Creating Compliance in Crisis:
Messages, Messengers, and Masking Up in Britain

Christopher J. Anderson
European Institute
LSE
c.anderson7@lse.ac.uk

Sara B. Hobolt
Department of Government
LSE
S.B.Hobolt@lse.ac.uk

Abstract

How do governments ensure public compliance with policies that restrict individual liberties during a crisis? We examine the British public's compliance with government policies aimed at reducing infections from the COVID-19 virus. Specifically, we focus on how public health information shapes people's willingness to wear masks. We hypothesize that providing information about the risks of non-compliance makes people more willing to comply, and that information about risks is differentially effective, depending on the source. We test our hypotheses using both a nationally-representative survey and a vignette experiment and find that simply providing information about risk influences people's willingness to wear. However, we find no clear partisan divide in the willingness to comply, nor does it seem to make a difference which risks are primed or whether the messenger is a government minister or public health expert. Our results indicate that information about individual risk and collective responsibility encourages individuals to make sacrifices in times of crisis. In contrast to existing research on the powerful effects of political identity, they also suggest that the level of compliance is not driven by partisan motivations, at least not in a context where elite messages are fairly unified.

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Economic shocks, natural disasters, and public health emergencies have the potential to test and redefine the relationship between citizens and the state. On one hand, times of acute risk and uncertainty focus citizens' attention on their governments – hungry for guidance but also sensitive to the power of the state to control their lives. On the other hand, states depend on high levels of cooperation from citizens to manage the fallout of unexpected negative events. The dual needs of citizens to make the right choices for themselves and others and of states to activate compliance are all the more urgent in times of acute crisis and stress. The Covid-19 pandemic is a prime example of such a crisis, as governments needed to find ways to engineer public cooperation with government guidance to contain the spread of the virus. How, then, did governments bring about that cooperation and ultimately compliance, and how did citizens react to government instructions as the pandemic unfolded?

We investigate these questions with the help of a case study of the link between public health information about face coverings and people's willingness to wear masks in Great Britain.[1] The UK is a particularly apposite case, not only because mask wearing is very unusual and viewed as highly intrusive in that cultural context, but also because of the British government's notable shift in messaging about the utility of wearing of masks over the course of the pandemic, veering from masks being declared unhelpful to being deemed critical for containing the virus. Building on the theory of opportunistic obedience (Levy 1997), we argue that, even under very challenging conditions, governments are able to engineer mass compliance on short notice and do so effectively: providing citizens with information about the risks of non-compliance makes them more willing to comply, especially if the information comes from a trusted source.

Analyzing aggregate opinion dynamics as well as data from a vignette experiment embedded in a nationally representative survey, we demonstrate that information about risk indeed influences people's willingness to wear masks. The speed with which levels of compliance ramped up among the British public and the effectiveness of simply providing information are especially noteworthy, given that people were asked to adjust their behaviors on short notice, after months of inconsistent advice from the government, and advice that occasionally ran counter to what was ultimately asked of the British public.

Interestingly, and in contrast to findings in the United States (see Allcott et al. 2020; Grossmann et al. 2020; Kushner et al. 2020), we find no partisan differences in willingness to comply, nor does it seem to make a difference whether individuals are primed to consider

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[1] We use the term "face mask" to refer to face coverings of all kinds that effectively limit the spread of the virus.

personal or collective risks. While our results indicate that providing information about individual risk and collective responsibility induces people to develop new behavioral routines and norms in times of crisis, they also suggest that partisanship or other forms of political identity do not have to be significant drivers of compliance in political environments like the UK where partisan or other identity-based polarization on the issue has been limited. Our analysis suggests that governments are able to persuade the public to make significant changes to daily behaviors, that they are able to do so on short notice and with simple prompts, and that these new customs and practices can then be sustained over time.

Creating Compliance During Crises

In moments of crisis, governments typically take strong executive action to achieve specific public policy ends – be they a restoration of public order, the proper functioning of markets, or the management of imminent physical risks. To achieve these, states' frequently have to move mass behavior expeditiously and effectively. Governments have a diverse arsenal of tools available to them to do so, running the gamut from instruments of persuasion to formal powers of coercion. This was the case during the Covid pandemic too, as democratic governments around the world faced especially difficult choices about restricting citizens' liberties through regulations and sanctions or using public health messages to communicate the most desirable behaviors and leaving it to citizens to decide whether or how to engage in them.[2]

This was true in the UK as well, where the Conservative government was torn between the need to address the public health threat as robustly as neighboring countries and a reluctance to shut down economic and social life. As the pandemic progressed, it relied on a combination of social control, especially during the initial lockdown in March 2020, coupled with a sustained information campaign focused on generic messages around the themes of staying safe, staying alert, controlling the virus, protecting the National Health Service, and saving lives.[3] The wearing of masks did not feature prominently in these messages even though the British government chose messaging over coercion when it came to the use of face coverings during the early months of the pandemic, with no strict regulations on masks in the early phase

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[2] Early on, states used their formal authority mostly with regard to travel restrictions from abroad.
[3] The restrictions and requirements during the so-called 'emergency period' imposed by the lockdown regulations made on March 26, 2020 included restrictions on movement and gatherings. Regulation 6 provided that during the emergency period, no person may leave the place where they are living without reasonable excuse. Regulation 7 provided that, during the emergency period, no person may participate in a gathering in a public place of more than two people, again with certain limited exceptions. Sanctions included fines that were gradually increased as Covid laws were amended:
https://publications.parliament.uk/pa/jt5801/jtselect/jtrights/265/26506.htm

of the pandemic (expect for public transport and only in June 2020). A stricter and more comprehensive mask mandate was only introduced in late July.[4]

Did these choices affect the public's willingness to wear masks? Did they produce voluntary or coerced compliance? If so, how? To understand the connection between government actions and compliant behavior, we rely on Levi's (1997) categorization of different kinds of compliance with and obedience to government demands. Specifically, Levi argues that, while the observed behavior – compliance – will be the same, we can categorize underlying reasons for engaging in it along different dimensions.[5] These can range from habitual and ideological obedience to so-called opportunistic obedience and contingent consent. In the case of *opportunistic obedience*, people will rely on a simple cost-benefit calculus and will comply when the benefits or doing so outweigh the costs. We argue that this may be the most fitting way to connect government messages and acts of compliance in the case of the UK. Specifically, by highlighting the costs and benefits of compliance, the UK government's campaign implicitly focused on producing a kind of "opportunistic obedience" from the mass public where the marginal benefits of following the requirement to wear masks and follow other restrictions outweigh the marginal cost of doing so in people's minds (see Levi 1997). Turned around, the government's messages or regulations were *not* aimed at priming ideological considerations or trust in the government, the bases of ideological and contingent consent, respectively.[6]

While priming risks and benefits therefore should increase the odds that people comply with government advice, the British government still had to overcome significant impediments to produce the desired outcomes. In fact, in hindsight, these hurdles were neither trivial, nor was it obvious that they could be cleared successfully. While citizens are habituated to obeying any number of government regulations in their daily lives during normal times, pandemics are by definition not normal. What is more, over the course of the pandemic government regulations came to invade citizens' private lives through extraordinarily restrictive and invasive measures. That is, having one's private habits like seeing friends or wearing face coverings redirected suddenly and whole cloth by the government of the day may not be the same as following routine and well-established rules like having to drive on the correct side of

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[4] https://www.bbc.co.uk/news/uk-53522129

[5] These include habitual obedience or disobedience to authority, espousing a supportive ideology consistent with the state's rules, to trust in government (contingent consent) or cost-benefit calculations (opportunistic obedience) .

