Conspiratorial thinking, selective exposure to conservative media, and response to COVID-19 in the US

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A B S T R A C T

Rationale: Previous research has shown that during the early months of the COVID-19 pandemic in the US, users of conservative media were more likely to accept conspiracy theories about the pandemic and less likely to accept pandemic mitigation measures such as mask-wearing and vaccination.
Objective: To test the hypothesis that during the first year of the pandemic, viewers who were prone to conspiratorial thinking engaged in selective exposure to conservative media which served to enhance pandemic-related conspiracy beliefs.
Methods: A national 3-wave longitudinal survey of 883 US respondents running from March to November 2020 assessed media-use habits, belief in COVID-related conspiracies, conspiratorial thinking, mask-wearing, intention to accept a COVID vaccine, and trust in the Centers for Disease Control and Prevention (CDC). Growth curve models were used to analyze changes in conspiracy beliefs and associated public health outcomes.
Results: Users of conservative media were disproportionately likely to engage in conspiratorial thinking, to vote for President Trump, and to be ideologically conservative. They were also less likely to use mainstream news sources and displayed increasing belief in pandemic conspiracies. Increases in conspiracy beliefs were associated with reduced support for pandemic prevention. Although users of conservative media supported vaccination and trusted the CDC at the outset of the study, continued exposure to conservative media reduced support for both. Increasing use of *mainstream print* was associated with less endorsement of pandemic conspiracy beliefs. Viewers of *mainstream television news* did not exhibit change in pandemic conspiracy beliefs over time.
Conclusion: Conservative media in the US have attracted users prone to conspiratorial thinking and conservative political views who are also less exposed to mainstream news. The selective use of these media enhances belief in conspiracies that pose challenges to the country's ability to control a public health crisis such as the COVID pandemic.

1. Introduction

One of the barriers to controlling the COVID-19 pandemic in the United States has been the proliferation of conspiracy theories about the crisis (Romer and Jamieson, 2020, 2021). Such theories attribute events in the world to the machinations of hidden actors (Douglas et al., 2017, 2019) whose intent is malign (Swami et al., 2014). Belief in such theories has been associated with reduced acceptance of protective public health recommendations, such as mask-wearing and vaccination (Romer and Jamieson, 2020, 2021). In addition, users of conservative media were particularly likely to increase their endorsement of these conspiracies over the early months of the pandemic (Romer and Jamieson, 2021), especially in comparison to users of mainstream sources of

information (i.e., print and broadcast television news).

Here we ask whether persons prone to conspiratorial thinking selectively used conservative media to the exclusion of mainstream news media. Those with this predisposition are prone to accept conspiracies of all kinds (Bruder et al., 2013; Moscovici, 1987), including those associated with the coronavirus pandemic (Uscinski et al., 2020). Additionally, some have shown that conspiracy theories are more likely to affect beliefs when the recipient is predisposed to conspiracy thinking (Uscinski et al., 2016). Enders et al. (2021) proposed a similar hypothesis that instead of social media causally promoting conspiracy beliefs, the association is conditional on the conspiratorial thinking of its users. Here we offer evidence that conspiratorial thinking encourages selective exposure to like-minded media whose content reinforces and facilitates

the incorporation of conspiracy beliefs that reduce support for pandemic-preventive behavior.

The existence of selective exposure to information is well documented (Bakshy et al., 2015; Hart et al., 2009). In particular, partisan content attracts audiences with similar political preferences, and, in the process, not only reinforces partisan differences but also insulates an audience from divergent information and opinions (Mitchell et al., 2014; