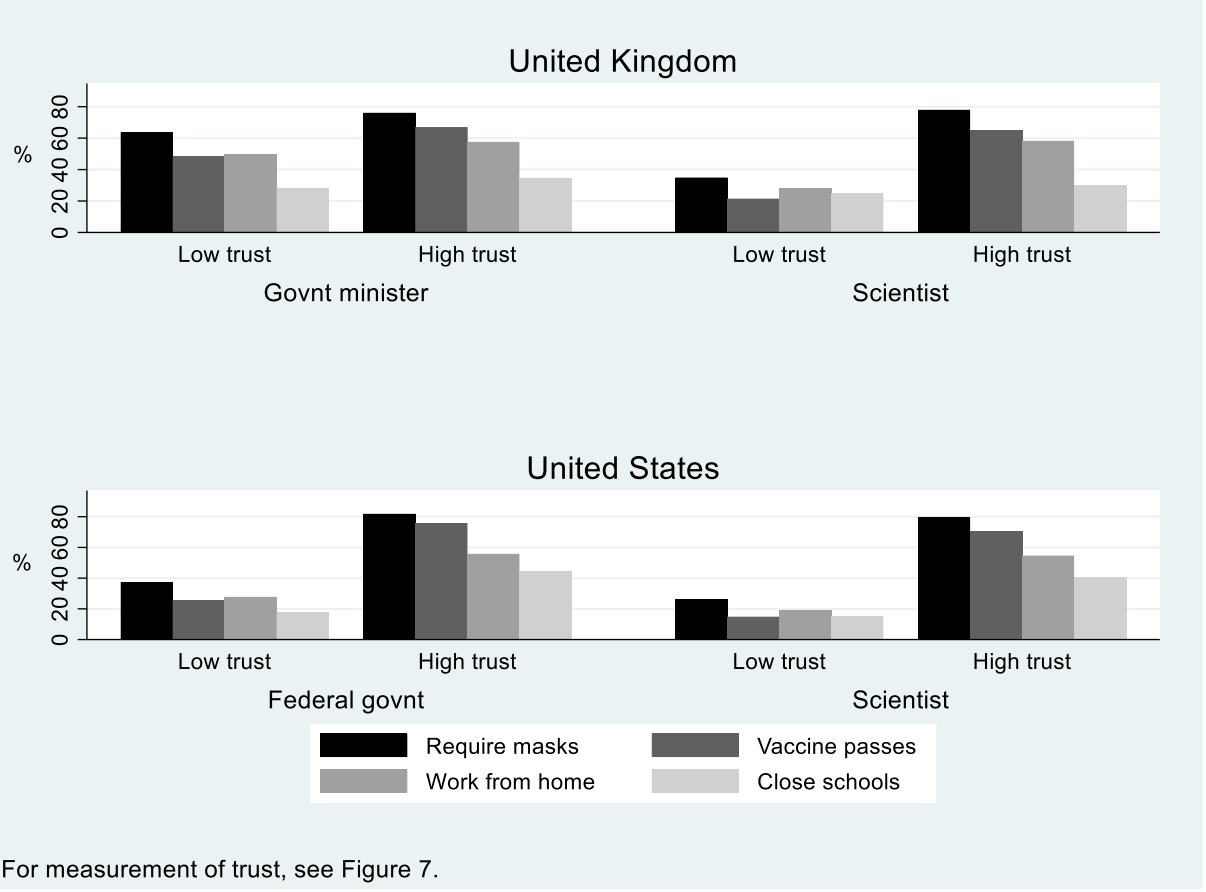
"To what extent, if at all, would you support or oppose each of these measures becoming law to help tackle the coronavirus?"
- Only allowing people to enter venues like restaurants and bars if they can show evidence of having received the COVID-19 vaccination
- Requiring people to wear masks in public places
- Closing schools
- Requiring people to work from home

Levels of support for these restrictions were generally slightly higher in the UK than in the US. Support for a legal requirement to wear masks in public reached 69% in the UK and 62% in the US. Support was rather lower for COVID-19 passports (at 55% among the UK population and 51% among the US population), requiring people to work from home (51% in the UK and 43% in the US) and closing schools (27% in the UK and 31% in the US). We do not place that much weight on these figures, which are likely to change if coronavirus infection rates among national populations continue to decline and social restrictions continue to be eased. Of more relevance are the associations between levels of support for these measures and people's trust in national government and scientific experts.

When we examine these associations, we find much the same picture as before with vaccination decisions. In Figure 8, we show levels of support for introducing legal

restrictions in these four areas among people who are either low or high in trust in national government and in scientific experts.[121] Among both the UK and US samples, we see that individuals' levels of trust in scientists has a strong positive association with their support for legalising social restrictions. When it comes to measures like compulsory mask-wearing, working at home and requiring evidence of a COVID-19 vaccination before entry to entertainment and leisure facilities (the so-called 'vaccination passport'), support for restrictions is substantially greater among people expressing high trust in scientists than among people expressing low trust. The exception is restrictions involving the closure of schools, which is less closely related to trust in scientists in the US, and not at all related to trust in scientists in the UK. This finding reinforces the extent to which people's support for health-related social restrictions appears to be particularly strongly conditioned by their trust in scientific and medical experts (although we reiterate that the results we report here only show associations between variables, not causal relations).

**Figure 8: Support for coronavirus restrictions by trust in government and scientists**




For measurement of trust, see Figure 7.

In the US, trust in the federal government has a similarly strong association with support for lockdown measures. Yet in the UK, trust in the government only appears to shape support for lockdown in the case of 'vaccine passports'; otherwise, support for social restrictions is not substantially associated with people's trust in their political rulers. Again, this points to the politicisation in the US of people's trust in government and their support for lockdown

[121] Trust is measured on a 0 (low trust) to 10 (high trust) scale. Low trust = scores of 0-3. High trust = scores of 7-10.

measures; attitudes to national politicians appear to be an important element in people's reactions to social restrictions in the US in a way that does not appear to apply in the UK.

## 8: CONCLUSIONS AND POLICY IMPLICATIONS

People's responses to the coronavirus pandemic over the last two years have reflected a number of factors, such as their personal capacity, the incentives they have faced, their levels of fear, the existence of social pressures and norms and feelings towards other people. Another key factor shaping how people have behaved in the face of the pandemic is their trust in important social actors and institutions. Trust plays a significant role in shaping people's acceptance of official information and compliance with official guidelines and rules. Yet the coronavirus pandemic has exposed individuals in many countries to different sources of information and guidance, raising the issue of how individuals assess the trustworthiness of these sources, and what effects such trust has on their attitudes and behaviours.