[6] Given that these various regulations were new and unusual, it is difficult to see how messages about staying alert and saving lives, for instance, were designed to invoke habitual obedience to wearing masks, an entirely new type of health-related behavior

the road or refraining from smoking in public. Added to policymakers' and citizens' uncertainty about the right course of action to combat the virus and ensure some semblance of normal economic and social life, skepticism and hesitation could be expected to be natural reactions on the part of the mass public. Finally, it far from obvious that people had a strong incentive to comply with government guidance since many of the specific behaviors the state sought to modify were deeply private in nature (e.g., meeting family members), simply unobservable by the state (e.g., personal hygiene), or both.

Taken together, then, it is hard to overstate the extent to which citizens in Britain and elsewhere around the western world were asked to modify their routine private and public behaviors and in ways that they could be expected to have plausible resistance to. This also means that, by engineering comprehensive and radical changes in how people live their lives, from the way they socialize or engage in personal hygiene all the way to where and how they travel or what they wear on their face, governments needed to redefine the norms of imaginable or acceptable individual and social behaviors. By insisting on and then using the long arm of the state to enforce new rules about these, governments took it upon themselves to institute a whole new set of formal and informal rules over the course of a few weeks and months. The general question we seek to investigate below is how responsive people have been to these rules and norms during times of crisis, and what drives people's responsiveness to them.

Case Study: Mask Wearing in Britain During the Coronavirus Pandemic

We examine the specific case of wearing face masks in the UK. Beyond the general obstacles to compliance described above, the UK government's mandate to wear masks is a "hard case" for understanding how governments can change norms of behavior. For one, there is no cultural norm among the British mass public for wearing face coverings. In fact, if anything, there is a norm not to do so among the vast majority of residents. Moreover, masks are perceived as intrusive and thus wearing them is seen as costly and unpleasant. Finally, the government's and scientists' advice on mask wearing, as well as its enforcement by public authorities, evolved significantly – and some might say inconsistently – over the course of the pandemic. Thus, people were asked to adjust their behaviors on short notice and following months of shifting advice – advice that, in fact, occasionally ran counter to what was ultimately asked of them. Combined, then, the wearing of masks, was thus far from a normative or obvious choice for many Britons.

One could forgive the British public for being confused about the merits of wearing face coverings to stop the spread of the coronavirus. In March 2020, the government insisted

that wearing masks did not stop the virus, even though governments in other countries had advised their citizens that it was a good idea. In fact, in early April 2020, the country's Deputy Chief Medical Office Jonathan Van Tam declared during the daily Downing Street press conference that there was "no evidence the general wearing of face masks by the public who are well affects the spread of the disease". He also insisted that mask wearing was "entirely wired" into the cultures of South East Asia, implying that it would be difficult to get the British public to wear masks in the first place, given the absence of social norms to do so. The message was unequivocal: "In terms of the hard evidence and what the UK government recommends, we do not recommend face masks for general wearing by the public."[7]

Following these initial guidelines, there continued to be a debate about the efficacy of wearing masks, especially on public transport, with the Mayor of London strongly urging that passengers be mandated to wear them and the country's minister for transport arguing on April 16 that wearing masks would actually be "counterproductive". To make his case, he insisted that he had science on his side: "It's absolutely right that we base this on the medical advice not on what a politician has woken up and through about that day". While the government eventually started advising people on May 11 that wearing masks was "advisable," it waited until June 15, 2020 to introduce a mask mandate, but only on public transport.

The government finally introduced a more stringent mask mandate during the second half of July.[8] Yet, here again, the advice was less than crystal clear and the requirement sounded optional to many because of the way it was going to be enforced. While face coverings were now required in enclosed public spaces (supermarkets, indoor shopping centers, transport hubs, banks, and post offices), and rule breakers could face a fine of up to £100, police forces around the country announced pre-emptively that they would be enforcing the rules, including issuing fines, only as a last resort and only if called. Moreover, public-facing retail and hospitality workers were not required to wear face coverings even if the government declared it "strongly" recommended that employers consider their use where appropriate while businesses were encouraged to take steps to remind customers to follow the law.

The government's decision came on the heels of weeks of debate over the merits of a mask mandate. Experts groups like the British Medical Association had called for stringent mask mandates for many weeks and were critical of the government's decision to announce

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[7] https://inews.co.uk/news/politics/face-masks-advice-timeline-uk-government-coronavirus-coverings-change-explained-452602
[8] https://www.bbc.co.uk/news/uk-53513026

the requirement on July 13 while delaying the actual implementation until July 24.[9] Similarly, a union official was quoted as saying that the UK "was late to the table on face coverings and now people don't know what they should do", given that rules on face coverings were in place for shops and public transport but not for some other enclosed spaces such as libraries, register offices and civic centers: "The public needs clarity to end the muddle," he said.[10]

Eventually, by the second half of September, the government announced further restrictions, including a wider use of face masks for retail staff, taxi passengers, and hospitality customers as well as a doubling of fines to £200, bringing the country's mask regulations in line with other European nations like Germany and Spain. The Prime Minister was quoted as saying "There is nothing more frustrating for the vast majority, the law-abiding majority that do comply than the sight of a few brazenly defying the rules." Of course, some of their frustration may have been the result of his own government's ambiguous approach to requiring face coverings to be begin with.

Thus, the UK context provides for competing expectations about the effects of government messages on citizen behavior: on one hand, the sudden onset of a new and acute public health crisis was likely to have made people *more* likely to follow government guidance, especially when elite messaging is unified. At the same time, the case of UK mask mandate suggests several reasons for why these messages may have been ignored, at least by some. Below we investigate the potential drivers of compliance with a novel mask mandate.

Messages, Messengers, and Compliance: Hypotheses

To better understand the behavior of the British public during this time of crisis, our model of *opportunistic obedience* has three basic components: the messages public authorities use to activate compliance, the carriers of those messages, as well as the attitudes people have that can act as filters for activating obedient behaviors. We hypothesize that attitudes toward risk are important drivers of compliance, but that people respond to public health information and elite cues differently, depending on their political predispositions and risk profiles and the source of the information.

