Anxiety and Information Seeking in an Autocracy:

Lessons from the COVID Pandemic in Russia

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Abstract

A crucial question for scholars of contemporary authoritarianism is when regime supporters broaden their information diet, potentially exposing themselves to new ideas that might challenge the regime. We argue that emotions, and specifically anxiety, are likely to play a critical role in this process. Using observational data from two nationwide surveys in Russia during the COVID-19 pandemic and an emotion induction experiment conducted face-to-face with a nationally representative sample, we investigate how anxiety affects the search for information. We find that heightened anxiety leads people to seek out more information about the source of their anxiety and to consume media from new sources. Anxiety prompts regime opponents to engage more with state media, but also increases regime supporters' engagement with opposition media critical of the government. These findings provide evidence for a specific emotional mechanism that can drive increased information seeking of a potentially politically consequential character during crises.

The first decades of the twenty-first century have turned out not to be the age of democracy, but instead a new era of autocratic learning and experimentation in the techniques of domination and control. While today's autocracies vary in many ways, one feature that they have in common is the desire to manipulate the information that citizens use to shape their opinions and draw conclusions about the political world. Central to the strategy of such "informational autocrats" (Guriev and Triesman 2019, 2022) is ensuring that citizens consume information primarily from state sponsored or non-critical sources. This task was relatively easy in the Cold War era, but in a world of smart phones and high internet connectivity, the challenge has become more complex.

Most autocrats still rely to some extent on erecting barriers that limit citizens' access to critical information – the so-called Great Firewall of China, being the most prominent example. However, they also employ more subtle and less obvious forms of censorship that ultimately leave access to critical sources available to those who are motivated to seek them (Roberts 2018; Soldatov and Borogan 2015; Paskhalis, Rosenfeld, and Tertytchnaya 2021). In this context, regime stability depends heavily on the fact that relatively few citizens are likely to put forth the effort to access independent or critical sources, and those who do, are probably already regime critics whose views are confirmed rather than changed by independent outlets (Robertson 2017). As a result, one crucial question for scholars of authoritarianism concerns the conditions under which existing regime supporters or neutrals are likely to broaden their media consumption beyond state-sponsored sources (Alyukov 2021), potentially exposing themselves to new information that might undermine support for the regime (Chang et al. 2022).

In this manuscript, we look at citizens' responses to the informational challenge presented by the novel coronavirus pandemic in an authoritarian regime and at the factors that

shape the way people did (or did not) go about looking for information about the virus. We seek to understand how anxiety and associated emotions generated by the pandemic influence citizens' search for information, conditional on their preexisting political attitudes and media preferences. Specifically, we study whether anxiety increased the amount of information people sought about the source of their anxiety, whether they were more likely to consult media other than those they usually turn to, and whether they were likely to seek out information from outlets with which they might normally expect to disagree politically.

We build on literature, primarily in the study of American politics, that looks at the role of emotions in cueing citizens' behavior in novel or changing situations. Marcus and MacKuen (1993) argue that anxiety is a crucial emotion which leads people to seek out more information when faced with new or uncertain conditions. A number of studies have proposed that anxiety goes together with a deliberative frame of mind (MacKuen et al 2010), boosts learning (Valentino et al. 2008), and encourages "rational information processing" (Morgenstern 2020: 49) leading to genuine reflection and a desire to break out of existing habits. Other studies, by contrast, agree with the notion that anxiety increases the desire for information, but emphasize that it may bias attention to anxiety-inducing information (Albertson and Gadarian 2015, Mathews 1990, Mogg et al. 1990).

We test the extent to which these arguments travel to authoritarian regimes using two studies and a survey experiment that we conducted in Russia, a prominent contemporary autocracy. First, we use an online survey that leverages citizens' widely varying levels of pandemic-induced anxiety to study what effect anxiety has on media consumption and, in particular, to see whether more anxious people consume more information than before, whether they consume different information than they did before, and whether in doing so they consult

sources that present a different political perspective. Second, we replicate our results in another large-scale survey among a nationally representative face-to-face sample, which we conducted about a year later as Russia's information environment became more repressive. We then find further support for our hypotheses in an original experiment embedded in that survey which manipulates anxiety itself and investigates its effects on media consumption. Each of these tests demonstrates that anxiety is indeed a key factor in shaping informational responses to a crisis.

We make three main contributions. Most obviously, we contribute to understanding the importance of anxiety in politics, particularly in non-democratic settings. While there is a large and growing literature on anxiety in politics (Bisbee and Honig 2021) and anxiety and information (Marcus, Neuman, and MacKuen 2000; Brader 2005; Brader, Valentino, and Suhay 2008, Valentino et al. 2008; Gadarian and Albertson 2014; Albertson and Gadarian 2015; Clifford and Jerit 2018), these studies have been confined mostly to democracies, and we know little about the effect of anxiety on information search under autocracy.[1] In this manuscript, we study citizens' search for information in an authoritarian regime with a state-dominated media environment. We find that anxiety generally has the same effects as in more democratic places, increasing the search for information—in particular, in a crisis that affects citizens' own safety.

Second, we offer a realistic but rigorous approach to studying the effects of anxiety on actual information search. Much of the important research on information search has been conducted either in a lab setting (e.g., Brader 2005; Valentino et al. 2008), on non-representative

[1] The drivers of mitigation behaviors have, by contrast, been studied in a broader range of contexts and cases (see e.g., Jones et al. 2021).

samples (Gadarian and Albertson 2014), or using self-reported behavior (Menon et al. 2022).[2] Here, we observe directly the behavior of a broad range of citizens with different emotional states both with regard to the pandemic in general and in the presence of exogenous variation in emotional states using an emotion induction experiment (see also Gadarian and Albertson 2014). Unlike the typical survey experimental setup for studying the effects of anxiety, in which framing statements or primes are used to heighten subjects' anxiety, our emotion induction experiment has the advantage of inducing differences in subjects' level of anxiety without also introducing an informational treatment. To observe information seeking behavior, we then offered respondents the chance to access a variety of articles about COVID, which were carefully chosen to represent different parts of the media landscape. Observing how many and which articles respondents requested and comparing their choices with answers to questions about existing media habits, gives us a behavioral measure of respondents' information search (its breadth, depth, and novelty of the sources consulted), which is more reliable than self-reports alone.

Third, and perhaps most interestingly, our findings contribute to research on contemporary authoritarianism, where competition over information is critical to maintaining political control (Roberts 2018; Greene and Robertson 2019; Guriev and Treisman 2022; Pop-Eleches and Way 2023; Wallace 2023). Scholars have demonstrated that authoritarians use different techniques to limit the access to and use of alternative media (Roberts 2018; Sanovich, Stukal, and Tucker 2018; Paskhalis, Rosenfeld, Tertytchnaya 2022). Most of these techniques

[2] Though see also Brader, Valentino, and Suhay (2008) and Clifford and Jerit (2018) who like us use an experiment embedded in a nationally representative survey.

rely on citizens' lack of effort or unwillingness to spend time and/or money to acquire information. This raises the question: When and under what conditions might citizens be more willing to expend the effort to seek out more and new kinds of information? We contribute to recent evidence from China that crises can provide the impetus to more active search for information in autocratic settings and that the search for information relevant to people's sense of personal safety may lead them to alternative sources of information (Chang et al. 2022, Roberts 2018). Moreover, we confirm the finding in a different autocratic country that crises can, in this way, plausibly increase citizens' exposure to sensitive political information and criticism of the regime. We also advance the understanding of how such exposure occurs by specifying and demonstrating evidence for a specific emotional mechanism that can drive increased information seeking of a potentially politically consequential character during crises.

Overall, we find that anxiety does increase the desire to consume more information about the source of the danger. Moreover, we find that anxiety also drove Russians to consume more news from new sources, and even to increase their consumption from sources associated with the opposing political camp. Importantly, these patterns applied not only to regime opponents, who increased their consumption of state-controlled media sources, but also to regime supporters, who were significantly more likely to engage with independent media in response to pandemic-related anxiety. This finding seems particularly striking in a context like the pandemic, in which the government and government media are likely to have information and sources that independent media do not, and in which the government's position and actions are particularly important.

Information and Contemporary Authoritarianism

Information control has always been crucial to authoritarianism. Friedrich and Brzezinski (1956) identified a monopoly of information as a key part of totalitarian politics, and it has also been an important priority for authoritarian leaders in other types of non-democratic regimes (Bresnahan 2002). However, in the context of the highly complex information environments that today's authoritarians face, the problem of information management has attracted increased scholarly attention (Roberts 2018, Wallace 2023, Guriev and Triesman 2022).

Sanovich, Stukal, and Tucker (2018) suggest three different ways in which contemporary authoritarians might seek to control information in an online world – offline action, technical restrictions on access to content, and online engagement. Paskhalis, Rosenfeld, and Tertytchnaya (2022) illustrate the offline approach, showing how legal threats to the survival of independent media channels can influence the nature of their coverage, making them (at least temporarily) less critical of incumbents. Roberts (2018) shows how a combination of technical restrictions and online engagement can be effective in shaping access to information, while King et al (2013) show the importance of engagement and selective censorship.

However, it is not only regime policy but also the psychology of information search and processing that can contribute to authoritarian regimes' survival – even when regimes cannot maintain an effective information monopoly. Geddes and Zaller (1989) show citizens' limited engagement with politics means that authoritarian propaganda is likely to be effective in convincing all but the most active and most critical citizens. Meanwhile, Robertson (2017) demonstrates the importance of motivated reasoning in helping to inoculate regime supporters against potentially damaging information. Nonetheless, the politics of information management in authoritarian regimes is a cat and mouse game that the state does not always win (Frye 2019,

Treisman 2011, Rosenfeld 2018, Smyth and Oates 2015, Pop-Eleches and Way 2023) – despite its legal and regulatory efforts to control the broader information space (Greene and Robertson 2019, Kovaleva 2018) and to create an "orchestrated media bubble" (Alykov 2021).

The question of what it would take for citizens to change their media consumption patterns and, in particular, for regime supporters to expose themselves to information that is critical of the authorities is thus extremely important. Evidence from China suggests an important role for crises, and perhaps especially events that pose risks to citizens' own safety. Roberts (2018), for example, finds that an explosion in Tianjin encouraged Chinese citizens to evade the Great Firewall and seek out unfiltered information. Similarly, in a recent article, Chang et al. (2022) demonstrate that in China, the COVID crisis prompted some citizens to circumvent existing regime efforts to control access to information and, in the process, they encountered other information that the regime deemed sensitive. In the rest of this manuscript, we follow a similar line of questioning using the context of the COVID-19 pandemic to examine information search under authoritarianism, but we focus on the role of a specific psychological mechanism – feelings of anxiety – in influencing media consumption behavior.

Anxiety and Information: Changing Patterns of Media Consumption?

The COVID-19 pandemic represented an enormous health threat to people all over the world. Research in psychology suggests that responses to such a threat will include cognitions, emotions and information from both inside and outside the body that are tightly bound together as the brain attempts to make meaning of its situation and take appropriate action. Part of this process is the generation of emotions, such as anxiety and fear, which are likely to vary across individuals but nonetheless have a biological basis and play an important role in explaining actions (Hoemann and Barrett 2019). Drawing on a substantial existing literature on anxiety, we

expect that variation in this emotion should be very important in shaping how people respond to the pandemic and go about learning about the virus and its implications.

Anxiety is considered to be an unpleasant emotion related to an experience of danger or threat, and results in an urge to do something to address the anxiety (Spielberger 2013). While the experience of threat might lead people to close their eyes to danger and cling to what they already know (Jost et al. 2003), there is a wide consensus in political psychology that anxiety encourages people to collect more information, in particular about the nature of the threat (Brader, Valentino and Suhay 2008). This has been confirmed in a variety of different contexts from immigration to anthrax (Bar-Ilan and Echermane 2005) to influenza (Ginsberg et al. 2009). Hence, we expect:

H1: Respondents exhibiting higher levels of anxiety will be likely to consume more information about the virus.