In this report, we have explored people's trust in various sources of information on the coronavirus in the UK and US, and the reasons for those trust judgements. Given the heightened role that scientific advisors and experts have played in the pandemic, we have focused our attention on people's trust in scientists, and compared their trust in these actors to their trust in government actors and officials.

We have also focused on whether trust varies between different groups within the population. The effects of the coronavirus have reflected, and indeed exacerbated, divisions between social groups. Our project has explored one aspect of these social divisions, namely differences between groups – focusing on 'marginalised' economic and ethnic communities – in feelings of trust towards key information sources on the coronavirus.

### Who is trusted?

Our findings point to a wide variation in people's trust in different sources when it comes to providing information about the coronavirus. We have found high levels of trust across the UK and US populations in scientific and medical experts and local doctors, somewhat lower levels of trust in the media and government actors, and very low levels of trust in social media platforms. We have also found differences within the population in levels of trust. Levels of trust tend to be higher among more affluent and educated individuals than among their poorer and less educated counterparts. This suggests that particular effort needs to be devoted to conveying information to individuals in more marginalised social groups who, given their lower levels of trust, are likely to be less prone to access and act on potentially important health-related information.

Among members of ethnic minority groups, we did not find significantly lower levels of trust in scientists than among Whites, although among Black individuals in both the UK and US, we did find evidence of lower trust in doctors. Although members of ethnic minority groups are not particularly prone to believe the media provides useful information about the coronavirus, they do appear to trust media outlets somewhat more than do Whites. In

addition, ethnic minority group members also trust local ethnic group leaders rather more than do Whites, while also seeing friends and family and social media platforms as more useful sources of information about the coronavirus than are Whites. These results point to the importance of disseminating health-related information via multiple sources in order to attract attention and acceptance among ethnic minority groups.

**What does trust rest on?**

If trust is a significant factor in shaping how people respond to information and guidance about the coronavirus, it is important that we understand what people's trust judgements rest on. The evidence presented in this report points to those judgements resting on rather different considerations in the case of political actors than in the case of scientific experts.

Trust in scientists is strongly shaped by considerations of competence and expertise. This came through clearly in both the focus group discussions – where expertise was identified as a key factor in scientists' trustworthiness – and the conjoint experiment – where competence manifested in high-quality work had the largest single effect on assessed trust in scientists. The focus group discussions also suggested that scientific integrity and transparency were important considerations in people's trust in scientists. A less important consideration in these discussions was scientists' concern with other people, although the results of the conjoint study suggest that 'benevolence' may be an important feature of people's trust judgements about scientists.

This suggests that while competence and expertise are central to what makes scientists trustworthy in the public eye, their perceived relations with wider society may also be important. Our findings also show that scientific independence and impartiality are key to people's trust in scientists. In both the focus group and conjoint experiment exercises, we found scientists whose judgements are seen to be tainted by political influence to attract lower feelings of trust than scientists who maintain their distance from politicians. Although scientists have been co-opted by governments into advisory and presentational roles – witness the UK's Downing Street press conferences, which featured scientific and medical advisors alongside government ministers – the increase in trust in scientists over the course of the pandemic suggests this role has not damaged their public standing.[122] However, as we found in our focus groups, some people are concerned about a perceived lack of scientific independence from government, and our survey results showed that scientists who are seen to compromise their judgements by considering the views of politicians are marked down as less trustworthy. There is clearly an important balancing act here for scientific and medical advisers, to engage with, and to inform, the decision-making process, while also maintaining an independence from political influence.

Our results also point to the difficulties faced by politicians in securing public trust when providing important health-related information to citizens. When it comes to the provision of such information, politicians are clearly less trusted than are scientists and doctors. In part, as we found in the focus group discussions, this is because politicians are often seen to perform poorly against people's standards. Yet, this may also be because people's standards

[122] Wellcome (2021) *Wellcome Global Monitor*.

appear to be broader than for other actors like scientists. This makes politicians' task of appearing trustworthy more difficult than for other actors like scientists. The focus group discussions and the results of the conjoint experiment highlight the importance for politicians to be seen to understand, and be concerned with, people's needs. Politicians need to be honest (by admitting their mistakes, for example) and competent in their job. But they also need to show 'benevolence' and 'authenticity'. Politicians who are seen as uncaring and out of touch are unlikely to be effective guides of the public in times of health crises.

**Why does trust matter?**

The importance for key sources of social information of attracting and retaining public trust is highlighted by the relationships we have identified between individual feelings of trust and behaviour, for example by getting vaccinated against the coronavirus and supporting measures designed to reduce the risk of viral spread. Our results reinforce previous studies which have shown how important it is for individuals faced with difficult behavioural choices to feel they can trust key sources of official information and guidance. We have also highlighted the importance for those choices of people's trust in scientists as well as their trust in politicians. In the US, trust in government appears to be closely tied to individual choices. But in the less politicised environment of the UK, people's choices and actions rest more on their feelings towards scientific and medical experts than on their feelings towards government. Given this, the public role played by scientists during the coronavirus pandemic is – while prone to the various risk we have just outlined – also necessary.

# 9. APPENDICES

**APPENDIX 1: Details of the surveys**

The survey questions fielded in the UK and US were identical except where indicated, below. The survey questions measured the following issues or attitudes. Note that the results to some of these questions are not drawn on in this report.

*Trust*: in different sources of information about COVID-19; social trust
*Information sources:* media exposure
*Usefulness of information/concern about misinformation*
*Willingness to listen to information/to follow information*
*Fear of COVID-19*: measured at an individual and community/national level.
*Vaccination history/likelihood of vaccination in future*
*Anti-vaccination conspiracy beliefs*: using previously validated items.[123]
*Handling of coronavirus*
*Lockdown skepticism*: using previously employed items.[124]
*Attitudes to lockdown*
*Coronavirus behaviours*: personal and perceived in other actors
*Attitudes to science*: using previously validated items.[125]
*Belief about scientific coronavirus predictions*
*Knowledge quiz*
*Partisanship*: election vote choice and Brexit referendum vote choice
*Libertarian-authoritarian scale*: using previously validated items.[126]
*Personal freedom of choice*

Q1. How much, if at all, do you trust each of the following when it comes to providing information about COVID-19?

1. (UK) Government ministers; (US) The federal government
2. (UK): Your local council; (US) Your state government
3. Scientific and medical experts advising the government
4. Television news
5. Newspapers
6. What you read on social media platforms
7. Your local doctor
8. Local faith leaders
9. Local ethnic group leaders

Response scale: 0 (do not trust at all) to 10 (have full trust).