Firstly, we expect the content of public *messages* to matter. Specifically, we hypothesize that messages about risk will shape people's understanding of the public health problem at hand and the right behavior to tackle it. Risk combines the likelihood of an aversive

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[9] https://www.bma.org.uk/news-and-opinion/government-makes-wearing-face-masks-mandatory
[10] https://www.bbc.co.uk/news/uk-53513026

event happening – in this case, for the virus to be transmitted – and the gravity of its consequence – here, the severity of the illness and its consequence or the number of people falling ill or dying. People's perceptions of risk therefore typically carry considerations of costs and benefits associated with an action, as well as the odds of either of them coming to pass (Paek and Hove 2017). These perceptions are also known to be important antecedents of health-related behaviors.

Hypothesis 1. Ambiguous public health messages about costs and benefits will produce lower levels of mark wearing than clear public health messaging about the risks of mask wearing.

Hypothesis 2. Individuals exposed to public health messages on how mask wearing can reduce the risk of infection will report higher levels of compliance with such recommendations than individuals not exposed to them.

In the specific context of the messaging during the first wave of the pandemic in the UK, we thus expect the trajectory of mask wearing in the UK to trend sharply upward after the introduction of a mask mandate in mid-June and then increasingly so following the most stringent mask mandate in July. But this raises the question about what *types of messages* are more effective. A contagious virus poses both an individual risk and a social dilemma. As a result, we hypothesize that types of risks matter, too. Specifically, we expect people to be receptive to and consider messages about both individual and social risks of non-compliance with government regulations to contain the virus. Thus, mask wearing should have two broad underlying motivations: a self-interested motivation, where people's perceptions of their personal risk drives behavior related to the pandemic (personal-level risk perception); and a collective motivation, where people's consideration of the wellbeing of the country as a whole or of social others more generally shapes people's individual choices and attitudes (societal-level risk perceptions) (Tyler 1980; Tyler and Cook 1984). Both types of motivations move behavior, though there is evidence that personal risk perceptions are the more powerful factor for shaping health-related behaviors.

Hypothesis 3. Messages about risk should make people more willing to wear masks. However, messages about personal risks should have a stronger effect on the willingness to wear masks than messages about societal risks.

The second aspect of our theoretical model of compliance is the *messenger*. Absent direct experience with the virus via an infection, individuals have to rely on mediated

information to construct an assessment of their personal and the country's health risks. This information is brought to them by different messengers, most prominently governments and public health experts. As far as we are aware, it is yet to be determined whether these two types of actors – politicians and experts – are equally effective at moving people's levels of compliance. Research on cue-taking suggests that source credibility is a key ingredient in whether people accept messages and therefore whether messages are effective at moving attitudes and behaviors (Druckman 2001). Credibility requires two features: (1) that citizens believe the messenger possesses knowledge about relevant information, and (2) that citizens believe messengers can be trusted to share that knowledge (Lupia and McCubbins 1998).

In the case of public health crises like the COVID-19 pandemic, two types of messengers are most prominent: government officials as well as health and scientific experts. Especially in the early days of the pandemic, both are likely to be seen as authoritative in the sense of possessing relevant and important information. However, they also may carry different kinds of credibility, depending on how citizens view their level of expertise and potential for bias (Birnbaum and Stegner 1979). A priori, both politicians and experts are likely to be seen as possessing access to relevant information. However, in contrast to government ministers, public health experts are generally seen as non-political and technocratic. Because they are not motivated by electoral considerations, they should be expected to be the best – i.e., least biased and most trusted – messengers about health information.

Hypothesis 4. Messages conveyed by public health experts have a stronger effect on people's willingness to wear masks than messages conveyed by elected politicians.

The third element of the *opportunistic obedience* model is how an individual's attitudes and identities shape how people receive the public health messages, and perceive the messengers, and filter them accordingly. An alternative way of establishing source credibility is via trust in the source. Thus, we expect people to rely on their political predispositions to judge whether messages from government are credible and thus suitable guides to the correct behavior (Gilens and Murakawa 2002). As a result, we expect citizens' perceptions of and compliance with government directives to be shaped by whether they perceive the cue giver as like-minded. Specifically, we expect partisanship to act as a screen for processing information

about government regulations, and it should matter whether the governing authorities are led by citizens' co-partisans.[11]

Critical for our purposes is the idea that partisanship shapes the interpretation of new political information and the credibility of the source providing it. Because partisanship acts as a "perceptual screen through which the individual tends to see what is favorable to his partisan orientation" (Campbell et al. 1960, 133), we expect it to act as a heuristic that motivates citizens to think of government directives as being in their interest, depending on whether the party or parties in government are co-partisans.

Hypothesis 5. Messages about masks wearing by government ministers will have a greater effect on reported compliance of government supporters compared to supporters of opposition parties.

This expectation dovetails research showing that partisanship has the potential to affect a wide variety of decisions, including consumption choices or avoiding social situations and information sources that would contradict one's previously held beliefs (Lelkes and Westwood 2017; McConnell et al. 2018). Along these lines, anecdotal evidence from the U.S. suggests that opinions about government's handling of the COVID-19 pandemic have been highly partisan, and nascent evidence from the U.S. case indeed has documented partisan differences in people's responses to the pandemic – in particular, their perceptions of the severity of the crisis is and whether it has led them to adjust their personal behavior or willingness to engage in social distancing, for instance (Allcott et al. 2020; Gadarian et al. 2020). However, to date, this pattern has not been replicated elsewhere, with a Canadian survey finding little evidence of partisan divisions (Merkley et al. 2020), suggesting the U.S. may be a unique case.

Analyzing Attitudes About Masks and Mask Policies

To examine the British public's patterns of mask wearing and the effects of information on compliance with government regulations, we undertake several analyses. First, we inspect the trends in compliance since the onset of the pandemic as reported in public opinion surveys.

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[11] The original conceptualization defined partisan attachment or identification as an "individual's affective orientation to an important group-object in his environment" (Campbell et al. 1960, 121). Political psychologists for many years have investigated the ways in which partisanship influences how people process and use information when making political decisions. We expect partisanship to affect perceptions of the veracity and utility of government regulations aimed at safeguarding public health as well and, as a consequence, to potentially move what most would consider to be private behavior.

Second, with the help of a vignette experiment embedded in a nationally representative survey conducted in the fall of 2020.

Aggregate Trends in Reported Compliance

To describe aggregate mask wearing patterns, we rely on survey data collected at regular intervals since March 2020.[12] Specifically, respondents were asked whether they engaged in a variety of protective behaviors, including "wearing a face mask when in public places." Figure 1 below shows the percentage of people who report doing so between March 2020 and March 2021.