A key question, however, arises about the nature and quality of the information that is gathered and its role in learning. Based on work in the United States, Albertson and Gadarian (2015) argue that increased information gathering is likely biased in its focus on sources that induce the most anxiety (see also Mathews 1990 and Mogg et al. 1990), while Cohen-Chen et al. (2014) find in an Israeli sample that the nature of the search depends on feelings about the initial situation – fear generates biased information searching which prioritizes threatening information and prevents openness to new ideas while hope does not. Bisbee and Honig (2021) meanwhile contend that anxiety increases preferences for the political status quo. In sum, these perspectives would predict that, in the context of a life-threatening pandemic, citizens will tend to double

down on their existing perspectives and trusted media. To the extent that they consume more information, it is likely to be more of the same.[3]

A contrasting perspective in American politics based on Affective Intelligence Theory (AIT) suggests that anxiety focuses a person on the novelty of the situation and, encourages learning through two mechanisms – a search for more information and a spirit of openness and thoughtfulness in assessing that new information. MacKuen, Wolak, Keele, and Marcus (2010), for example, find that anxiety both increased subjects' learning about a set of proposed policy changes as well as their willingness to learn from opponents of their policy preferences. Clifford and Jerrit (2018) similarly find support for this "deliberative" style of engagement, a finding that is in keeping with broader evidence that negative emotions like anxiety lead to more systematic and less heuristic processing on the individual level (Cohen-Chen et al. 2014).

Confronted with a threat to their personal safety from a potentially deadly disease, we follow such engagement theories in focusing on the role anxiety plays in encouraging openness to new information.[4] We expect therefore that people will be motivated to seek a wider variety of sources than they normally use to maximize their chances of accessing information pertinent to the threat they face. Consequently, we predict that:

H2: Respondents exhibiting higher levels of anxiety will be more likely to select media that are outside the usual media sources they consume.

[3] Except, perhaps, in the case that they are drawn to more anxiety-inducing or sensationalist content in alternative sources. We consider this proposition briefly below.

[4] Though we do not, in this study, reflect on learning—a point we discuss further below.

Finally, we are interested not just in the volume and novelty of sources that people consume, but also whether anxiety leads people to consume sources that are politically different from the ones they usually consult. In an authoritarian setting, the political distinction of interest is between pro-regime sources on the one hand, and independent or opposition media on the other. There is good evidence that in authoritarian regimes both media use and perceptions of different media depend heavily upon orientations towards the regime (Reuter and Szakonyi 2015, Huang and Yeh 2017, Shirikov 2021b, Alyukov 2021). Most regime supporters in Russia primarily turn to state television and other state sponsored media for information, while regime critics are more likely to rely on independent media sources. The key question here is whether the pandemic will lead people to cross this central political divide in search of COVID-related news, opening them up to the possibility of encountering a different political perspective. In this way, we extend the agenda in Chang et al. (2022) to show how crisis may motivate exposure not only to censored information but also increase exposure to freely available information from independent/opposition sources critical of the regime.

Following on the discussion above, theories of propaganda consumption during crises note that dangers to citizens' personal safety "may increase the importance citizens place on selecting an action appropriate to the true state of the world—in other words, on being skeptical" (Horz 2021, 729).[5] Citizens' willingness to exert cognitive effort tends thus to increase in a crisis (Chang et al. 2022) – a fact which Horz (2021) argues dampens the effectiveness of propaganda.

[5] Contrast e.g. Alyukov (2022) on propaganda consumption in an autocracy, which emphasizes that political identities rather than desires for accuracy drive the processing of political information.

Building on this line of reasoning, we contend that the pandemic also offers the possibility of people expanding their media consumption to sources beyond their own political perspective, and this should be particularly true for those who experience higher levels of COVID-related anxiety. Consequently, we argue that citizens who experience more anxiety about the pandemic will be more likely to cross political boundaries. We expect that:

H3: Respondents exhibiting higher levels of anxiety will be more likely to select media that are typically associated with a political perspective other than the one they usually hold.

If, instead, anxiety leads citizens in autocracies to merely 'double-down' on their existing habits and beliefs, we would expect not to see an increase in the consumption of information from media sources outside a respondent's own political camp.

Research Design

We examine these hypotheses in the context of responses to the COVID crisis in Russia. Russia has been one of the countries worst affected by the COVID pandemic. As of April 2023, Russia had had a total of 22 million confirmed cases and 388,000 deaths.[6] Our data collection took place in two stages, with an online survey in November and December of 2020 when cases in Russia were rising quickly, passing 19,000 new cases and more than 500 deaths per day, and a face-to-face survey in August and September of 2021 when the estimated number of daily deaths had reached at least 800.[7]

[6] Data from Johns Hopkins accessed 4/14/2023. https://coronavirus.jhu.edu/region/russia

[7] See https://www.economist.com/graphic-detail/coronavirus-excess-deaths-estimates and https://www.reuters.com/world/russia-says-least-44265-people-died-covid-19-sept-2021-10-29/

Observational Data

We first provide several different observational tests of our hypotheses, using data from two nationwide surveys.[8] The first, an online survey conducted by Qualtrics (which contracts with local panel providers), includes 1,250 respondents and was conducted in late 2020.[9] Respondents are paid by the local companies to complete a certain number of surveys over the time they are in the panel. Invitations to complete the survey were issued on the basis of quota sampling in an effort to approximate the distribution of the population according to age, gender, education and region. Given the online nature of the survey, the sample is somewhat younger and significantly better educated than the population as a whole. Nevertheless, while it is difficult to establish population estimates in this way, the sampling technique allowed for a full range of variation on all the key variables of interest.

The second data source is a probability-based nationally representative sample of 2,700 adults in Russia. The face-to-face survey, which is part of the Russian Election Studies, was carried out by the reputable Russian polling organization the Levada Center. Data collection took place just before Russia's September 2021 parliamentary elections.

[8] Further details regarding the survey methodologies, question wordings, and descriptive statistics can be found in Appendix A and Appendix B.

[9] The hypotheses and testing strategy were pre-registered on November 4, 2020. See Appendix E.1. The preregistration also included a survey experiment that used positive and negative information about Covid 19 to manipulate anxiety. The treatments failed to manipulate anxiety and so the results are not discussed here.

Measuring Information Search

We measured patterns of information search in two different ways. In a first set of analyses, we use self-reported measures of media consumption behavior during the COVID crisis to provide initial supporting evidence for our hypotheses. Specifically, to test Hypothesis 1 about anxiety being associated with greater consumption of information, we created an index based on the frequency with which respondents reported getting information about the Coronavirus from several types of sources: friends and relatives, social media, national TV stations, websites of national TV stations, newspapers and magazines, and internet searches.[10] To test the next two hypotheses, we built on Dubois and Blank (2018) and asked two questions about the frequency with which people expose themselves to new or challenging information. Using a 4-point scale, we asked how often they read something new, and how often something they read changed their mind. We use the first item to capture the extent to which people acquire information from new sources and the second to capture the extent to which people consult sources associated with a political perspective other than their own.[11]

We next moved beyond self-reports to test directly how respondents actually behave when given the chance to access information about COVID. At the end of the survey, we offered respondents eight articles which they could elect to receive upon finishing the survey.

[10] The index had a Cronbach's alpha of .88 and was rescaled to 0-1 with higher values indicating higher information consumption. For complete question wording see Appendix A.

[11] In Appendix Figure D1, we also present results for an index consisting of these two items along with a third question (about having read something they disagreed with). Results are very similar.

Respondents could select as many (or as few articles) as they wished. The count of articles represents a measure of the quantity of information about COVID that respondents sought out. These choices are then compared with a question about media consumption habits ("how often do you use each of the following sources for political news and information" – daily, a few times a week, a few times a month, rarely, never) posed earlier in the survey to identify new sources. A source selected counted as 'new' if the respondent reported that they 'never' turned to it for political news and information.

We carefully chose media sources to allow respondents to select from a number of different parts of Russia's media landscape.[12] We offered articles from three state owned or controlled media sources – the main state television Channel 1, the pro-Kremlin tabloid Life News, and the website of the newspaper Izvestiya, which is frequently used by the presidential administration to communicate its policies. On the independent media side, we included two articles from Meduza, a Latvia-based Russian news agency that was declared a foreign agent by the Russian Ministry of Justice on April 23, 2021, Mediazone, an independent media outlet founded by former political prisoners Maria Alyokhina and Nadezhda Tolokonnikova (formerly of Pussy Riot) and declared a foreign agent in September 2021, and the independent radio news station Echo Moskvy.[13] We also included one article from RBK, which is owned by pro-

[12] The media options are shown in Appendix A along with the full question wording.

[13] Every effort was made to select headlines that were neutral in tone to minimize potential effects of the valence of the headline – see Appendix A. In addition, two articles from Meduza were included with different headlines, allowing us some insight into the possible effect of headline valence. One Meduza headline was very bland, simply offering a map of how Covid had spread in Russia. The other headline, "We don't know how to treat it," was arguably more sensational and anxiety-provoking. As Table C5 in Appendix C shows, almost all sources offered were more requested by more anxious respondents, while the effect size for the blander Meduza headline was almost twice as large as for the more anxiety-provoking headline.

Kremlin oligarch, Mikhail Prokorov but is generally considered a more politically neutral business daily (Shirikov 2021, Blum 2021).

Independent Variables

To measure anxiety, we asked respondents to self-report the extent to which they felt fear (страх), worry (обеспокоенность), and anxiety (опасения) about the COVID pandemic, each on a 7-point scale following Marcus et al. (2017). These responses were turned into a single index.[14]

To test whether anxiety increases the propensity of individuals to seek out information from sources that differ from their own political views we had to identify indicators that capture the most salient political cleavages. In Russia, the dominant cleavage in both the media and the population is between regime supporters and regime opponents, which we capture with a dichotomous measure of approval for President Putin.

Controls

Since we were interested in the effects of anxiety above and beyond other positive and negative emotions, in our regressions we controlled for the other emotional dimensions in AIT theory, anger and enthusiasm. To measure anger, we created an index from the same self-reported scale, asking about anger (ярость), bitterness (злость) and resentment (обида). We measured enthusiasm using the same prompt and scale as the other emotions and asked about hope (надежда), pride (гордость) and enthusiasm (энтузиазм).

[14] The Cronbach's alpha for the index was .95, indicating a very high level of reliability.

Finally, all of our models included controls for several basic demographic variables, which may affect both information search and anxiety (Menon et al. 2022): age, gender, macro-region, education, and an economic welfare index that captured the extent to which respondents could afford to buy meat, clothes, necessary medications, consumer durables and to pay for utilities.

Analysis

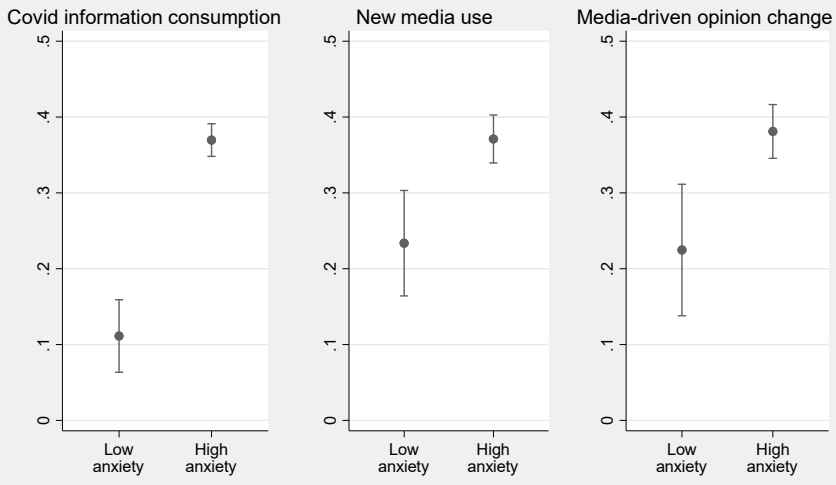
As a first step in Figure 1,[15] we explore the relationship between anxiety and self-reported information search and media consumption using data from the 2020 online survey.[16] The figures, based on OLS models presented in appendix Table C1, show predicted values and 95% confidence intervals of overall COVID information consumption (left panel), new media use (middle panel) and of having read something that changed one's mind (right panel) at minimum and maximum values of the anxiety index. The left panel indicates that higher levels of anxiety were associated with substantively large and statistically significant increases in the reported frequency with which respondents accessed information from a range of different sources. The middle panel shows a somewhat smaller but still highly significant increase in the probability of reporting to have read something from a new source. The right panel implies that higher levels of anxiety were also associated with statistically significant increases in the reported frequency with which respondents read something that made them change their views. Moreover, the magnitude of the anxiety effect was large in absolute terms: going from low to

[15] To aid with the interpretation of the statistical results we present them graphically in the main paper; the full regression results can be found in the appendix.

[16] These questions were not included in the 2021 survey.

high anxiety was associated with an increase of more than one standard deviation in the left panel, roughly half a standard deviation in the middle panel and two thirds of a standard deviation in the right panel.[17]

Fig.1 Anxiety and self-reported information consumption (2020)



The figure shows the predicted values of each of the dependent variables and 95% confidence intervals at the minimum and maximum of the anxiety scale. See Table C1 for the full OLS regression results.