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[123] Daniel Jolley and Karen M Douglas (2014) 'The Effects of Anti-Vaccine Conspiracy Theories on Vaccination Intentions', PLoS ONE, 9:2, e89177.
[124] Patrick Sturgis, Jonathan Jackson and Jouni Kuha (2020) 'Lockdown scepticism is part of the Brexit divide', LSE Brexit Blog, 8 June.
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[126] Geoffrey Evans et al (1996) 'Measuring Left-Right and Libertarian-Authoritarian Values in the British Electorate', *British Journal of Sociology*, 47:1, 93-112.

Q2. How much, if at all, do you trust the national/federal government to do each of the following?
1. To reduce the spread of COVID-19
2. To accurately report how they have handled COVID-19
3. To treat people fairly in their handling of COVID-19
Response scale: 1=a great deal, 2=a fair amount, 3=not very much, 4=not at all.

Q3. Thinking now about scientific and medical experts advising the government, what are the most important considerations for you in deciding how much, if at all, to trust them when it comes to providing information about COVID-19?
1. Their scientific background
2. How they behave in their everyday life
3. The accuracy of the information they provide
4. The extent to which they care about people like you
5. Whether they are independent of the government
Response scale: 1=most important to 5=least important.

Q4. Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?
1. Most people can be trusted
2. You need to be very careful

Q5. Do you normally read (in print or online) any daily newspaper at least 3 times a week, or not?
1. Yes
2. No

Q6. Which newspaper or news source do you normally read?
If more than one, which one do you read most frequently?

Q7. How often, if at all, do you watch all or part of a news programme on television?
Response scale: 1=at least once a day; 2=several times a week; 3=about once a week; 4=about once a fortnight, 5=about once a month; 6=less than once a month; 7=never.

Q8. Which news channels do you usually watch?

Q9. How often, if at all, do you read the news via a social media platform?
Response scale: 1=at least once a day; 2=several times a week; 3=about once a week; 4=about once a fortnight, 5=about once a month; 6=less than once a month; 7=never.

Q10. Which social media platform do you use most often?

Q11. Which sources of information, if any, have you found most useful in helping you to understand what is going on with the coronavirus?
1. (UK) Government ministers; (US) The federal government
3. Scientific and medical experts advising the government
2. (UK) Your local council; (US) Your state government

4. (UK) Local healthcare workers, including your doctor; (US) Your local doctor's office
5. Television, radio or newspapers
6. What you read on social media platforms
7. Family and friends
8. People in your community

Response scale: select the three you have found most useful (1=most useful, 2=second most useful, 3=third most useful).

Q12. How concerned, if at all, are you that each of the following is providing false or misleading information about the coronavirus (COVID-19)?

1. (UK) Government ministers; (US) The federal government
3. Scientific and medical experts advising the government
2. (UK) Your local council; (US) Your state government
4. (UK) Local healthcare workers, including your doctor; (US) Your local doctor's office
5. Television, radio or newspapers
6. What you read on social media platforms
7. Family and friends

Response scale: 0=not at all concerned, 10=very concerned.

Q13. When it comes to the coronavirus, how likely or unlikely are you to listen to information provided by…

1. (UK) Government ministers; (US) The federal government
3. Scientific and medical experts advising the government
2. (UK) Your local council; (US) Your state government
4. (UK) Local healthcare workers, including your doctor; (US) Your local doctor's office
5. Television, radio or newspapers
6. What you read on social media platforms
7. Family and friends

Response scale: 0=very unlikely to listen to information from this source, 10=very likely to listen to information from this source.

Q14. And again, thinking about the coronavirus, how likely or unlikely are you to follow any recommendations made by…

1. (UK) Government ministers; (US) The federal government
3. Scientific and medical experts advising the government
2. (UK) Your local council; (US) Your state government
4. (UK) Local healthcare workers, including your doctor; (US) Your local doctor's office
5. Television, radio or newspapers
6. What you read on social media platforms
7. Family and friends

Response scale: 0=very unlikely to follow any recommendations made by this source, 10=very likely to follow any recommendations made by this source.

Q15. How worried, if at all, are you about you, yourself, catching and becoming seriously ill from COVID-19?

Response scale: 0=not at all worried, 10=extremely worried

Q16. How worried, if at all, are you about the coronavirus situation in:
1. The locality where you live?
2. The country as a whole?

Response scale: 0=not at all worried, 10=extremely worried

Q17. Have you, yourself, been vaccinated against COVID-19?
Response scale: 1=yes, I have had both doses (US: one dose of Johnson & Johnson) plus the booster; 2=yes, I have had both doses (US: one dose of Johnson & Johnson) but not the booster; 3=yes, I have had one dose (US: of Pfizer or Moderna); 4=no, I have not had any dose.

Q18. Thinking beyond today, which of the following statements is closest to how you feel about getting future vaccines against COVID-19?
Response scale: 1=I would be likely to get any future vaccination as soon as it became available; 2=I might get a future vaccination, but I would wait to see how it affected other people first; 3=I would only get a future vaccination if it was required; 4=I would not get a future vaccination.

Q19. Please say how far you agree or disagree with the following statements?
1. Vaccine safety data is often made up
2. People are lied to about the effectiveness of vaccines
3. Data about the effectiveness of vaccines is often made up
4. Vaccines are not harmful

Response scale: 1=strongly disagree; 2=tend to disagree; 3=neither agree nor disagree; 4=tend to agree; 5=strongly agree.

Q20. How well or badly do you think each of the following has handled the coronavirus outbreak in (UK or US)?
1. (UK) The UK government; (US) The federal government
2. (UK) Your local council; (US) Your state government
3. (Scot) The Scottish government
4. (Wal) The Welsh government
5. (US) Local government

Response scale: 1=very well; 2=fairly well; 3=neither well nor badly, 4=quite badly; 5=very badly.

Q21. To what extent, if at all, would you support or oppose each of these measures becoming law in (UK or US) to help tackle the coronavirus?
1. Only allowing people to enter venues like restaurants and bars if they can show evidence of having received the COVID-19 vaccination
2. Requiring people to wear masks in public places
3. Closing schools
4. Requiring people to work from home

Response scale: 1=strongly support; 2=tend to support; 3=no feelings either way; 4=tend to oppose; 5=strongly oppose.

Q22. Some people think that the government should do everything it can to reduce the number of coronavirus infections, even if it damages the economy. Others think that the government should do everything it can to protect the economy, even if it increases the number of coronavirus infections.

Whereabouts on this scale would you place the beliefs of each of the following, where 0 is they strongly believe that coronavirus infections should be reduced even if this damages the economy, and 10 is they strongly believe the economy should be protected even if this increases coronavirus infections?