Figure 1. Trends in Reported Mask Wearing
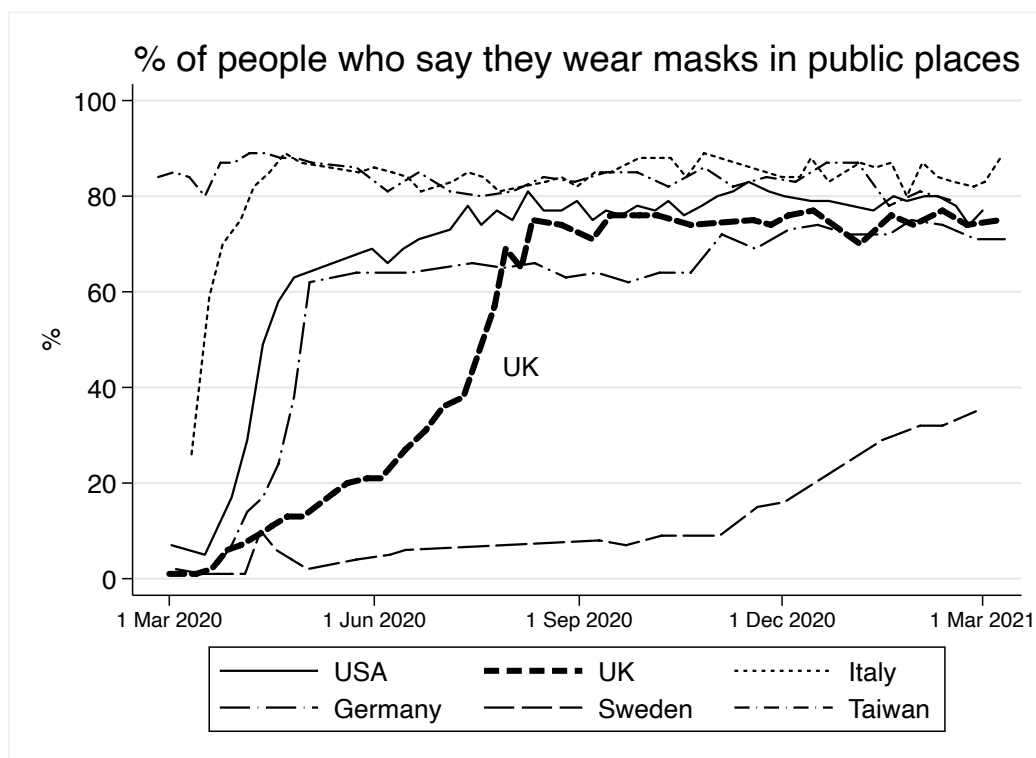
Recall that, unlike countries like Italy or the United States, the British government and its scientific advisors did not mandate or even recommend masks during the early days of the pandemic. And indeed, as the graph shows, the British public was slow to adopt masks as a way to contain the spread of the virus. In fact, the UK public initially lagged behind Italy,

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[12] Data were collected by YouGov, an international polling organization. YouGov surveys have tracked a variety of responses people have had to the pandemic around the world, including people's changes in behavior and their judgments about the government's handling of the crisis

China, the USA, and Germany when it came to face coverings. However, as the government's advice changed, Brits, too, became increasingly willing to wear masks. While only slightly over a third of the British public said in early summer that they regularly wore masks in public, by early September and all the way into November, three-quarters said that they did.

While these survey responses are not designed to provide evidence of actual mask wearing and may, in fact, overstate people's willingness to wear them, it is likely that survey responses and behaviors are highly correlated.[13] Figure 2, which shows only the responses of the British alongside approval of the government's handling of the pandemic, reveals that reports of mask wearing increased steadily from virtually zero early on up to around seventy-five percent by the beginning of August. Notably, it is clear that reported mask wearing changed significantly and predictably and in line with the timing of government messages, especially after the strict government mandate was imposed in the second half of July.

Figure 2. Mask Wearing and Government Approval in the UK

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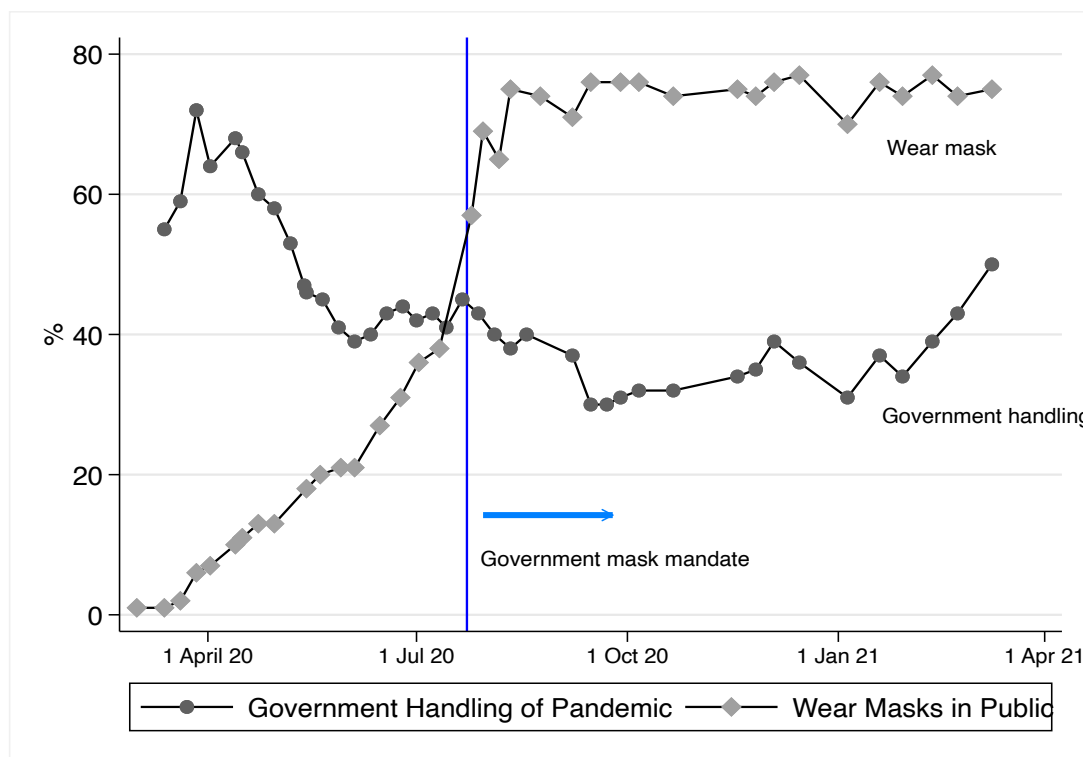
[13] The tendency to report compliance in line with messages from public authorities can stem from a variety of sources, including an information effect, as citizens learn about the personal and collective risks of non-compliance, and a form of social desirability bias or so-called virtue-signaling, which may result in respondents reporting compliant behaviors but failing to adhere to them with regard to their actual behavior. The existing evidence of an over-reporting response bias is mixed. While Daoust et al. (2020 report bias ranging from 8-11% in the Canadian case, Larsen et al. (2020) find no evidence of bias in Denmark. To the extent that it might be a concern, this should primarily affect mean responses and intercepts, rather than slope estimates.