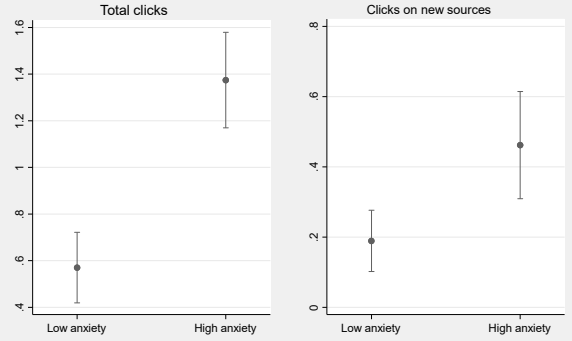
While the analysis so far suggests that people who report feeling more anxiety are much more likely to also report that they increased and diversified the information they acquired during the COVID crisis, self-reported measures are clearly open to critique. After all, the correlation we observe could be driven at least in part by reverse causation, if consumption of additional pandemic-related media increased people's anxiety. Therefore, we now turn to analyzing a behavioral measure based on the number of COVID-related articles that respondents

[17] The anxiety effects are substantively large when compared to the effect of age, which was the strongest demographic predictor of information consumption, as older respondents were less likely to access Covid information, to resort to new sources or to change their minds. In each case, the effects of anxiety were equivalent to an age difference of at least 42 years.

chose at the end of our survey. Since the dependent variables based on the behavioral measure are over-dispersed count variables with an excess of zeroes, we ran zero-inflated negative binomial (ZINB) models for our main tests.[18]

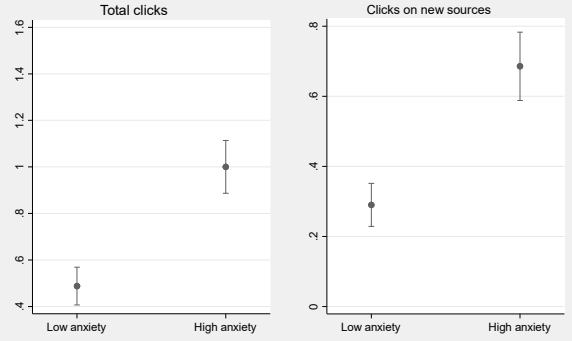
To test hypothesis H1, in the left panel of Figure 2a, we simply look at the relationship between anxiety and the total number of clicks on any of the eight article headlines that respondents were presented in the 2020 online survey.

Fig.2a Anxiety and information consumption behavior (2020)



Note: The figure shows the predicted number of clicks and 95% confidence intervals at the minimum and maximum of the anxiety scale. See Table C2 for full ZINB regression results.

Fig.2b Anxiety and information consumption behavior (2021)



Note: The figure shows the predicted number of clicks and 95% confidence intervals at the minimum and maximum of the anxiety scale. See Table C3 for full ZINB regression results.

The pattern confirms our theoretical expectations that higher anxiety is associated with more information seeking: the difference between low and high-anxiety individuals was highly

[18] For the first-stage of the ZINB model, which predicts whether the observed count is zero, we used the length of the interview/response to proxy for satisficing behavior, a dummy variable indicating that the respondent reported not getting news from either TV, newspapers or the internet, and a measure of media trust. We argue – and the tests confirm – that these variables may capture why some respondents do not click on any articles, thus driving the excess zeroes we see in the data. For full results, see Tables C2 and C3 in the appendix.

statistically significant and substantively large. Respondents at the top of the anxiety scale clicked on almost three times more articles than those at bottom. In the left panel of Figure 2b we present very similar patterns from the 2021 probability-based national sample, administered face-to-face. Overall, the evidence from both surveys confirms that anxiety was a strong predictor of the number of articles respondents selected, even after controlling for other emotions such as anger and enthusiasm.

To test whether these increases reflect a genuine broadening of information sources and types, we need to go beyond the total number of articles accessed and look closer at the types of articles chosen, and how they relate to prior media consumption patterns and political attitudes. To do so, we coded a selected source as new if respondents reported in an earlier media consumption question that they did not consume a particular media source. We then added up all new sources chosen into an index ranging from 0-7 and regressed this index on the emotions indices and the same battery of demographic controls as in previous analyses.

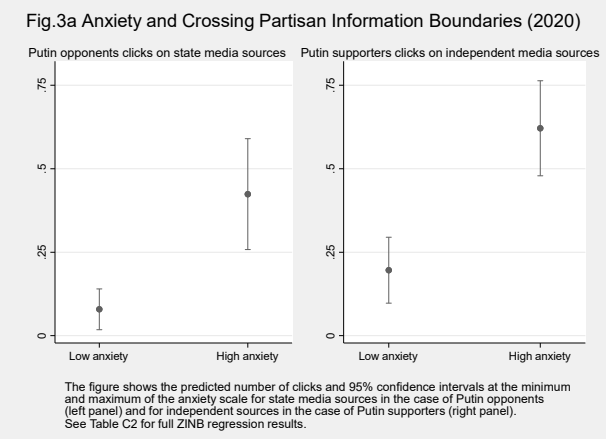
The results, presented in the right panels of Figures 2a and 2b, confirm the prediction of Hypothesis 2 that anxiety promotes not only increased information seeking but also exposure to new sources of information. The effects were not only statistically significant (at .01 two-tailed) but they were substantively large: in both the surveys, respondents who reported feeling more anxious clicked on more than twice as many articles from new sources as their non-anxious counterparts.[19]

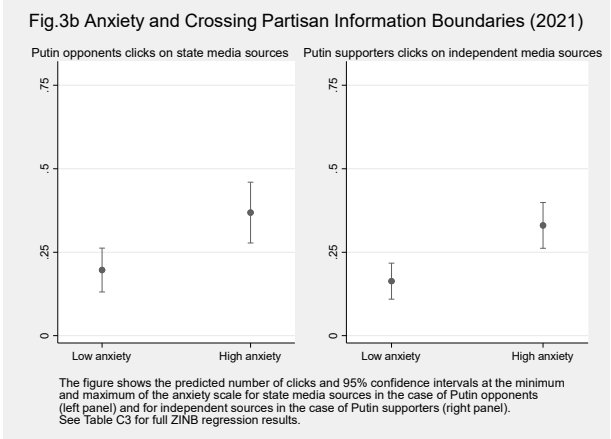
[19] The impact of anxiety is clearly distinct from that of other emotions: neither higher anger nor higher enthusiasm were positively associated with the search for new information.

Finally, we turn to hypothesis 3, which focuses on the link between anxiety and greater willingness to acquire information from sources associated with a different political orientation. We do so by testing whether anxiety was associated with a higher likelihood of clicking on articles from media sources associated with the opposing partisan camp: state media for regime opponents, and independent media for regime supporters.[20] As Figures 3a and 3b show, which are based on the 2020 and 2021 surveys respectively, the political differences between these two camps are quite clearly reflected in the propensity of respondents to select COVID article links from different sources. At low levels of anxiety, Russians were highly unlikely to choose articles from information sources associated with the opposing political camp (i.e. state media articles for Putin opponents in the left panel and independent media articles for Putin supporters in the right panel). However, the patterns in Figures 3a and 3b suggest that rising anxiety was associated with a statistically significant and substantively large increase in the likelihood of selecting articles from the "opposite" political camp: according to the left panels in the two figures, predicted engagement with state media sources among Putin opponents increased four-

[20] Given that the number of articles from state and independent sources is limited, one might be concerned that respondents were forced to cross the partisan divide as their desire for information grew. If this were the case, we would in effect be conflating the number and diversity of sources people selected. Given, however, that the modal number of articles chosen by respondents was 0, and just 32 respondents chose more than four articles (the maximum number of state/independent stories that could be chosen), our results on diversification of information sources cannot be a mechanical effect of our research design. See the distribution of responses in Appendix Figures B1-B4.

fold in the 2020 survey and two-fold in the 2021 survey. Meanwhile the right panel Figure 3a indicates a three-fold increase in Putin supporters' predicted engagement with articles from independent media sources, while for the 2021 survey in Figure 3b engagement more than doubled.[21] Overall, the high anxiety associated with the pandemic appears to have been effective in encouraging the consumption of information from media sources beyond those associated with respondents' own political camp.





Emotion Induction Experiment

[21] While anxiety also increases the number of clicks on articles from co-partisan media sources (see Figure C1a and C1b in the appendix, the balance of in-group to outgroup choices becomes more equal for both groups at higher levels of anxiety: for Putin opponents the ratio of independent to state-owned media clicks goes down from 9:1 for low anxiety respondents to 2.5:1 for high anxiety respondents. Meanwhile for Putin supporters the ratio of state-owned to independent media clicks goes down from 3.5:1 for low anxiety respondents to parity among high anxiety respondents.

We next tried to replicate our observational findings in the context of a survey experiment. To do this we embedded an emotion induction experiment in the nationally representative face-to-face Russian Election Studies survey from August-September 2021.[22]

The experiment was designed to test the same three hypotheses and the outcome measure is the same as the behavioral measure described above. The main difference is that in the experiment we sought to exogenously induce feelings of anxiety using an emotion induction exercise (Siedlecka and Denson 2019, Young 2019, Albertson and Gadarian 2016). To do this, respondents were randomly assigned to one of two groups – a treatment group in which respondents were asked to describe a time in recent memory when they felt anxious and a control group who were asked to describe a time when they felt relaxed. For ethical reasons, we reminded respondents in the informed consent for the study that they could decline to answer any question without penalty or end their participation at any time. Respondents who did not wish to recall such events from their own lives could answer "don't know" or refuse the question. Each respondent was asked to share 2-3 things that make or made them feel, alternately, anxious or relaxed. The interviewer then prompted them to describe in greater detail the thing that made them feel most anxious or relaxed. The rate of "don't know"/refuse responses in the control/relaxation condition was 2.3 percent and 2.7 percent in the treatment condition ($p=0.626$).

Following this exercise, the interviewer thanked respondents for their participation in the survey and invited them to choose from a list of articles on COVID-19 to be provided on

[22] This study was preregistered with the same hypotheses as Study 1 on September 24, 2021. See Appendix E.2.

completion of the study. The full list of articles and headlines is given in Appendix A. Following the previous survey, we offered articles from pro-government media (Channel 1, Izvestia, RT, and Life), as well as articles from independent media (Meduza, Mediazona, Radio Svoboda and TV Rain). Respondents could choose as many articles as they wished.

A few additional points regarding the experimental design are worth noting. We chose the relaxation exercise rather than a "pure control" based on evidence that simply going through the motions of an experimental exercise can have an independent effect (apart from the content of the treatment itself). The concern here is intuitive: respondent fatigue following the experimental exercise could make the treatment group artificially less likely to select articles than a pure control group that was asked to choose articles alone.

In addition, since we did not want to conflate a priming effect with the effect of a respondent's emotional state (our theoretical interest), we did not cue respondents specifically to consider their anxiety with respect to COVID-19. However, since we expect anxiety to motivate efforts to seek out more information about the nature of the threat, we anticipate anxiety's effect to be domain specific. Therefore, we analyzed the text responses to the induction exercise and classified respondents on the basis of whether their feelings of anxiety were explicitly triggered by COVID-19, by other health-related concerns (but without explicit reference to COVID), or by non-health concerns. We also coded respondents who failed to write meaningful text in response to the prompt as non-compliers.

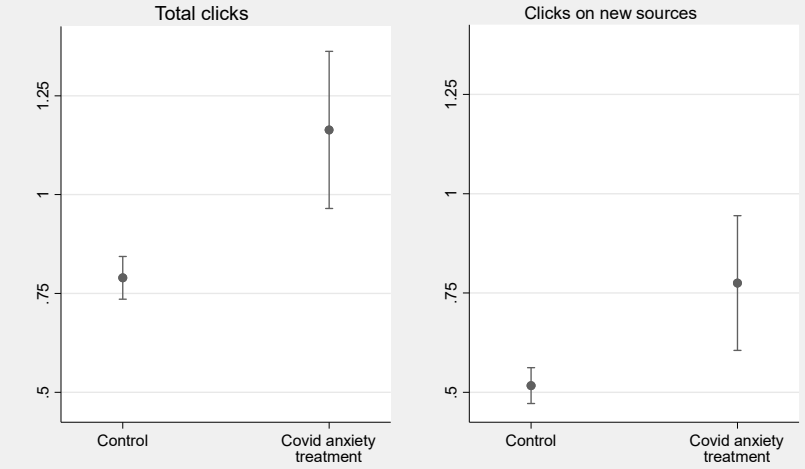
While assignment to the treatment condition was random,[23] the respondent's choice to focus on COVID-based versus other sources of anxiety may be endogenous to a variety of factors. Perhaps most importantly, we expect it to be related to respondents' initial levels of COVID-related worry, which we measured directly in our survey. Therefore, in addition to the wide range of demographic controls we include in the observational analysis (again, including age, gender, region, education, material situation etc.), we also control for the respondents' full set of pre-treatment emotional responses to the pandemic (including anxiety) and use a four-point survey question about how concerned respondents were that they or someone close to them may get sick with COVID as an additional measure of a respondent's baseline COVID anxieties and perceived vulnerability. Although COVID-related anxieties were not randomly assigned, we argue that after controlling for the several factors just mentioned the differences between the COVID anxiety treatment group and the control group are unlikely to capture factors driving differential information search other than the effect of having been exposed to the anxiety prime.