1. Yourself
2. (UK) The UK government; (US) The federal government
3. Scientific and medical experts

Q23. Some people think that the government should do everything it can to reduce the number of coronavirus infections, even if this means restricting people's freedoms. Others think that the government should do everything it can to protect people's freedoms, even if this means increasing the number of coronavirus infections

Whereabouts on this scale would you place the beliefs of each of the following, where 0 is they strongly believe that coronavirus infections should be reduced even if this restricts people's freedoms, and 10 is they strongly believe people's freedoms should be protected even if this increases coronavirus infections?

1. Yourself
2. (UK) The UK government; (US) The federal government
3. Scientific and medical experts

Q24. To what extent, if at all, do you agree or disagree that "It is every citizen's duty to follow the coronavirus rules"?
Response scale: 1=strongly disagree; 2=tend to disagree; 3=neither agree nor disagree; 4=tend to agree; 5=strongly agree.

Q25. To what extent, if at all, do you agree or disagree that official lockdowns have been necessary in controlling the spread of the coronavirus?
Response scale: 1=strongly disagree; 2=tend to disagree; 3=neither agree nor disagree; 4=tend to agree; 5=strongly agree.

Q26. Think about your personal behaviour over the past week. How often, if at all, did you:
Q27. How often, if at all, would you do these things if the government recommended them but did not make them compulsory?
Q28. How often, if at all, would you do these things if the government introduced a rule that everyone must do them?

1. Wear a face mask in indoor public places
2. Avoid meeting people from outside your household in an indoor setting
3. Work from home
4. Maintain distance from other people

Response scale: 1=nearly always; 2=very often; 3=sometimes; 4=rarely; 5=hardly ever.

Q29. How often, if at all, do you think the following groups tend to follow official guidance and rules designed to minimise the spread of the coronavirus?
1. (UK) The Prime Minister; (US) The President
2. (UK) UK Government ministers; (US) State governors
3. (UK) Civil servants; (US) Federal government officials
4. Scientific and medical experts
5. People working in the media
6. (UK) People across Britain; (US) People across the US
7. People in your local community

Response scale: 1=nearly always; 2=very often; 3=sometimes; 4=rarely; 5=hardly ever; 6=never.

Q30. Please say how much you agree or disagree with the following statements.
1. Science provides us with a better understanding of the universe than does religion
2. We can only rationally believe in what is scientifically provable
3. Science tells us everything there is to know about what reality consists of
4. All the tasks human beings face can be solved by science
5. The scientific method is the only reliable path to knowledge
6. The only real kind of knowledge we can have is scientific knowledge

Response scale: 1=strongly disagree; 2=tend to disagree; 3=neither agree nor disagree; 4=tend to agree; 5=strongly agree.

Q31. Please say how much you agree or disagree with this statement:
The predictions about the number of coronavirus infections made by scientists advising the government have often been wrong

Response scale: 1=strongly disagree; 2=tend to disagree; 3=neither agree nor disagree; 4=tend to agree; 5=strongly agree.

Q32. Which of these is NOT a common COVID-19 symptom?
1. Blurred vision
2. Cough
3. Fever
4. Inability to taste or smell

Q33. What does ‘asymptomatic’ mean?
1. A person has severe symptoms
2. A person has an illness but no symptoms
3. A person has never contracted a virus

Q34. What is a coronavirus antibody test?
1. A test for whether you currently have coronavirus
2. A test for whether you are likely to become seriously ill from catching coronavirus
3. A test for whether you have had coronavirus in the past

Q35. Governments around the world have been monitoring the 'R number'. What is the R number?
1. The percentage of confirmed coronavirus cases that lead to death

2. The percentage of the population that has been tested for the coronavirus
3. The average number of people to whom one infected person will pass on the virus

Q36. At the (UK) British General Election in December 2019 (US) Presidential Election in November 2020, lots of people didn't manage to vote. Did you vote in the 2019 General Election/ Presidential Election 2020?
1. Yes, voted
2. No, did not vote

Q37. Which (UK) party (US) candidate did you vote for?

Q38. At the Brexit referendum in 2016, a lot of people didn't manage to vote. How about you – did you vote in the 2016 Brexit referendum?
1. Yes, voted
2. No, did not vote

Q39. And which way did you vote?
1. Remain in the European Union
2. Leave the European Union

Q40. How much do you agree or disagree with the following statements?
1. Young people today don't have enough respect for traditional (British/American) values
2. People who break the law should be given stiffer sentences
3. For some crimes, the death penalty is the most appropriate sentence
4. Schools should teach children to obey authority
5. The law should always be obeyed, even if a particular law is wrong
6. Censorship of films and magazines is necessary to uphold moral standards

Response scale: 1=strongly disagree; 2=tend to disagree; 3=neither agree nor disagree; 4=tend to agree; 5=strongly agree.

Q41. Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them.
Please use this scale where 0 means "no choice at all" and 10 means "a great deal of choice" to indicate how much freedom of choice and control you feel you have over the way your life turns out.

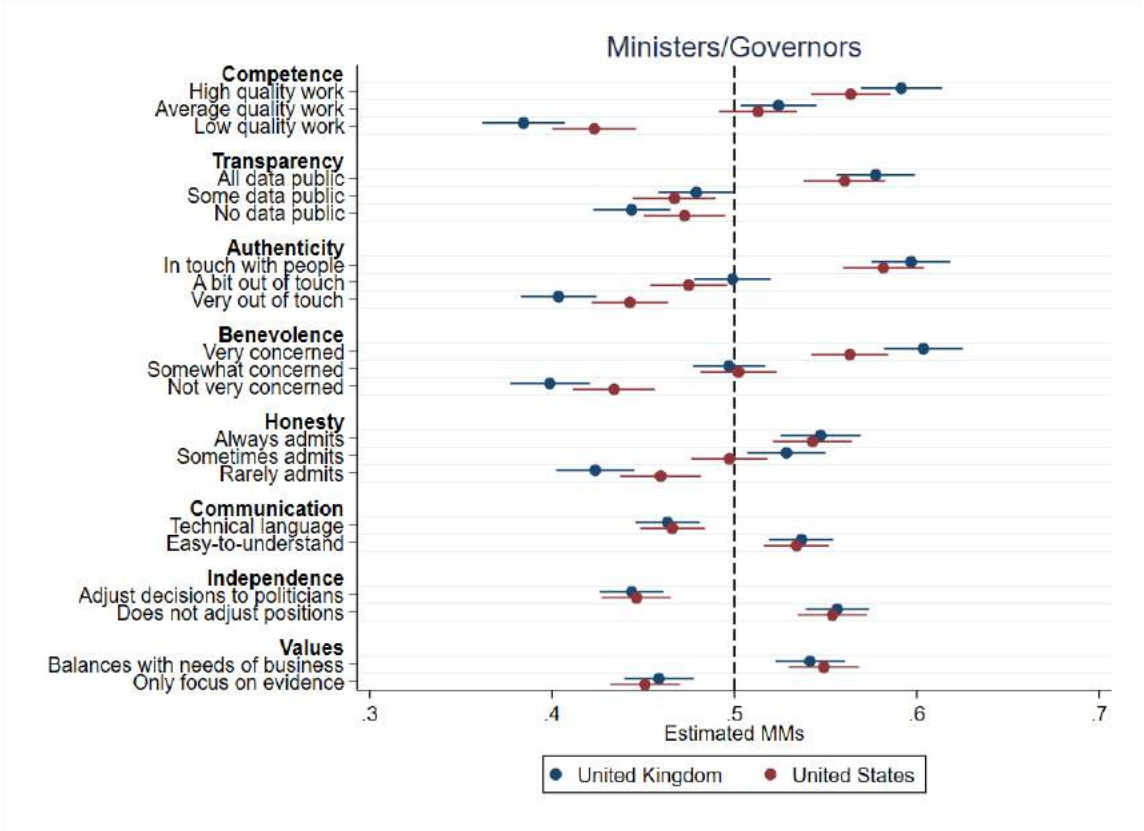
**APPENDIX 2: Usefulness of information sources, by population sub-group.**