Interestingly and importantly, mark wearing increased sharply, even as approval of the government's handling of the pandemic underwent a notable decline from around two thirds of the British public expressing approval to only around 4 in 10 by the time the government's stricter mask mandates becoming law. Taken together, then, the survey data show that mask uptake was rapid, though not perfect, with roughly a quarter of survey respondents indicating they did not wear masks in public even after a stricter mask mandate came into force.

Experimental Evidence on Mask Wearing

While the aggregate data on reported mask wearing are indicative of the government's guidance and regulations having an impact on people's behavior, they are not designed to establish causal relationships between what the government said and the public did. To test the causal effect of public health messages and messengers on compliance, we designed and conducted a vignette experiment embedded in an online survey of a nationally representative sample of the adult British population. By manipulating both the message (individual risk versus collective risk) and the messenger (government minister or public health expert), this experiment offers insight into the mechanisms that allow governments to influence the public's willingness to comply with public health messages during a crisis.

Our survey-based experiment was fielded during the tail-end of the first wave of the pandemic between September 9-10 2020, again by YouGov. 3,276 UK citizens above the age of 18 took part and were randomly exposed to four experimental and one control condition. In each of the four experimental treatments, respondents received a short public health message about why they should wear masks. The treatments varied on two dimensions: the message varied according to whether the emphasis is on individual risk or collective risk and the messenger was either "Conservative government ministers" or "public health experts". The respondents in the control group did not receive a public health message, but were simply asked about their willingness to wear masks. Balance tests demonstrate that randomized experimental groups do not differ in key demographic and attitudinal variables.

Starting with the content of the message, we expect that messages about risk will shape people's understanding of the public health problem at hand and the right behavior to tackle it (H2). Recall that we expected appeals to individual risk and to collective responsibility and health to make people more willing to wear masks but for individual-risk appeal to have greater effect (H3). Moreover, we expect that the response will depend on the messenger delivering the message. In general, we anticipate that trusted officials such as public health experts be

listened to more than elected politicians (H4). However, we hypothesize that the effectiveness of experts and politicians matters differently, depending on people's allegiance to the government of the day: for government supporters, we would expect a greater effect of messages from government ministers than for opposition supporters (H5), while we expect no such effect for the effectiveness of messages from public health experts.

Below, we show the collective risk and individual risk messages from a public health official and government ministers used to test these expectations about the mechanisms driving public compliance.

Table 1: Vignettes

Public health message: Collective Risk	Public health message: Individual Risk
To protect others from coronavirus, public health experts have urged citizens to wear a face covering in public settings, especially when other social distancing measures are difficult to maintain.	To protect yourself from coronavirus, public health experts have urged citizens to wear a face covering in public settings, especially when other social distancing measures are difficult to maintain.
Public health experts stress that the virus is highly contagious and that you can be a carrier and infect others even when you do not have any symptoms. People infected by the virus are at significant risk of severe disease from COVID-19, with many requiring intensive care. Over 40,000 people with coronavirus have died in the UK.	Public health experts stress that the virus is highly contagious and can affect people of all age groups. If you become infected by the virus, you will be at significant risk of severe disease from COVID-19 and may require intensive care. Over 40,000 people with coronavirus have died in the UK.
Scientific evidence indicates that face masks may help prevent people who have COVID-19 from spreading the virus to those most vulnerable in our communities.	Scientific evidence indicates that the use of face masks may help reduce the risk of infection for the people wearing them.
Government minister message: Collective Risk	**Government minister message: Individual Risk**
To protect others from coronavirus, Conservative government ministers have urged citizens to wear a face covering in public settings, especially when other social distancing measures are difficult to maintain.	To protect yourself from coronavirus, Conservative government ministers have urged citizens to wear a face covering in public settings, especially when other social distancing measures are difficult to maintain.
Ministers stress that the virus is highly contagious and that you can be a carrier and infect others even when you do not have any symptoms. People infected by the virus are at significant risk of severe disease from COVID-19, with many requiring intensive care. Over 40,000 people with coronavirus have died in the UK.	Ministers stress that the virus is highly contagious and can affect people of all age groups. If you become infected by the virus, you will be at significant risk of severe disease from COVID-19 and may require intensive care. Over 40,000 people with coronavirus have died in the UK.
The government says that face masks may help prevent people who have COVID-19 from spreading the virus to those most vulnerable in our communities.	The government says that the use of face masks may help reduce the risk of infection for the people wearing them.

After respondents were presented with one of these vignettes (or none in the control group), they were asked about their willingness to wear masks: "In general, how willing or not are you to wear a face mask or covering in public settings?" with a 5-point Likert-scale of answers from "very unwilling" to "very willing". This is our main outcome variable, as it taps into the willingness to comply with public health guidance (rather than past behavior).

Figure 3: Willingness to wear a mask (%)

In general, how willing or not are you to wear a face mask or covering in public settings? (%)

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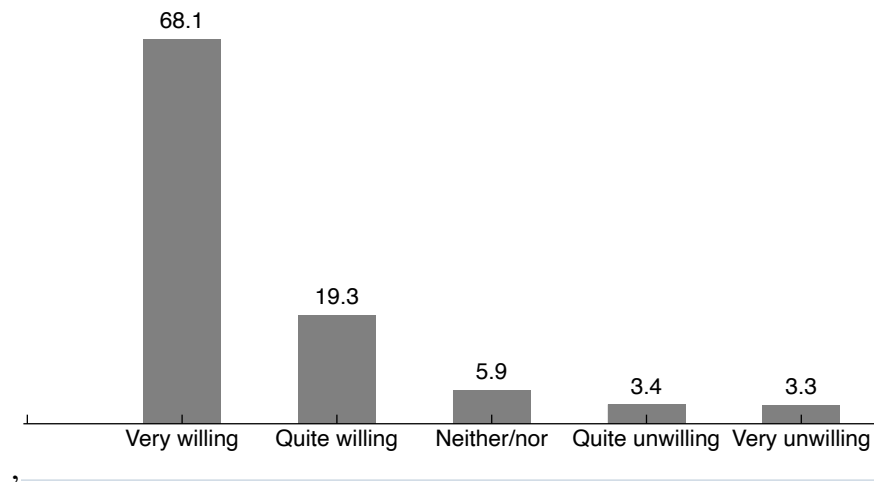
As Figure 3 shows, 68% of survey respondents were very willing to wear masks, while only about 7% were quite or very unwilling. Given the skewness of the responses, a first descriptive look at the data simply focuses on differences in the percentage of responses "very willing" to wear masks across treatment groups. The data shown in Figure 4 clearly illustrate a greater willingness to wear masks among respondents who were presented with a public health message about doing so.

Figure 4. Willingness to wear masks across experimental conditions
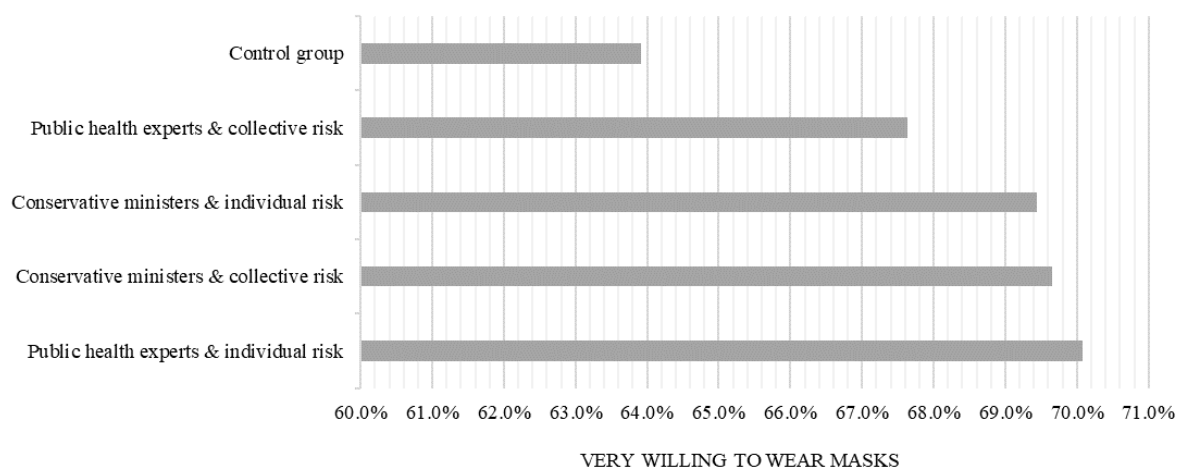
Given the brevity of the vignette and the fact that British citizens at the time of the survey have already been heavily "pre-treated" with messages about masks wearing over the course of more than six months, this is quite a conservative test of whether public health messages have an effect on the willingness to wear masks. Yet, we still find that inclination to comply is substantively higher among the groups of respondents who received a public health message about risk compared with those in the control group who did not. As an example, over 70% of those who were told about mask wearing reducing individual risk of being infected with Covid-19 were "very willing" to wear a mask compared to just under 64% of those who did not receive any message.

To examine the treatment effects more rigorously, we estimated an ordered logistic regression of willingness to wear masks with the treatments as the main explanatory factors. The results are shown in Table 2.

Table 2: Willingness to wear mask (ordered logistic regression)

	Model 1		Model 2	
	Coef	*SE*	*Coef*	*SE*
Treatment groups:				
Conservative ministers & collective risk	0.27	(0.12)**	0.28	(0.12)**
Public health experts & collective risk	0.17	(0.11)	0.21	(0.11)
Conservative ministers & individual risk	0.23	(0.12)**	0.25	(0.12)**
Public health experts & individual risk	0.26	(0.12)**	0.27	(0.12)**
Age			0.01	(0.00)**
Gender (female)			0.29	(0.08)**
Education (age at leaving)			-0.04	(0.03)
Social class ABC1			0.06	(0.08)
Subjective COVID risk			0.67	(0.06)**
Conservative voter			0.05	(0.09)
Leave voter			-0.43	(0.09)**
Cut 1	-3.21	(0.12)	-1.10	(0.25)
Cut 2	-2.46	(0.10)	-0.33	(0.24)
Cut 3	-1.75	(0.09)	0.40	(0.23)
Cut 4	-0.58	(0.08)	1.64	(0.24)
N	*3276*		*3276*	

 *Note:* Ordered logistic regression model. **p-value<0.05

Model 1 in Table 3 shows that three of the four treatment conditions lead to a significant increase in the willingness to wear masks, in line with hypothesis 2. Only the public health message from experts emphasizing the benefits to others from wearing masks falls just below conventional significance levels, although the effect is still in the same direction. It is notable that when we group the treatments according to "message", i.e., individual risk versus collective risk, both sets of treatments have a significant, and positive, effect on willingness to wear a mask. While the effect of the "individual risk" treatments is a little stronger in magnitude the difference between them is not statistically significant. Hence, we do not find strong support for our expectation that messages about individual-level risks have a greater effect than collective risk (H3).

Since the treatments are randomized and the groups are balanced, we would not expect the inclusion of additional variables to change the size of the treatment effects. We show this is Model 2, where the treatment effects remain almost identical. Nonetheless, it is interesting to explore the effects of other variables that have been shown to influence compliance during the Covid-19 pandemic. As other studies have shown, older people and women are more likely to comply (Galasso et al. 2020; Wenham et al. 2020), whereas class and education make no difference. We also include a pre-treatment measure of risk perceptions, captured by responses to the question: "In your view, how likely is it that you will become infected with the coronavirus (COVID-19)?". Unsurprisingly, risk perceptions have a substantial and significant effect on willingness to wear masks.

What is more surprising is that partisanship does not appear to influence willingness to comply, as it has so prominently the United States (Allcott et al. 2020; Gadarian et al. 2020). In the model, partisanship is measured as a simple binary variable (Conservative partisans vs. opposition partisans and non-partisans). However, even when we look across all partisan groups in Figure 5, we similarly find no significant difference in the willingness to wear masks across any of the partisan groups. As discussed above, this may be due to the rather consensual elite positions on the Covid-19 crisis in the UK where the main opposition party supported the vast majority of government-initiated public health measures, including guidance on wearing masks.