Results

[23] We do not present ITT (intention-to-treat) effects since the effects of the COVID/health and non-health related anxiety treatments were heterogenous. In Appendix D.2, we report average causal effects for compliers, i.e. among respondents who were actually treated with COVID anxiety (CACE/LATE), although we also discuss violations of the monotonicity assumption. These IV results are very similar to the results reported in the main text.

The results in the left panel of Figure 4 confirm that the anxiety treatment increases consumption of COVID-related news when that anxiety centers on COVID-related issues.[24] These results support Hypothesis 1: anxiety drives efforts to seek out more information about the nature of the threat. They are also consistent with the observational tests presented above in Figures 2a and 2b, which showed that survey respondents who reported higher levels of anxiety consumed more news.

Fig.4 Covid anxiety treatment and information consumption behavior (2021)



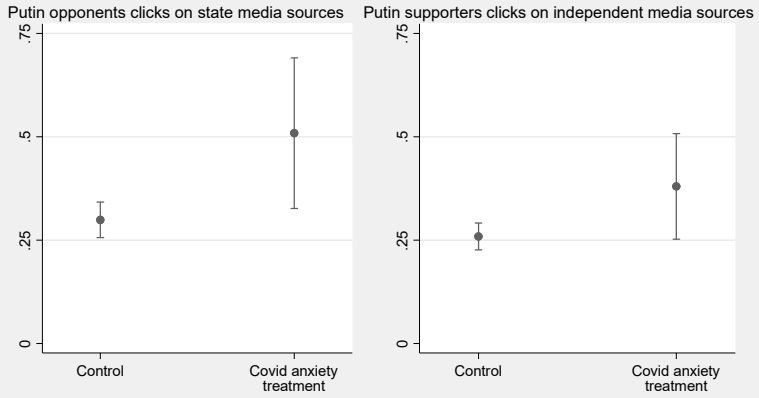
Note: The figure shows the predicted number of clicks and 95% confidence intervals for respondents in the Covid anxiety treatment group vs. the control group. See Table C4 for full ZINB regression results.

[24] This pattern holds for health-related anxiety but not anxiety having to do with other issues. Since anxiety drives efforts to seek out more information about the nature of the threat (a proposition we specified ex ante), it is little surprise that its effect is domain specific. Heightened anxiety about other issues actually decreased consumption of covid-related information. Though we did not specify theoretical priors about the effect of anxiety across domains, these results are consistent with heightened anxiety driving individuals to be 'consumption misers' of information that is unrelated to the source or subject of their anxiety (See Appendix Figure D2).

Next, the right panel of Figure 4 shows that heightened anxiety also prompted respondents to choose more new sources of information, beyond those media they typically consume. In other words, not only were people more likely to consume information from media outlets they had turned to in the past, anxiety also increased their engagement with a broader range of sources. These findings thus confirm hypothesis 2 and suggest that our emotional responses during a crisis can indeed promote a broader media diet.

How much broader? Does worry provide a sufficient impulse to expand information search to sources of a different political perspective, as hypothesis 3 suggests? Figure 5 presents the results of our test. In keeping with the previous set of results, the left panel (based on column three Table C4) shows that the COVID anxiety treatment led to a fairly large and statistically significant increase in the consumption of state media sources among regime opponents. The right panel (based on the regression in column four of Table C4) reveals that the COVID anxiety treatment was associated with a marginally significant (at .1 one-tailed) increase in the consumption of independent sources by regime supporters. In sum, these results confirm hypothesis 3 and imply that anxiety encouraged engagement with media outlets from the "opposite" political camp. This was true for both regime supporters and opponents.

Fig.5 Covid Anxiety Treatment, and Information Consumption Across Political Divides (2021)



The figure shows the predicted number of clicks and 95% confidence intervals for respondents in the Covid anxiety treatment group vs. the control group for for government-aligned sources in the case of Putin opponents (left panel) and for independent sources in the case of Putin supporters (right panel). See Table C4 for full regression results.

Discussion and Conclusion

In this manuscript we have used attitudinal and behavioral data from public opinion surveys in Russia to test the impact of emotions on information search in an autocracy in the context of the COVID-19 pandemic. The results unambiguously support the idea that anxiety about health in general, and COVID in particular, led respondents to seek out more pandemic-related information. This was true in respondents' own self-reports, in our behavioral measure of information search, and in both observational and experimental studies.

There is also strong evidence in the two studies that people who are more anxious are more likely to engage with new sources of information. Those who reported higher levels of anxiety reported using new sources of information more frequently. These patterns were also confirmed by behavioral choices. More anxious respondents were more likely to select articles

from sources they did not usually follow, including when anxiety was induced using an experimental design.

Moreover, the evidence suggests that anxiety encourages people to seek out information across political divides. More anxious respondents were more likely to report consuming news that changed their attitudes. In the observational studies, more anxious respondents were more likely to click on articles from the other political camp, and this effect was large and significant for both Putin supporters and opponents in both surveys. In the emotion-induction experiment, we found broadly similar patterns. Anxiety prompted people to be more willing to read things they had not read before, and both regime and opposition supporters became more willing to consume media associated with the opposing political camp.

The fact that we find people willing to cross political divides in both 2020 and the fall of 2021 is striking, and especially notable for the study of information search in autocracies. By the time of our in-person survey, the Russian government had clamped down much more decisively on independent media. Indeed, before our 2021 survey fielded, two of our independent media sources had been declared "foreign agents" by the Russian government (Meduza in April 2021 and Mediazone in September 2021).[25] Nevertheless, anxiety about Covid was still enough to induce even Putin supporters to consult them. Like Chang et al. (2022), who found that the Covid crisis prompted Chinese citizens to circumvent the Great Firewall, our results also suggest

[25] This designation allowed outlets to continue publishing but forced them to print lengthy and prominent warnings that their reporting was coming from a source functioning as a foreign agent. All three sources were forced to flee Russia and now work from outside the country.

that citizens in an autocracy will be more willing to access sources and information repressed by the government during crises.

Better understanding the political consequences in practice of citizens' expanded information search is a critical task for further research. How impactful are the information seeking behaviors we document here likely to be? One key question is whether they are likely to lead to real learning or opinion change. On the one hand, we have shown that anxiety tends to encourage targeted searching for information to address its source. This might limit the degree of spillover into broader issues – if, for example, people who are worried about Covid read more about Covid but, perhaps, not about corruption. On the other hand, it is possible that learning that the regime is seeking to mislead or is incompetent on a policy of direct concern may lead to broader questioning. Moreover, existing research suggests that the framing of stories matters even when the reported facts are true (Rozenas and Stukal 2019), and so the mere act of entering an information environment in which stories are framed differently could itself be impactful. With that said, while we demonstrate growing engagement with alternative political perspectives and the possibility of increased exposure to challenging information, it remains for future work to speak more directly to the question of receptivity—although, we do find that more anxious respondents were more likely to self-report accessing news that changed their issue opinions.

Whether or not the willingness to cross political divides alters political attitudes or has longer-lasting political effects is likely to depend both on citizens' motivations and the effects of a crisis on the broader information environment. We showed, for example, that anxiety prompts regime supporters to engage more with opposition media critical of the government. But we also find that anxiety increased regime opponents' engagement with state media, a result that dovetails with Bisbee and Honig's (2021) finding that anxiety reinforces the political status quo.

It may be that the nature of the public-health crisis – in which governments held an important informational advantage – drove this greater traffic to state media outlets.[26] More broadly, citizens in an autocracy might feel a need to consult state media to understand official thinking, whether they agree with it or not. Finally, the implications of citizens' media diversification will also depend on overall levels of polarization in the media environment. Perhaps especially in autocracies, if repression leads independent/opposition media to reduce their criticism of the government during a crisis, diversification may matter less.

Moving beyond the context of the Covid crisis, we would expect our results to generalize to different kinds of crisis. Anxiety-producing crises come in different shapes, including not just pandemics, but economic crises, natural disasters, security crises and war. For Russia, clearly the war against Ukraine is one such crisis. Evidence from Levada Center and other Russian surveys shows that the war, and especially the mobilization of military-age men, dramatically increased expressed levels of anxiety in Russian society.[27] Our research suggests that this anxiety should have increased the desire to consume more and different information about the war and mobilization. At the same time, the Russian regime's hostile and repressive approach to independent media – already evident at the time of our research – has gotten much harsher since the war against Ukraine began. As a practical matter, this has made consuming independent media more difficult—and more akin to the conditions of censorship that exist in China and

[26] This interpretation is reinforced by the fact that the magnitude of the anxiety-driven increase in clicks was greater for state media outlets for both regime supporters and opponents (see Figure C2 in the appendix).

[27] https://www.levada.ru/en/2022/12/12/conflict-with-ukraine-november-2022/

require tools like VPN to circumvent. In war, many citizens may feel that consulting media sources denounced as foreign agents by the authorities is dangerous or unpatriotic. Another consideration is that war might increase the pressures toward convergence in reporting across official and independent media (Litvinenko et al. 2022) lessening the potential significance of reaching across regime divides.

How these different considerations play out remains to be understood. One feature of Covid that may make it more likely to lead to wider information search was the novelty of the virus itself. Particularly in the early stages, demand for information was high and even later it was important to many people to follow information on new strains and new policies. It is possible that the effects we find are more likely to be a feature of novel or sudden crises that involve high degrees of uncertainty, rather than more common cases, such as economic crises. Fleshing out how anxiety mediates the effects of different kinds of crises is a task for further research.

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Online Appendix for "Anxiety and Information Seeking in an Autocracy: Lessons from the COVID Pandemic in Russia"

Table of Contents

Appendix A Survey Methodology and Question Wordings

A.1 2020 Online Survey Methodology

We conducted the online survey in Russia using the Qualtrics survey platform. Qualtrics, which contracts with local research organizations in Russia, maintains a database of Russian respondents who have agreed to participate in survey-based research from which Qualtrics recruits survey respondents via Qualtrics panels. Respondents are paid by the local companies to complete a certain number of surveys over the time they are in the panel. Invitations to complete our survey were made on the basis of quota sampling in an effort to approximate the distribution of Russia's adult population by age, gender, education and region. We used 2010 Russian census data and supplementary 2019 data from Rosstat to construct these targets.

In total, Qualtrics recruited 1,250 respondents for our study. Data were collected from October 26, 2020 to January 12, 2021. Given the online nature of the survey, the achieved sample is somewhat younger and significantly better educated than Russia's population as a

whole. We use inverse probability weights based on age, gender, and education to reweight our data to better approximate known demographics of the Russian population, again using data from Rosstat.

A.2 2021 Face-to-face Survey Methodology

The nationally representative face-to-face survey was part of the long-running Russian Election Studies and was carried out by the reputable Russian polling organization the Levada Center. The survey took place just before Russia's September 2021 parliamentary elections as part of a two-wave election panel. Respondents were selected using a multi-stage, stratified, probability-based design to be nationally representative of Russia's adult population. The achieved sample includes 2,700 respondents. Data were collected August 26 - September 15, 2021. The AAPOR-1 response rate for the survey was 46%.

A.3 Self-reported Extent of Information Search Using Several Types of Sources

Some people actively read the news and discuss the coronavirus. And you? Please indicate how much time (approximately) over the past three days you have devoted to receiving and discussing information on this topic, depending on the source:

	4+ hours a day	2-3 hours a day	About an hour a day	A few minutes daily	Rarely or almost never
From friends and relatives (1)					
From social networks (such as VK, Facebook, Twitter, Instagram, or YouTube) (2)					
From the programs of national TV channels (Channel One, Rossiya, NTV, etc.) (4)					
On the websites of state TV channels (Channel One, Rossiya, NTV, etc.) (5)					
From newspapers and magazines, including their online versions (Komsomolskaya Pravda, Moskovsky Komsomolets, Izvestiya, Vedomosti, etc.) (6)					
Looked for (a) information on the Internet (for example, in Yandex) (7)					

A.4 Self-reported Breadth of Information Search

In the last three days, how often have you...?