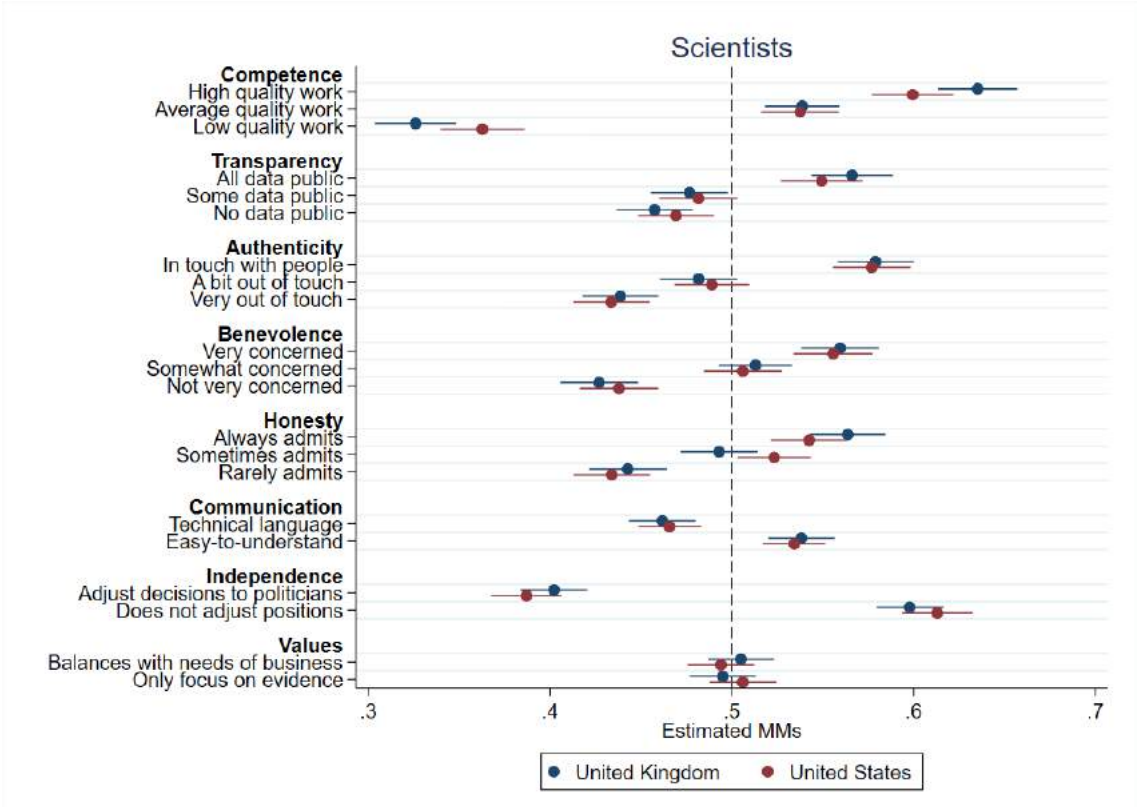
| Source | Group | Britain % | US % |
|---|---|---|---|
| Scientific and medical experts | Low education | 62 | 50 |
| | High education | 73[1] | 59[1] |
| | Low income | 64 | 50 |
| | High income | 71[3] | 59[2] |
| | Whites | 68 | 55 |
| | Ethnic minority | 60[2] | - |
| | Black | - | 53 |
| | Hispanic | - | 48 |
| | Asian | - | 60 |
| Media (TV, newspapers, radio) | Low education | 54 | 35 |
| | High education | 61[1] | 41[2] |
| | Low income | 58 | 36 |
| | High income | 57 | 40 |
| | Whites | 58 | 38 |
| | Ethnic minority | 50[3] | - |
| | Black | - | 35 |
| | Hispanic | - | 47 |
| | Asian | - | 42 |
| Local doctor | Low education | 44 | 50 |
| | High education | 45 | 48 |
| | Low income | 45 | 47 |
| | High income | 43 | 46 |
| | Whites | 44 | 52 |
| | Ethnic minority | 48 | - |
| | Black | - | 32[1] |
| | Hispanic | - | 50 |
| | Asian | - | 36[2] |
| Government ministers (UK)<br>Federal government (US) | Low education | 31 | 25 |
| | High education | 29 | 33[1] |
| | Low income | 28 | 28 |
| | High income | 30 | 37[2] |
| | Whites | 31 | 28 |
| | Ethnic minority | 24[3] | - |
| | Black | - | 38[3] |
| | Hispanic | - | 32 |
| | Asian | - | 39[3] |
| Friends and family | Low education | 30 | 33 |
| | High education | 29 | 31 |
| | Low income | 31 | 37 |
| | High income | 31 | 32 |
| | Whites | 29 | 33 |
| | Ethnic minority | 39[2] | - |
| | Black | - | 34 |
| | Hispanic | - | 24 |
| | Asian | - | 29 |
| Local council (UK)<br>State government (US) | Low education | 14 | 27 |
| | High education | 18[2] | 33[2] |
| | Low income | 16 | 33 |

| | | | |
|---|---|---|---|
| | High income | 20 | 34 |
| | Whites | 16 | 31 |
| | Ethnic minority | 18 | - |
| | Black | - | 20[2] |
| | Hispanic | - | 25 |
| | Asian | - | 32 |
| Social media | Low education | 14 | 16 |
| | High education | 16 | 16 |
| | Low income | 16 | 17 |
| | High income | 16 | 18 |
| | Whites | 14 | 15 |
| | Ethnic minority | 26[1] | - |
| | Black | - | 23[2] |
| | Hispanic | - | 30[1] |
| | Asian | - | 17 |
| People in your community | Low education | 13 | 22 |
| | High education | 13 | 18[2] |
| | Low income | 12 | 19 |
| | High income | 19[2] | 19 |
| | Whites | 13 | 20 |
| | Ethnic minority | 18[3] | - |
| | Black | - | 23 |
| | Hispanic | - | 17 |
| | Asian | - | 17 |

*Notes:* Education: low=below university degree; high=university degree or above. Income (annual household income): low=bottom income band (UK: <£19,999; US: <$25,000); high=top income band (UK: >£55,000; US: >£125,999). [1] p<0.01, [2] p<0.05, [3] p<0.10 (comparisons with base category i.e. 'low education', 'low income', 'Whites').