Figure 5: Willingness to wear masks, by political partisanship

In general, how willing or not are you to wear a face mask or covering in public settings? (5= very willing / 1=very unwilling)
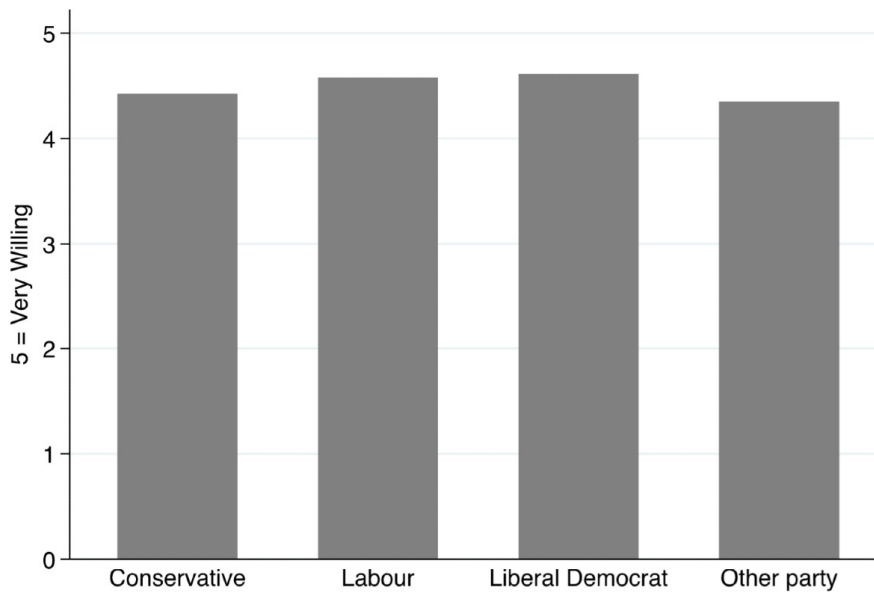
In post-Brexit Britain, one possibility for the absence of partisan effects is that partisanship is not the relevant political identity shaping receptiveness to government messages. Another key political divide that has emerged in recent years in the UK, has been that between "Leavers" and "Remainers" in the debate over Brexit, i.e., exiting the European Union (Hobolt et al. 2020). Specifically, Prime Minister Boris Johnson campaigned heavily in favor of leaving the EU, and "Brexiteers" have constituted the core of his government. And indeed, supplementary analyses show that Leavers (identified by reported vote in the 2016 referendum) are significantly less likely to express willingness to wear masks than Remainers.

However, while we don't find strong partisan differences in willingness to wear masks, we still expect Conservative voters to be more likely to respond to the advice of in-group politicians – that is, Conservative ministers – than opposition voters. Hence, we expect heterogeneous treatment effect when it comes to the responses to the messengers: Conservative minister versus public health officials. We test this hypothesis with the help of an interaction between the "messenger" treatments (Government minister or Public health official) and government supporter. The results are shown in Table 3.

Table 3: Heterogeneous treatment effects: Government support

| | Model 3 | |
	Coef	*SE*
Treatment groups:		
Government minister	0.28	(0.12)**
Public health expert	0.21	(0.12)
Government supporter	0.28	(0.17)
Government treatment x Supporter	-0.14	(0.21)
Age	0.01	(0.00)**
Gender (female)	0.29	(0.08)**
Education (age at leaving)	-0.04	(0.03)
Social class ABC1	0.06	(0.08)
Subjective COVID risk	0.67	(0.06)**
Leave voter	-0.43	(0.09)**
Cut 1	-1.12	(0.25)
Cut 2	-0.34	(0.24)
Cut 3	0.28	(0.23)
Cut 4	1.61	(0.24)
N	*3276*	

Surprisingly, we do not find that Conservative partisans respond more readily to Conservative ministers compared to partisans of other parties. In other words, partisanship does not shape how receptive citizens are to these public health messages (similarly, we also find no heterogeneous treatment effects along the leave/remain Brexit divide).

Again, this may reflect the specific case of the United Kingdom, where the major political parties were unified in their response to the Covid pandemic and the degree to which government ministers and public health officials presented a united front when introducing new Covid-related restrictions. One visible example of this unified front were daily press conferences during the height of the first wave of the pandemic that saw government ministers (including the Prime Minister) brief the public, usually flanked by two public health officials (the Chief Medical Adviser to the UK Government and de facto head of the public health profession as well as the Chief Scientific Adviser to the UK Government).

Overall, results from the experiment suggest that government and public health messages about risk are likely important when it comes to ensuring public compliance with drastic new public health measures, such as mask wearing. Furthermore, they indicate that in the context of a united elite, there are no deep partisan divisions in the responses to such messages. While partisans of all persuasions report a high level of willingness to wear masks,

this does not mean that partisans of all stripes think about the need to wear masks in identical fashion, however. Post-hoc analyses reveal that people wear masks for different kinds of reasons, and these vary along political identity lines. When we asked why they wear masks, partisans are equally likely to say they wear them to protect themselves. However, Tories were also significantly less likely than supporters of the Labour and Liberal Democrat parties to say they wear them to protect others.

*Figure 6:* Reasons for wearing masks, by political party

When it comes to wearing masks or face coverings, which of these represents your views? Tick all that apply (%)
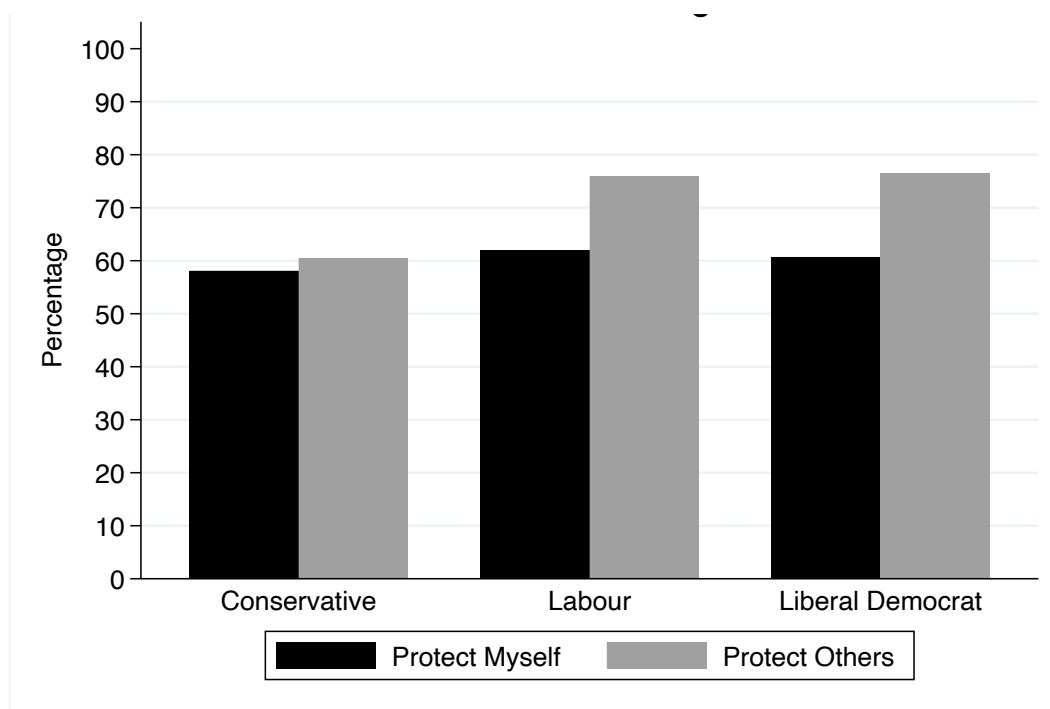
Similarly, Figure 7 shows that Leavers and Remainers were almost equally likely to say that they wear masks to protect themselves. At the same time, Remainers were significantly more likely to say that they wear them to protect others. These differences are all statistically significant.