	Very often (1)	Somewhat often (2)	Not so often (3)	Never (4)
Read something you DISAGREED with (1)				
Checked a news source that's different from what you normally read (2)				
Discovered something in an online search that CHANGED your opinion on an issue (3)				

A.5 Measuring Information Search Behavior in Russia – Online Survey

Thank you for participating in our study. If you would like more information on COVID 19 in Russia, please check articles from the following list. You may select as many you want. Access to the articles will be provided to you upon completion of the survey.

- ☐ Coronavirus in Russia: Everything is Under Control. Channel 1, 1tv.ru
- ☐ Modified for COVID: how the pandemic has affected preparation for winter in the fuel and energy complex. Izvestia, iz.ru
- ☐ Ministry of Health Released Conditions for Treating Patients with Coronavirus at Home. RBK, rbc.ru
- ☐ In Russia, a Neural Network was Trained to Detect Coronavirus by Its Cough. Life, life.ru
- ☐ How the Coronavirus Epidemic Has Developed in Russia. A Map. Meduza.
- ☐ Coronavirus in Russia. October. Mediazona
- ☐ We Don't Know How to Treat It. Meduza.
- ☐ Mask Protocols all over Russia triggered by an amazing discovery by officials. Echo Moskvy.

A.6 Measuring Information Search Behavior in Russia – Face-to-Face Survey

We've asked a number of questions about the coronavirus pandemic. If you want to get more information about COVID-19 in Russia, please select articles from the following list. You can choose as many articles as you would like. There is no need to read them right now. Which of the following articles would you like to read? (INTERVIEWER: show CARD 32, mark off all the articles named)

- ☐ In Russia as a whole, there is a decrease in cases of COVID-19, but the situation varies by region, Channel One, 1tv.ru
- ☐ Popova spoke about a more active mutation of the coronavirus, Izvestia, iz.ru
- ☐ How COVID-19 affects vision, RBC, rbc.ru
- ☐ The Ministry of Health will publish new recommendations for the treatment of coronavirus, Life, life.ru
- ☐ The Russian Ministry of Health has approved clinical trials of a combination of AstraZeneca and Sputnik Light vaccines. Medusa, meduza.io
- ☐ Coronavirus in Russia, Mediazona, zona.media
- ☐ Post-Covid, Long Covid and Excess Mortality. Coronavirus is not retreating, Radio Liberty.
- ☐ "Only vaccination will help curb this infection": the Kremlin assessed the situation with COVID-19 in Russia. RT (Russia Today), Russian.rt.com.
- ☐ How many times will Russia defeat the coronavirus, Dozhd TV channel, tvrain.ru.

Appendix B Descriptive Statistics

Table B1. Summary Statistics for 2020 Online Survey

Variable	Obs	Mean	S.D.	Min	Max
COVID info consumption	1,363	0.29	0.21	0	1
New Info Source	1,363	0.33	0.27	0	1
Changed opinion	1,363	0.33	0.28	0	1
Article clicks - total	1,363	1.03	1.42	0	8
Article clicks - new sources	1,363	0.35	0.74	0	7
Article clicks - state sources	1,363	0.36	0.64	0	3
Article clicks – indep. sources	1,363	0.49	0.84	0	4
Anxiety index	1,303	0.67	0.27	0	1
Anger index	1,363	0.53	0.24	0	1
Enthusiasm index	1,363	0.43	0.22	0	1
Putin approval	1,221	0.64	0.48	0	1
Income loss	1,363	0.37	0.29	0	1
Female	1,363	0.55	0.50	0	1
Age	1,363	44.18	15.60	18	99
Educ_1	1,363	0.01	0.12	0	1
Educ_2	1,363	0.12	0.32	0	1
Educ_3	1,363	0.57	0.50	0	1
Educ_4	1,363	0.06	0.24	0	1
Educ_5	1,363	0.23	0.42	0	1
Educ_6	1,363	0.01	0.07	0	1

Table B2. Summary Statistics for 2021 Face-to-Face Survey

Variable	Obs	Mean	S.D.	Min	Max
Article clicks - total	2,648	0.75	1.18	0	9
Article clicks - new sources	2,632	0.49	0.94	0	9
Article clicks - state sources	2,766	0.36	0.67	0	4
Article clicks - independent sources	2,766	0.26	0.61	0	4
Anxiety index	2,740	0.58	0.32	0	1
Anger index	2,735	0.40	0.30	0	1
Enthusiasm index	2,676	0.18	0.26	0	1
Putin approval	2,562	0.64	0.48	0	1
Income loss	2,736	0.44	0.23	0	1
Female	2,766	0.55	0.50	0	1
Age	2,766	46.03	16.09	18	87
Educ_1	2,756	0.04	0.19	0	1
Educ_2	2,756	0.21	0.41	0	1
Educ_3	2,756	0.46	0.50	0	1
Educ_4	2,756	0.02	0.15	0	1
Educ_5	2,756	0.27	0.44	0	1
Educ_6	2,756	0.001	0.03	0	1

Figure B1 Distribution of Total Article Clicks – Online Survey

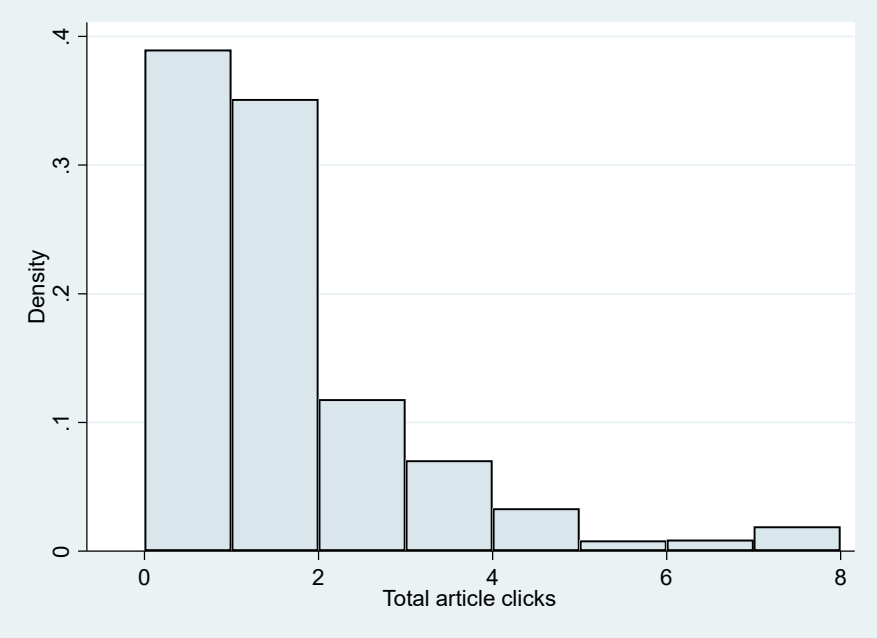


Figure B2 Distribution of Clicks on Articles from New Sources – Online Survey

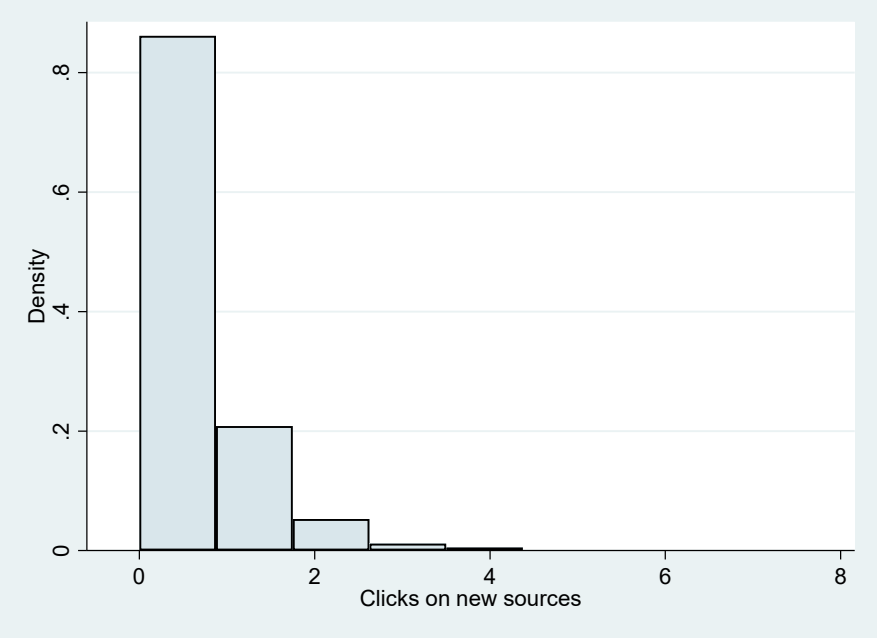


Figure B3 Distribution of Total Articles Chosen – Face-to-Face Survey

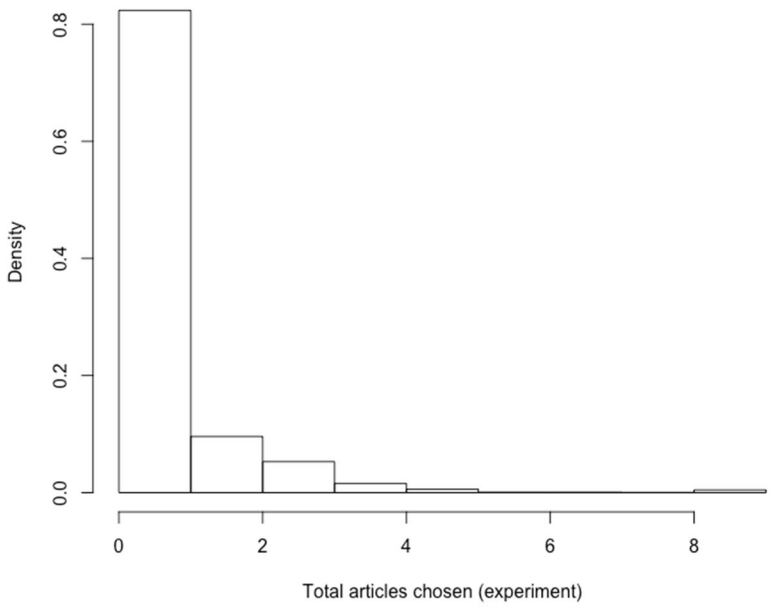
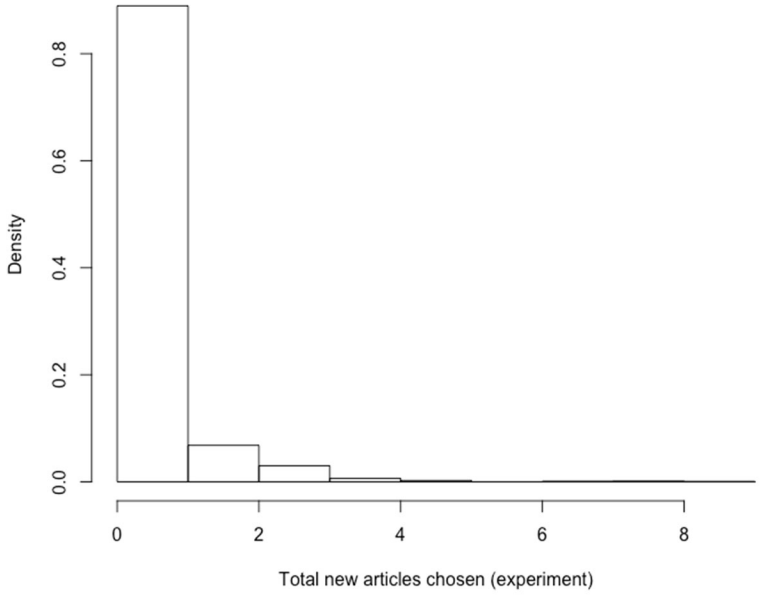


Figure B4 Distribution of Articles Chosen from New Sources – Face-to-Face Survey



Appendix C Main Regression Results

Table C1. Anxiety and self-reported information consumption in 2020 online survey