**APPENDIX 3: The effects of source attributes on trust, UK and US results compared**

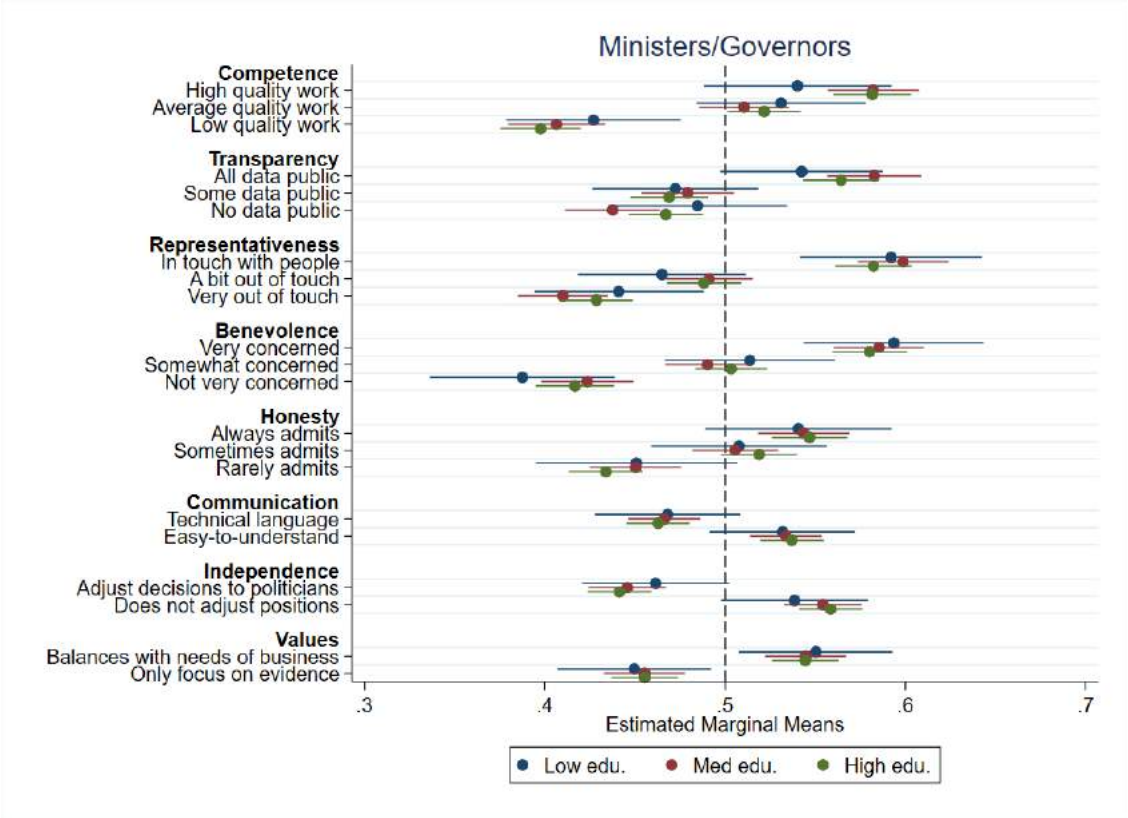


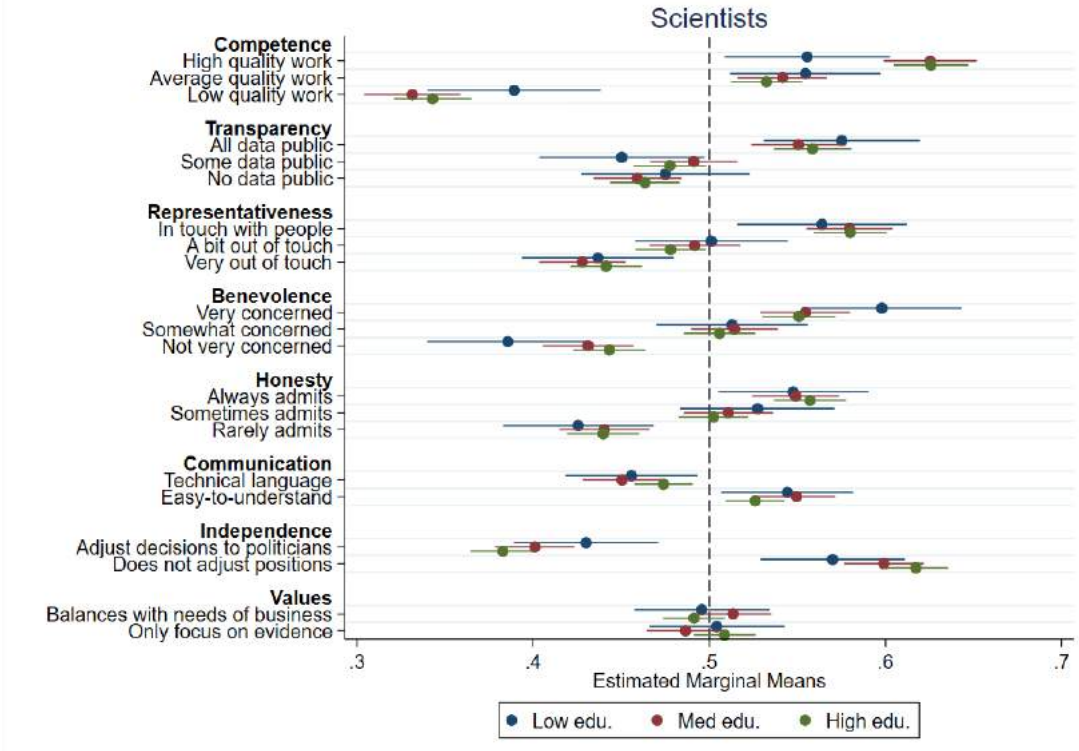




Note: The results show marginal means (dots) with 95% confidence intervals (whiskers).