Figure 7: Reasons for wearing masks, by Leave/Remain support

When it comes to wearing masks or face coverings, which of these represents your views?
Tick all that apply (%)
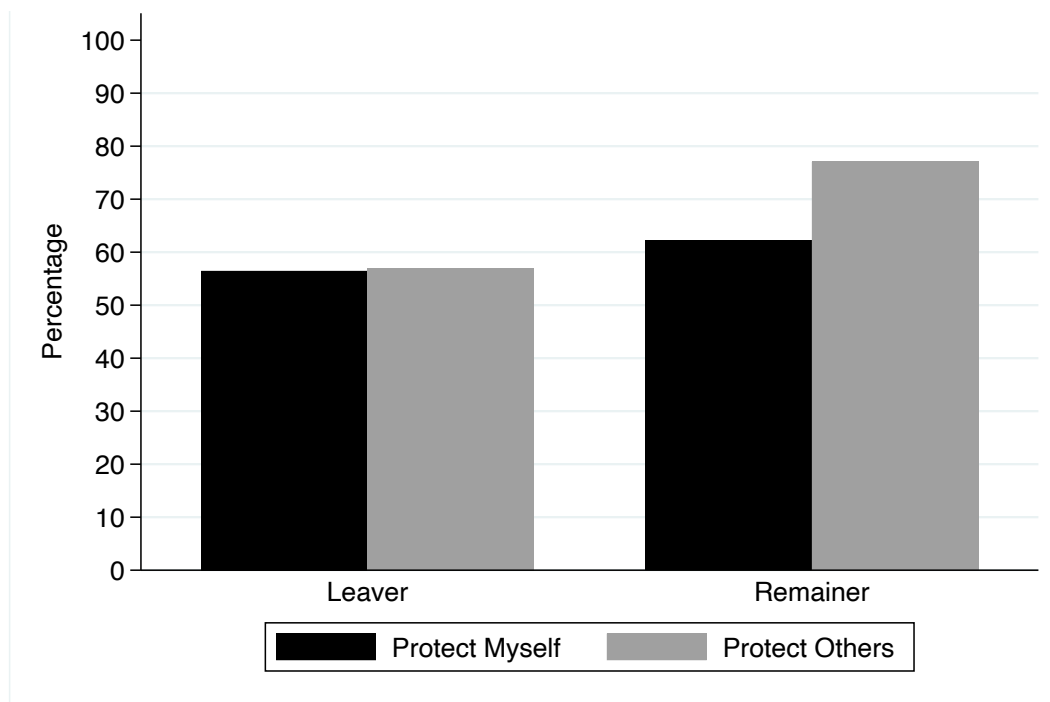
Thus, taken together, partisans react similarly to different kinds of information about the costs and benefits or mask wearing. At the same time, they provide different explanations for why they ultimately choose to comply.

Conclusion

"I don't see it for myself. I just don't," President Donald Trump replied when asked in April 2020 whether he personally would wear a face mask. Beyond the personal, Trump made face masks political, repeatedly mocking his opponent Joe Biden for wearing a mask during the presidential campaign. In Britain, too, masks were not an immediate priority as the pandemic progressed. In fact, the government was initially reluctant to recommend that people wear masks, communicating repeatedly that there was insufficient evidence to prove they worked. Even as schools reopened after the summer holidays and with many requiring students and staff to wear them, as late as August 2020, Prime Minister Boris Johnson described the

idea of face masks in classrooms as "nonsensical".[14] Yet, by August 2020, face masks were already and subsequently continued to be compulsory in the UK in most public indoor settings.

While masks have become commonplace across the world as a primary tool to stop the spread of the COVID-19 virus, they continue to be controversial in some quarters and have become politicized in a number of countries. It is easy to see why. Wearing face masks is unfamiliar and, to many, an unwelcome intrusion. This raises a question of how government can persuade citizens to comply with their public health recommendations, such as mask wearing, during a public health crisis. In this paper, we have investigated this phenomenon in the British context where the government's advice shifted drastically during the first phase pandemic, albeit with limited polarization of elite messages. This allows us to explore how malleable and sustainable compliance with COVID-19 related measures is in a context with limited polarization in public health messaging. Moreover, to better understand what motivates people in the UK to wear a mask and the role that governments play in communicating the benefits of and need to do so, we fielded a nationally representative survey of the British public in September 2020. In particular, we examined the impact of different messages related to risk and the effect of different kinds of messengers on people's willingness to wear masks.

In line with our expectations, the time-series data show us that, as public health messaging about the benefits about mask wearing becomes more unambiguous and as government regulation on indoor mask wearing in indoor public spaces is introduced, there is a steep increase in report mask wearing in the UK. Furthermore, the experimental data confirm that public health messaging positively influences people's willingness to wear masks. Appeals to both individual and collective risk facts appear to shape individuals' reported willingness to wear masks. Moreover, in contrast to the data from the U.S., we do not find a partisan divide in the level of reported mask wearing (although "Leavers" are slightly less willing to wear masks compared to "Remainers"). We also do not observe that government partisans are more receptive to government messages than opposition partisan. In fact, in contrast to our expectations, both groups of voters respond equally positively to government ministers as well as public health experts. This may be due to the specific political context, where government ministers would present consistently their public health messages flanked by public health experts, and their recommendations were rarely questioned by the opposition. In such a political environment, it seems that the messenger – whether expert or minister – is less

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[14] <u>Boris Johnson calls face masks in classrooms 'nonsensical' hours after latest U-turn | The Independent | The Independent</u>

important when it comes to shaping public health behaviors and attitudes than providing a message in the first place. In fact, it appears that information about personal and societal risk both help induce people to express a greater willingness to wear masks. Further research could explore whether other countries, with a similarly depoliticized approach to the pandemic, have also observe an equivalent lack of partisan divisions and whether different kinds of risk messages are equally effective at shaping other health-related behaviors.

More generally, the findings from this study contribute to our understanding of how citizens respond in times of acute crisis and, importantly, of the ability of governments to change behavioral norms quickly and radically. The evidence shows that the British public shifted its position from extremely reluctant mask-wearers to a strong norm of wearing masks, at least in indoor public spaces, in line with changing government messaging. The findings also suggest that both appeals to individual risk and collective responsibility were effective in changing attitudes and behaviors. Overall, the response to the pandemic thus illustrated that government appeals to "opportunistic obedience" were very successful. On the one hand, it is reassuring that norms and behaviors can change so quickly in response to a public health crisis. On the other hand, it also indicates that governments that wish to exploit a crisis for less benign ends may have powerful tools at its disposal, especially when met with limited opposition, and tools that do not even require the full force of coercion to be highly effective.

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