VARIABLES	(1) COVID info consumption	(2) New Info Source	(3) Changed opinion
Anxiety index	0.258**	0.137**	0.156**
	(0.033)	(0.048)	(0.059)
Anger index	0.101**	0.209**	0.184**
	(0.029)	(0.047)	(0.053)
Enthusiasm index	0.162**	0.076#	0.146**
	(0.030)	(0.043)	(0.045)
Putin approval	.048**	.006	-.018
	(.014)	(.019)	(.021)
Female	-.049**	-.028#	-.024
	(.012)	(.017)	(.018)
Age	-.001*	-.003**	-.003**
	(.000)	(.001)	(.001)
Income loss	.018	.050	.089**
	(.023)	(.031)	(.033)
Educ categ 1	-.472**	-.579**	-.414**
	(.075)	(.102)	(.107)
Educ categ 2	-.528**	-.525**	-.502**
	(.036)	(.052)	(.054)
Educ categ 3	-.473**	-.447**	-.406**
	(.035)	(.048)	(.049)
Educ categ 4	-.493**	-.399**	-.457**
	(.046)	(.059)	(.060)
Educ categ 5	-.459**	-.454**	-.432**
	(.033)	(.047)	(.048)
Educ categ 6	-.313**	-.311**	-.320**
	(.055)	(.094)	(.091)
Region = CFD	.057*	.054	.063
	(.029)	(.045)	(.041)
Region = Moscow	.065*	.065	.118**
	(.031)	(.047)	(.042)
Region = N Caucasus	.038	.132*	.127*
	(.054)	(.053)	(.063)
Region = NW	.069*	.057	.155**
	(.035)	(.051)	(.054)
Region = Siberia	.055#	.063	.124**
	(.030)	(.044)	(.043)
Region = Southern	.061*	.043	.116*
	(.030)	(.049)	(.047)
Region = St. Petersburg	.029	-.018	.003
	(.038)	(.052)	(.052)
Region = Ural	.100**	.067	.134**
	(.034)	(.047)	(.045)
Region = Volga	.022	.017	.071#
	(.027)	(.041)	(.040)
Constant	.447**	.635**	.506**
	(.059)	(.087)	(.084)
Observations	1,221	1,221	1,221
R-squared	.205	.148	.143

OLS coefficients with standard errors in parentheses ** p<.01, * p<.05, # p<.1

Table C2. Regression results for behavioral tests in 2020 online survey. All columns show coefficients from zero-inflated negative binomial count models.

VARIABLES	(1) # Clicks	(2) # Clicks New Sources	(3) # Clicks state media	(4) # Clicks indep media
Anxiety index	.880**	.893**	1.679**	.644*
	(.189)	(.272)	(.528)	(.317)
Putin approval	-.043	-.018	1.111*	-.731*
	(.100)	(.160)	(.453)	(.321)
Anxiety index # Putin approval			-.908	.508
			(.602)	(.442)
Anger index	-.288	-.470	-.346	-.516*
	(.204)	(.287)	(.276)	(.250)
Enthusiasm index	-.150	.075	.281	-.445#
	(.193)	(.334)	(.246)	(.243)
Female	.057	.338*	.162	.093
	(.090)	(.143)	(.120)	(.121)
Age	-.005#	.001	-.011*	-.005
	(.003)	(.005)	(.004)	(.004)
Educ categ 1	-.144	-.405#	-.083	-.226
	(.143)	(.229)	(.212)	(.188)
Educ categ 2	-.478	12.053**	11.346**	-.906
	(.422)	(1.445)	(1.202)	(.642)
Educ categ 3	-.106	12.190**	11.449**	-.671#
	(.231)	(1.131)	(1.064)	(.355)
Educ categ 4	-.076	11.701**	11.800**	-.914*
	(.194)	(1.117)	(1.048)	(.371)
Educ categ 5	.230	12.175**	11.950**	-.320
	(.279)	(1.148)	(1.070)	(.536)
Educ categ 6	-.082	11.510**	11.788**	-.860*
	(.199)	(1.105)	(1.049)	(.356)
Affordability index	-.307	11.007**	11.200**	-.684
	(.332)	(1.323)	(1.219)	(.420)
Region = 1, CFD	-.118	-.401	-.001	-.093
	(.170)	(.259)	(.293)	(.220)
Region = 3, Moscow	-.118	-.520	.268	-.073
	(.211)	(.329)	(.330)	(.246)
Region = 4, NC	.110	-.050	.055	.206
	(.241)	(.367)	(.414)	(.335)
Region = 5, NW	.018	-.791#	.195	.054
	(.211)	(.414)	(.337)	(.275)
Region = 6, Siberia	-.061	-.695*	.188	-.079
	(.187)	(.312)	(.293)	(.232)
Region = 7, Southern	-.094	-.688*	.148	-.016
	(.178)	(.295)	(.298)	(.250)
Region = 8, St	-.484	-.849#	-.157	-.544
	(.354)	(.464)	(.504)	(.409)
Region = 9, Ural	.182	-.644*	.441	.130
	(.192)	(.303)	(.301)	(.264)
Region = 10, Volga	-.094	-.564*	.097	-.133
	(.169)	(.252)	(.282)	(.220)
Constant	.113	-12.565**	-13.931**	1.023*
	(.328)	(1.160)	(1.230)	(.467)
Inflate equation				
Interview duration	.948**	-.850	-.760#	.640*

	(.276)	(.894)	(.446)	(.291)
No media consumption	1.808	-23.169**		.745
	(1.249)	(1.723)		(1.079)
TV trust	-6.650*	3.912*		-.513
	(2.996)	(1.972)		(.622)
Observations	1,171	1,171	1,171	1,171
Model type	ZINB	ZINB	ZINB	ZINB

Zero-inflated negative binomial regression coefficients with standard errors in parentheses ** p<.01, * p<.05, # p<.1

Table C3. Regression results for behavioral tests in 2021 face-to-face survey. All columns show coefficients from zero-inflated negative binomial count models.

VARIABLES	(1) # Clicks	(2) # Clicks New Sources	(3) # Clicks state media	(4) # Clicks indep media
Anxiety index	.718**	.860**	.628*	.597*
	(.129)	(.163)	(.253)	(.283)
Putin approval	.132#	.210*	.327#	-.160
	(.071)	(.090)	(.194)	(.233)
Anxiety index # Putin approval			.023	.107
			(.275)	(.335)
Anger index	-.084	-.123	-.060	.056
	(.123)	(.155)	(.143)	(.192)
Enthusiasm index	.066	.083	.114	-.007
	(.113)	(.146)	(.129)	(.186)
Female	.074	.213**	.072	.100
	(.064)	(.082)	(.076)	(.102)
Age	-.006**	-.004#	-.005*	-.008**
	(.002)	(.002)	(.002)	(.003)
Educ categ 2	.200	.267	.171	.544#
	(.189)	(.238)	(.217)	(.327)
Educ categ 3	.214	.249	.246	.559#
	(.184)	(.231)	(.210)	(.318)
Educ categ 4	.370	.352	.284	.837*
	(.250)	(.319)	(.296)	(.406)
Educ categ 5	.380*	.368	.330	.769*
	(.187)	(.235)	(.215)	(.322)
Educ categ 6	.681	-13.974	.567	-12.192
	(.989)	(1,357.367)	(1.078)	(849.353)
Income loss	-.014	-.020	-.050	-.088
	(.136)	(.175)	(.161)	(.214)
Region = 2	-.154	-.164	-.143	-.026
	(.110)	(.140)	(.128)	(.182)
Region = 3	-.349**	-.345*	-.456**	-.249
	(.128)	(.161)	(.153)	(.208)
Region = 4	.057	.036	-.060	.254
	(.113)	(.142)	(.134)	(.183)
Region = 5	.090	.005	.142	.143
	(.129)	(.166)	(.148)	(.217)
Region = 6	.193	.122	.197	.315
	(.124)	(.159)	(.143)	(.201)
Region = 7	.090	.133	-.120	.252
	(.151)	(.187)	(.182)	(.236)
Constant	-.605*	-1.260**	-1.320**	-1.777**
	(.244)	(.312)	(.317)	(.428)
Inflate equation				
Interview duration	-2.931**	-3.639**	-1.659**	-3.528**
	(.774)	(.966)	(.624)	(1.094)
No media consumption	1.569**	1.575#	.369	2.652*
	(.461)	(.827)	(.434)	(1.258)
TV trust	-3.711**	-.783	-4.133**	-.971
	(.934)	(.805)	(1.197)	(.955)
Observations	2,366	2,352	2,450	2,450
Model type	ZINB	ZINB	ZINB	ZINB

Zero-inflated negative binomial regression coefficients with standard errors in parentheses ** p<.01, * p<.05, # p<.1

Table C4. Regression results for emotion induction test in 2021 face-to-face survey. All columns show coefficients from zero-inflated negative binomial count models.

VARIABLES	(1) # Clicks	(2) # Clicks New Sources	(3) # Clicks state media	(4) # Clicks indep media
Covid anxiety treatment	.387**	.405**	.531*	.012
	(.112)	(.144)	(.234)	(.307)
Anxiety treatment – health (other than covid)	.018	.046	-.036	.052
	(.087)	(.110)	(.102)	(.139)
Anxiety treatment – non-health	-.156*	-.225*	-.196*	-.068
	(.079)	(.103)	(.096)	(.124)
Anxiety treatment – non-compliers	-.512**	-.454**	-.476**	-.651**
	(.126)	(.158)	(.151)	(.216)
Putin approval	.125#	.204*	.370**	-.128
	(.071)	(.091)	(.095)	(.115)
Covid anxiety treatment # Putin approval			-.201	.372
			(.268)	(.368)
Anxiety index	.480**	.688**	.362*	.495*
	(.140)	(.179)	(.165)	(.222)
Anger index	-.117	-.154	-.089	.032
	(.123)	(.155)	(.143)	(.193)
Enthusiasm index	.126	.136	.177	.034
	(.113)	(.146)	(.128)	(.186)
Covid worry index	.101**	.059	.129**	.066
	(.034)	(.043)	(.040)	(.054)
Female	-.055	-.036	-.094	-.139
	(.135)	(.174)	(.160)	(.214)
Age	.036	.173*	.030	.066
	(.064)	(.082)	(.075)	(.102)
Educ categ 2	-.006**	-.004	-.005*	-.008**
	(.002)	(.002)	(.002)	(.003)
Educ categ 3	.167	.198	.138	.532
	(.189)	(.239)	(.217)	(.327)
Educ categ 4	.169	.184	.207	.526#
	(.183)	(.231)	(.209)	(.319)
Educ categ 5	.344	.269	.262	.784#
	(.250)	(.320)	(.294)	(.408)
Educ categ 6	.346#	.309	.308	.732*
	(.187)	(.236)	(.214)	(.323)
Income loss	.532	-12.713	.404	-12.381
	(.978)	(669.7)	(1.065)	(864.3)
Region = 2	-.183#	-.196	-.177	-.048
	(.109)	(.140)	(.127)	(.182)
Region = 3	-.376**	-.382*	-.462**	-.276
	(.127)	(.160)	(.152)	(.208)
Region = 4	.021	.011	-.102	.227
	(.112)	(.142)	(.132)	(.183)
Region = 5	.044	-.043	.103	.105
	(.129)	(.166)	(.148)	(.218)
Region = 6	.141	.082	.152	.282
	(.123)	(.158)	(.142)	(.202)
Region = 7	.083	.125	-.124	.257
	(.149)	(.186)	(.181)	(.237)
Constant	-.584*	-1.154**	-1.391**	-1.727**

	(.251)	(.319)	(.302)	(.423)
Inflate equation				
Interview duration	-3.061**	-3.616**	-1.846**	-3.473**
	(.778)	(.926)	(.689)	(1.133)
No media consumption	1.520**	1.431#	1.121*	2.582*
	(.473)	(.801)	(.478)	(1.288)
TV trust	-3.721**	-1.010	-4.057**	-1.240
	(.902)	(.795)	(1.175)	(.972)
Observations	2,350	2,336	2,432	2,432
Model type	ZINB	ZINB	ZINB	ZINB

Zero-inflated negative binomial regression coefficients with standard errors in parentheses ** p<.01, * p<.05, # p<.1

Table C5. Regression results by article in 2020 online survey. All columns show logit coefficients.