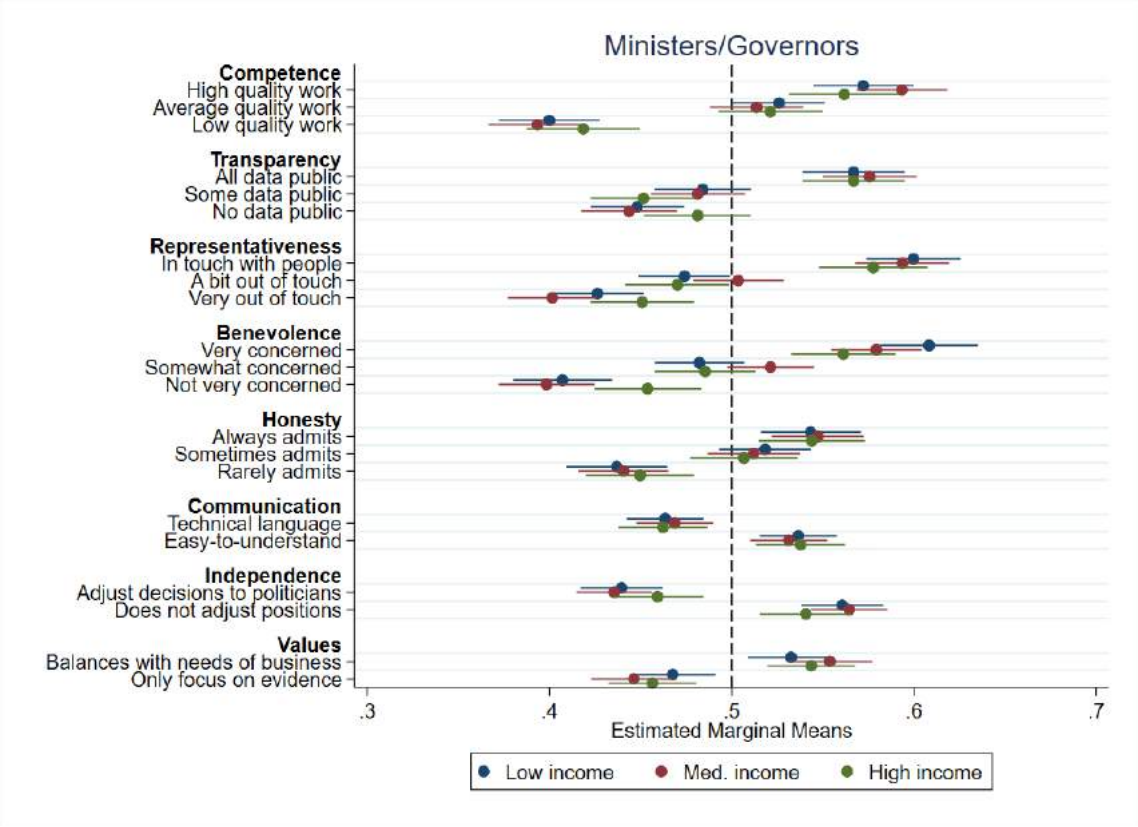
**APPENDIX 4: The effects of source attributes on trust, by population sub-group**