VARIABLES	(1) Perv	(2) Izvest	(3) RBK	(4) Life	(5) Meduza1	(6) Meduza2	(7) Mediaz	(8) Echo
Anxiety index	.139*	.003	.158**	.097#	.228**	.114*	.164**	.094#
	(.055)	(.034)	(.059)	(.055)	(.052)	(.054)	(.046)	(.054)
Anger index	-.003	.041	-.007	-.078	-.101*	-.007	-.006	-.006
	(.050)	(.031)	(.054)	(.051)	(.048)	(.049)	(.042)	(.050)
Enthusiasm index	.140**	.036	-.005	-.036	-.010	-.055	.015	.022
	(.049)	(.030)	(.053)	(.049)	(.047)	(.048)	(.041)	(.048)
Putin approval	.063**	.012#	.028*	.016	-.028*	-.052**	.011	-.018
	(.011)	(.007)	(.012)	(.011)	(.011)	(.011)	(.010)	(.011)
Female	.022	-.001	-.013	.023	.003	-.058**	.024	-.005
	(.021)	(.013)	(.023)	(.021)	(.020)	(.021)	(.018)	(.021)
Age	-.002*	-.001**	.001#	-.001	-.001	-.002*	-.001*	-.000
	(.001)	(.000)	(.001)	(.001)	(.001)	(.001)	(.001)	(.001)
Education	-.014	.005	.000	.013	.009	.004	.012	-.008
	(.009)	(.006)	(.010)	(.010)	(.009)	(.009)	(.008)	(.009)
Affordability index	-.011	.005	.029	.001	.030	-.052	-.048	-.009
	(.043)	(.027)	(.047)	(.044)	(.042)	(.043)	(.036)	(.043)
Region = 1, CFD	.047	.009	-.048	-.060	.007	.073	.031	-.094#
	(.052)	(.032)	(.055)	(.052)	(.049)	(.051)	(.043)	(.051)
Region = 3, Moscow	.128*	.063#	-.122*	-.061	.059	-.001	.032	-.041
	(.057)	(.035)	(.061)	(.057)	(.055)	(.056)	(.048)	(.056)
Region = 4, NC	.079	.027	.133	-.029	.064	.105	-.050	-.087
	(.079)	(.049)	(.085)	(.079)	(.076)	(.078)	(.066)	(.078)
Region = 5, NW	.064	.035	-.069	-.055	.091	.010	.051	-.097
	(.061)	(.037)	(.065)	(.061)	(.058)	(.060)	(.051)	(.060)
Region = 6, Siberia	.095#	.033	-.081	-.075	.053	-.010	.048	-.105*
	(.053)	(.032)	(.057)	(.053)	(.050)	(.052)	(.044)	(.052)
Region = 7, Southern	.070	-.011	-.064	-.053	.007	-.002	.047	.004
	(.054)	(.033)	(.058)	(.055)	(.052)	(.053)	(.045)	(.054)
Region = 8, St	.010	.047	-.081	-.094	-.011	-.041	.014	-.137*
	(.066)	(.041)	(.071)	(.066)	(.063)	(.065)	(.055)	(.065)
Region = 9, Ural	.158**	.015	.022	-.001	.031	.112*	.003	-.056
	(.056)	(.035)	(.061)	(.057)	(.054)	(.055)	(.047)	(.056)
Region = 10, Volga	.052	.015	-.040	-.037	-.003	.009	.045	-.081#
	(.050)	(.031)	(.053)	(.050)	(.047)	(.049)	(.041)	(.049)
Constant	-.106	-.010	-.030	.129	.056	.346**	-.043	.250**
	(.086)	(.053)	(.092)	(.086)	(.082)	(.084)	(.072)	(.084)
Observations	1,202	1,202	1,202	1,202	1,202	1,202	1,202	1,202
R-squared	.079	.022	.031	.017	.030	.060	.031	.019

Figure C1a. Anxiety and Information Consumption Behavior Across Political Divides. 2020 online survey results.

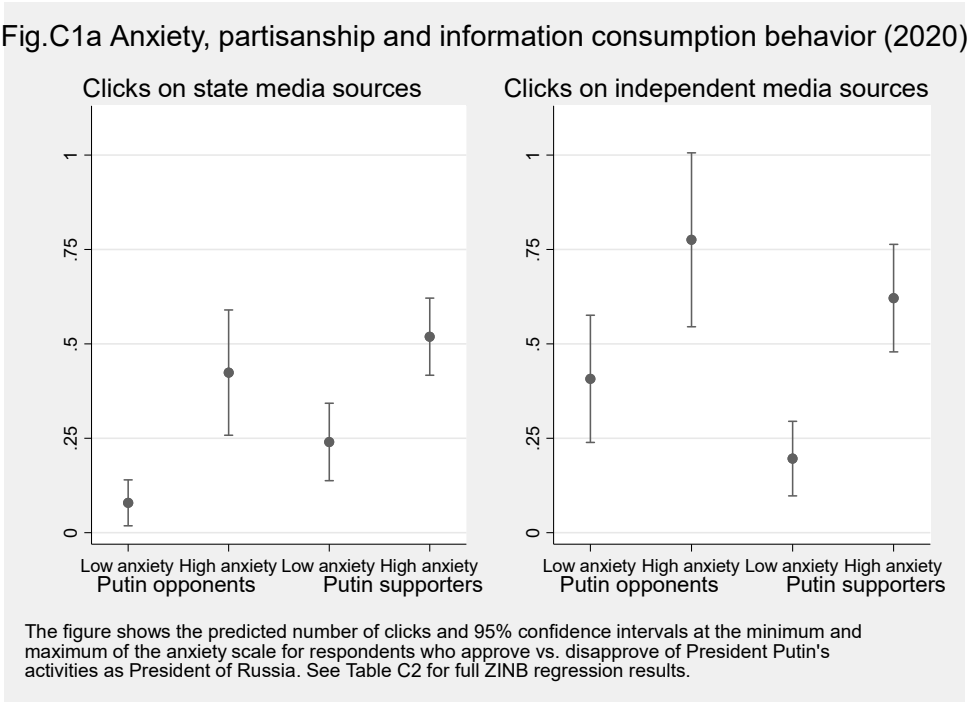


Figure C1b. Anxiety and Information Consumption Behavior Across Political Divides. 2021 face-to-face survey results.

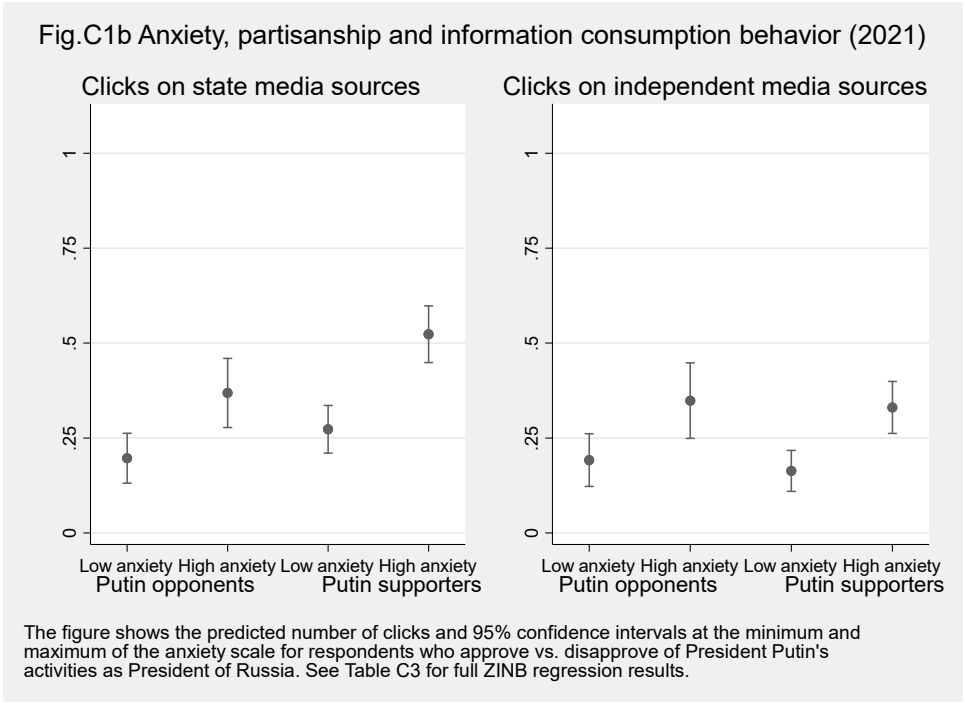
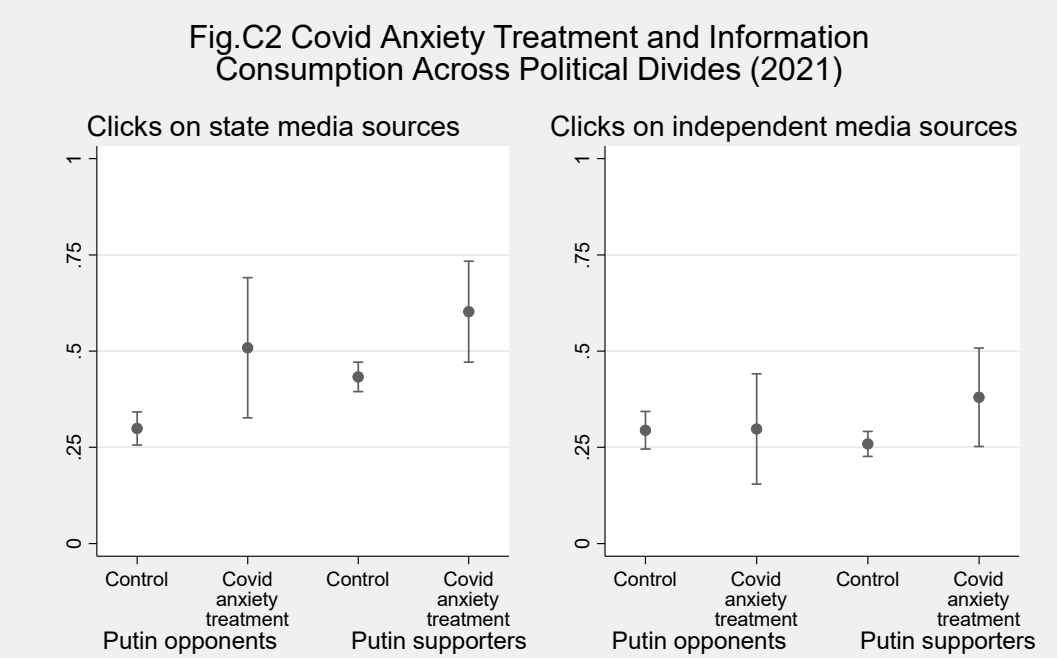


Figure C2. Anxiety and Information Consumption Behavior Across Political Divides: Results from an Emotion Induction Test in the 2021 face-to-face survey.

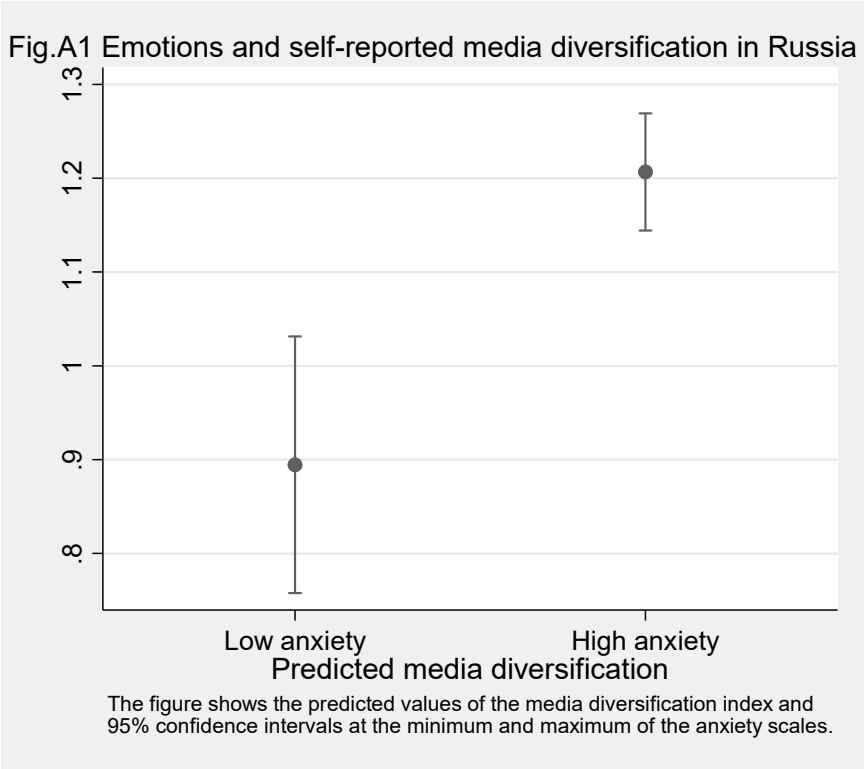


The figure shows the predicted number of clicks and 95% confidence intervals for respondents in the Covid anxiety treatment group vs. the control group for those who approve vs. disapprove of President Putin. See Table C4 for full regression results.

Appendix D Additional Results

D.1 Additional Results Based on Self-reported Behavior

Figure D1. Higher Anxiety Is Associated with Greater Self-Reported Exposure to New and Challenging Information (alternative measure)



D.2 Additional Experimental Results

In this section, we report the average causal effects of the anxiety treatment for compliers (CACE), a form of local average treatment effect (LATE), using an instrumental variables approach. The CACE/LATE is an estimate of the average effect among those induced to take the treatment by the randomized encouragement. We define compliance with the encouragement using evidence from the text recorded by interviewers. In particular, we looked for evidence in the text responses that the emotions induction exercise had plausibly increased a respondent's COVID-related anxiety. As described in the article's main text, this resulted in four groups: respondents whose feelings of anxiety were explicitly triggered by COVID-19, by other health-related concerns (but without explicit reference to COVID), or by non-health concerns. We also coded respondents who failed to write meaningful text in response to the prompt as non-compliers. While the IV approach – i.e. using the random assignment to treatment as an instrument for actually receiving the treatment – in principle captures the causal effect of treatment on the treated despite respondents' nonrandom compliance decisions, it depends on certain assumptions (Angrist and Pischke 2009).

We chose not to report the CACE results in the main text due to violations of the assumptions required for IV analysis. In particular, while the encouragement has a positive effect on COVID-related information seeking for those whose feelings of anxiety were triggered by COVID-19 (and to a lesser degree by other health-related concerns that were not explicitly linked to COVID, but may well have been connected for respondents), it had the opposite effect for those whose feelings of anxiety were triggered by concerns unrelated to health. For the latter group, anxiety had a *negative* effect on COVID-related information seeking (see Appendix Figure D2). These heterogeneous effects are consistent with the logic of targeted information

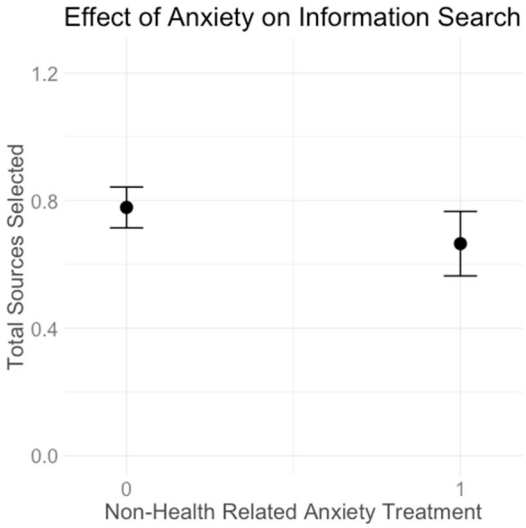
search: people seek information to address the source of their anxiety and to mitigate danger or threat. The negative effect that we find is consistent with heightened anxiety about other issues driving individuals to be 'consumption misers' of COVID information that is unrelated to the source or subject of their anxiety. The fact that our encouragement has heterogeneous effects, however, violates the monotonicity assumption.

Nonetheless, the IV results in Table D2 below are very similar to the results we reported in the main text. They imply that anxiety prompted people who complied with the COVID-anxiety treatment to consume more information about COVID, to broaden the range of sources they were willing to consult beyond those that they typically consumed, and even to seek out information from sources aligned with the opposing political camp. Regime supporters showed greater willingness to consume information from independent/opposition media (column 4), although anxiety also prompted regime opponents to seek out more information from state media.

Table D2. Complier Average Causal Effects - Estimates from 2SLS

	Dependent variable:			
	Article count	New sources	Article count: state media	Article count: indep media
	(1)	(2)	(3)	(4)
Second Stage				
COVID anxiety treatment	0.420***	0.312***	0.237***	0.125*
	(0.101)	(0.082)	(0.084)	(0.065)
Pre-treatment COVID worries	0.137***	0.080***	0.053***	0.039***
	(0.021)	(0.017)	(0.018)	(0.014)
Constant	0.434***	0.297***	0.109**	0.177***
	(0.061)	(0.050)	(0.048)	(0.043)
First Stage				
F-stat of instrument	176.06***	173.30***	61.14***	112.09***
Sample	full	full	Putin opponents	Putin supporters
Observations	2,617	2,601	905	1,633
R^2	0.035	0.023	0.034	0.015
Adjusted R^2	0.033	0.022	0.028	0.012
Note:				*p**p***p<0.01

Figure D2. Non-Health Related Anxiety Decreased COVID-related Information Seeking



Appendix E Study Preregistrations

E.1 2020 Study Preregistration

Information, Anxiety and COVID 19 – Evidence from Russia

Anonymized registration Updates

Metadata

General Information About the Study

Title of Study

Information, Anxiety and COVID 19 – Evidence from Russia

EGAP Registration ID

Blinded

Timestamp of original registration

2020-11-04 16:48:00 -0500

Acknowledgements

No response

Is one of the study authors a university faculty member?

Yes

Other author affiliation

No response

Is this Registration Prospective or Retrospective?

Registration prior to researcher access to outcome data

Other description of registration timing

No response

Is this an experimental study?
With "experimental" defined as random assignment of units to treatment and control conditions.

Yes

Date of start of study
Understood as first date of treatment assignment or equivalent for observational study

11/03/2020

Was this design presented at an EGAP meeting?

No

Is there a pre-analysis plan associated with this registration?

No

Registration Data

Background and explanation of rationale.

Marcus and MacKuen (1993) suggest in a US context that anxiety is a crucial emotion in cueing citizens to novel or changing situations and leads people to seek out more information. This information seeking, it is argued (MacKuen et al 2010), goes together with a deliberative frame of mind that encourages genuine reflection and a desire to break out of existing habits and broaden the anxious citizen's mind. Understanding the relationship between anxiety and the extent and nature of information seeking is critical in contemporary polarized democracies, but it is at least as important in today's authoritarian regimes where authoritarian incumbents depend in large part on their ability to dominate the information space.

In this research, we seek to understand how anxiety and associated emotions influence citizens' search for information, conditional on their preexisting political attitudes, and media preferences, in the context of covid 19. Using an online survey in Russia, a prominent contemporary authoritarian regime where it is, nonetheless, possible to conduct high quality survey research, we look at how the pandemic shapes levels of anxiety and patterns of information acquisition.

What are the hypotheses to be tested/quantities of interest to be estimated?

Anxiety & Information Acquisition
H1a: Respondents exhibiting higher levels of anxiety will be more likely to consume more information about the virus.
H1b: Respondents exhibiting higher levels of anxiety will be more likely to select media that are outside the usual media sources they consume.
H1c: Respondents exhibiting higher levels of anxiety will be more likely to select media that are typically associated with a political perspective other than the one they usually hold.

How will these hypotheses be tested?

We begin by looking at anxiety expressed by respondents in the context of the pandemic and show (in survey data collected in June 2020 – n=2000) that anxiety, both measured using standard questions about feelings of anxiety and measured using questions about behaviors taken to avoid infection, is associated with answers to questions about media use behavior. In particular, higher levels of anxiety are associated with both reading more and breaking out of information bubbles (using the same measure as Dubois and Blank 2018).

We will conduct a further survey using the same respondents (expected n=~1000). Our expectation is that we will reconfirm the findings of the June 2020 survey. In addition, we include in the present survey wave two kinds of tests of the hypotheses. The first test looks at the relationship between anxiety and patterns of information acquisition by allowing respondents to request up to 8 articles on covid 19 to be provided to them upon completion of the survey. We can further compare the choices respondents make to their previously described media consumption habits.

Our second test uses a survey experiment that randomly assigns negative/positive information about covid to seek to raise/lower the anxiety level of respondents. We then measure respondents' level of anxiety to gauge whether the treatment had the intended effect. We intend to test whether respondents in the high anxiety treatment seek more (and more diverse information) than respondents in the low anxiety treatment.

We will report the simple difference in mean between the two treatments. We will also present results controlling for regime partisanship (using standard measures of support for President Putin), gender, age, the economic impact of the pandemic, and overall trust in media.

Country

Russia

Sample Size (# of Units)

~1000

Was a power analysis conducted prior to data collection?

No

Additional documentation

No files selected

DeclareDesign

No files selected

E.2 2021 Study Preregistration

Information, Anxiety and COVID 19 – Evidence from Russia (Follow-up Study)

Anonymized registration Updates

Metadata

General Information About the Study

Title of Study

Information, Anxiety and COVID 19 – Evidence from Russia

Acknowledgements

No response

Is one of the study authors a university faculty member?

Yes

Other author affiliation

No response

Is this Registration Prospective or Retrospective?

Registration prior to researcher access to outcome data

Other description of registration timing

No response

Is this an experimental study?
With "experimental" defined as random assignment of units to treatment and control conditions.

Yes

Date of start of study
Understood as first date of treatment assignment or equivalent for observational study

August 24, 2021

Was this design presented at an EGAP meeting?

No

Is there a pre-analysis plan associated with this registration?

No

Registration Data

Background and explanation of rationale.

Marcus and MacKuen (1993) suggest in a US context that anxiety is a crucial emotion in cueing citizens to novel or changing situations and leads people to seek out more information. This information seeking, it is argued (MacKuen et al 2010), goes together with a deliberative frame of mind that encourages genuine reflection and a desire to break out of existing habits and broaden the anxious citizen's mind. Understanding the relationship between anxiety and the extent and nature of information seeking is critical in contemporary polarized democracies, but it is at least as important in today's authoritarian regimes where authoritarian incumbents depend in large part on their ability to dominate the information space.

In this research, we seek to understand how anxiety and associated emotions influence citizens' search for information, conditional on their preexisting political attitudes, and media preferences, in the context of covid 19. Using an online survey in Russia, a prominent contemporary authoritarian regime where it is, nonetheless, possible to conduct high quality survey research, we look at how the pandemic shapes levels of anxiety and patterns of information acquisition.

What are the hypotheses to be tested/quantities of interest to be estimated?

Anxiety & Information Acquisition
H1a: Respondents exhibiting higher levels of anxiety will be more likely to consume more information about the virus.
H1b: Respondents exhibiting higher levels of anxiety will be more likely to select media that are outside the usual media sources they consume.
H1c: Respondents exhibiting higher levels of anxiety will be more likely to select media that are typically associated with a political perspective other than the one they usually hold.

How will these hypotheses be tested?

In this follow-up study, we provide a new test of our previously registered hypotheses: an experiment embedded in a nationally representative two-wave panel survey of Russian adults fielded just before and after Russia's 2021 parliamentary election. Survey interviews with 2,700 voting-age citizens will be conducted face-to-face in respondents' homes by a reputable Russian polling firm as part of the Russian Election Study.

Our experiment looks at the relationship between anxiety and patterns of information acquisition by allowing respondents to choose from a list of articles on covid-19 to be provided to them upon completion of the survey. To generate exogenous variation in respondents' level of anxiety, we use an emotion induction exercise based on standard techniques from psychology. During the exercise, subjects will be asked to describe a time in which they felt the assigned emotion. Subjects in the treatment group will be asked to recall a time they felt anxious, while subjects in the control group will be asked to recall a time they felt relaxed. Such exercises based on recall are one of the most effective ways to stimulate specific emotions (Young 2018) without providing respondents with potentially new information.

After the emotion induction exercise, all respondents will then be presented with the list of articles from which to choose, including the title and name of the outlet.

We intend to test whether respondents in the anxiety treatment seek more (and more diverse information) than respondents in the control group. Results will be analyzed using both difference-in-means tests and regression analysis. The latter will control for regime partisanship (using standard measures of support for President Putin), gender, age, the economic impact of the pandemic, and overall trust in media – all measured prior to the assignment of treatment.

Country

Russia

Sample Size (# of Units)

2,700

Was a power analysis conducted prior to data collection?

Yes

Other power analysis information

No response

Has this research received Institutional Review Board (IRB) or ethics committee approval?

Yes

Other IRB information

No response

IRB Number

IRB #2108010488

Date of IRB Approval

August 12, 2021

Will the intervention be implemented by the researcher or a third party? If a third party, please provide the name.

Third party (describe in text box below)

Third party implementer information

The Levada Center

Did any of the research team receive remuneration from the implementing agency for taking part in this research?

No

Other renumeration information

No response

If relevant, is there an advance agreement with the implementation group that all results can be published?

N/A

Other publication agreement information

No response

JEL classification(s)

No response

Keywords and Data

Keywords for Methodology

Experimental Design

Survey Methodology

Keywords for Policy

Elections

Governance

Certification

Agree

Confirmation

Agree

Additional documentation

No les selected

DeclareDesign

No les selected