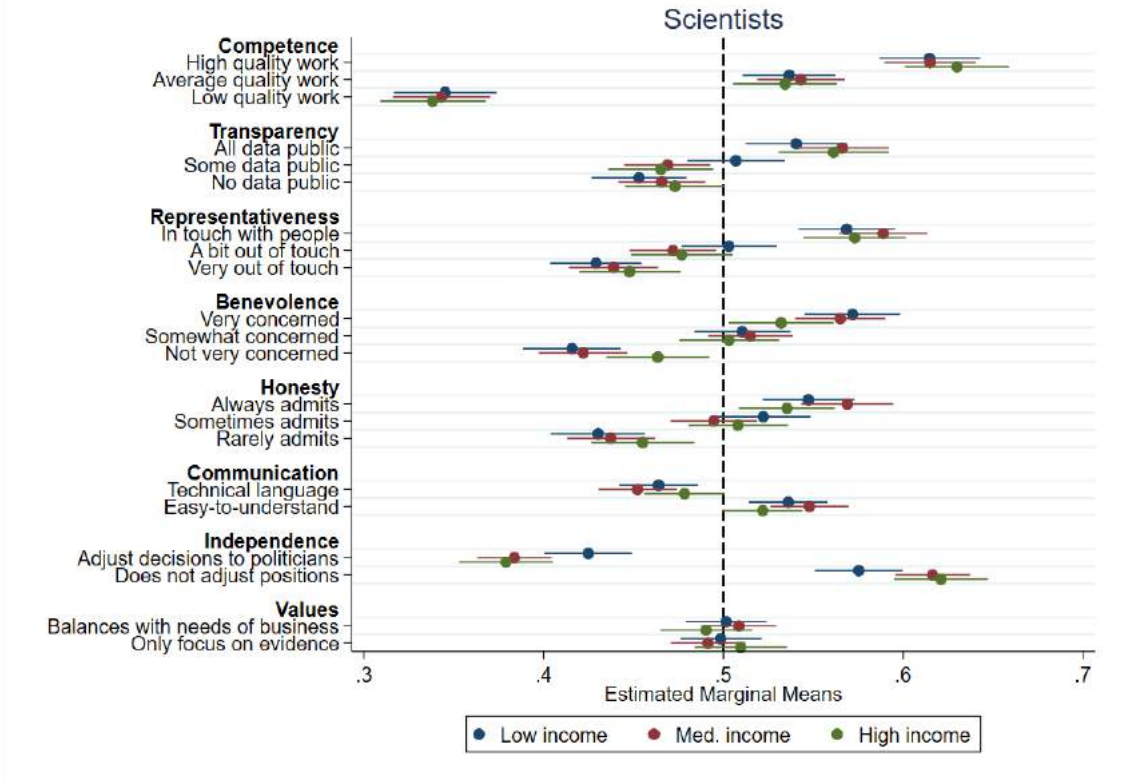
*Education*



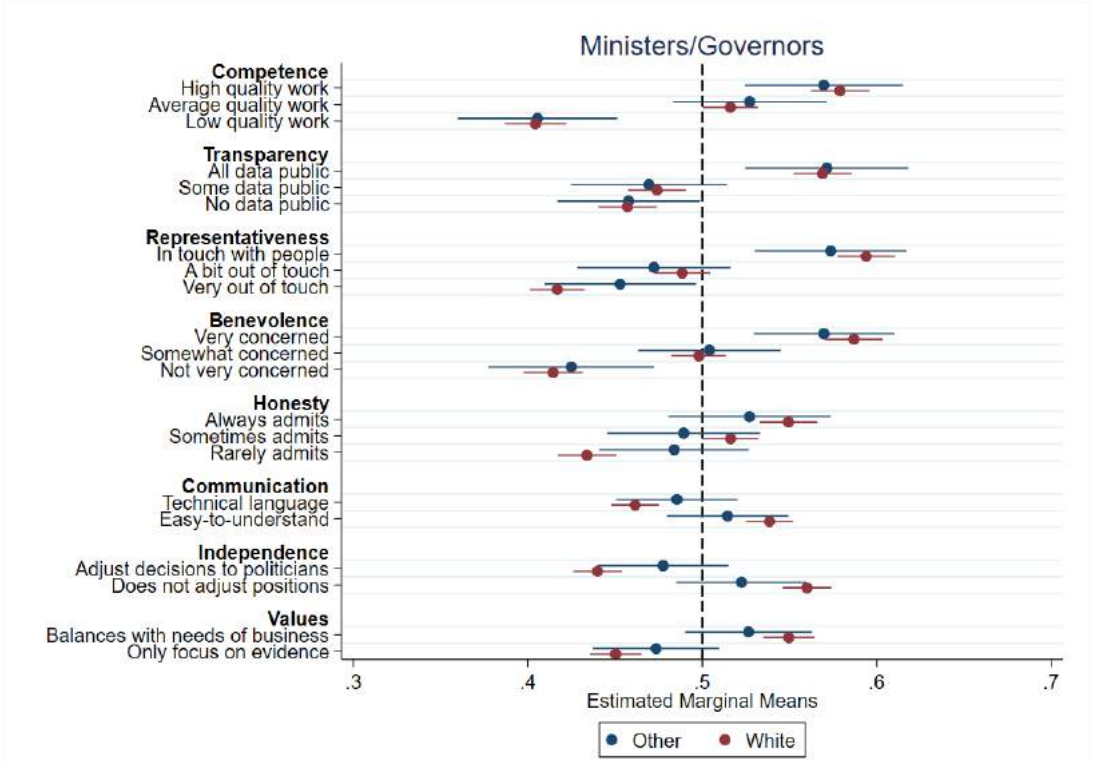



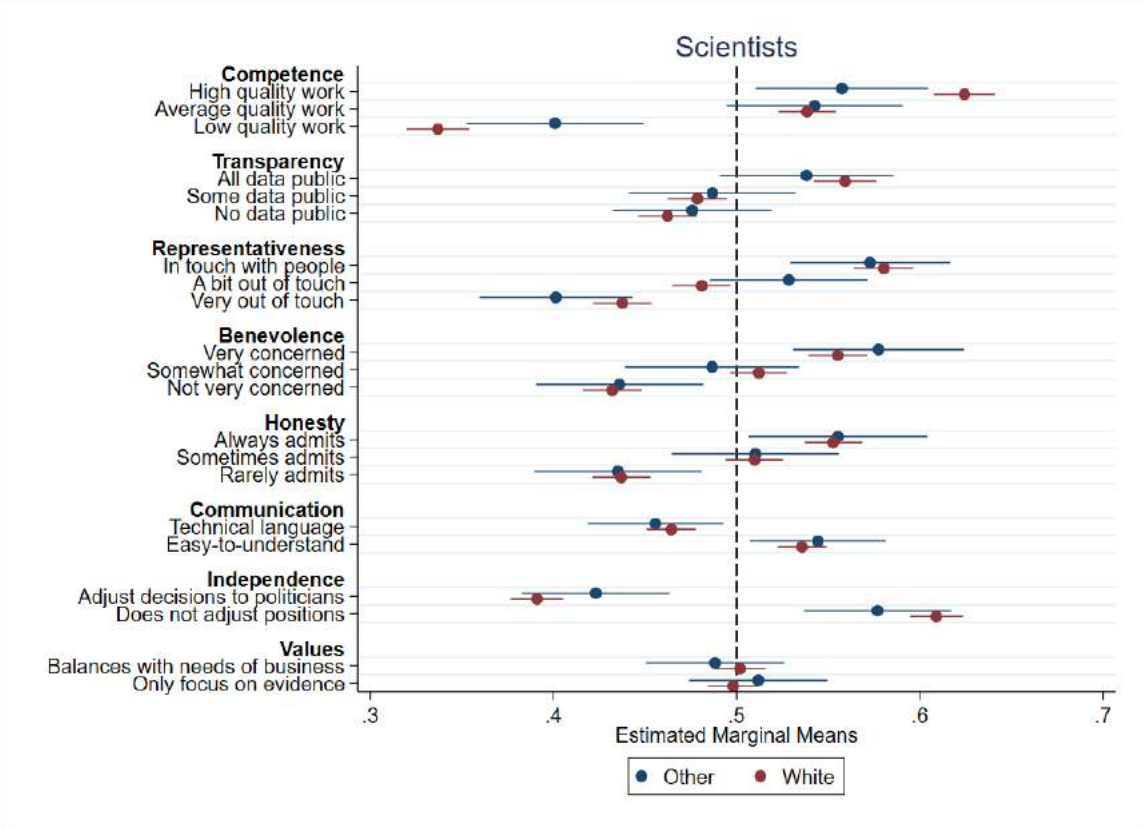
***Income***


Ministers/Governors
Competence
High quality work
Average quality work
Low quality work
Transparency
All data public
Some data public
No data public
Representativeness
In touch with people
A bit out of touch
Very out of touch
Benevolence
Very concerned
Somewhat concerned
Not very concerned
Honesty
Always admits
Sometimes admits
Rarely admits
Communication
Technical language
Easy-to-understand
Independence
Adjust decisions to politicians
Does not adjust positions
Values
Balances with needs of business
Only focus on evidence
.3
.4
.5
.6
.7
Estimated Marginal Means
Low income
Med. income
High income


Scientists
Competence
High quality work
Average quality work
Low quality work
Transparency
All data public
Some data public
No data public
Representativeness
In touch with people
A bit out of touch
Very out of touch
Benevolence
Very concerned
Somewhat concerned
Not very concerned
Honesty
Always admits
Sometimes admits
Rarely admits
Communication
Technical language
Easy-to-understand
Independence
Adjust decisions to politicians
Does not adjust positions
Values
Balances with needs of business
Only focus on evidence
.3
.4
.5
.6
.7
Estimated Marginal Means
Low income
Med. income
High income

***Ethnicity***




Note that data are shown for the UK and US together, with samples pooled across both countries.

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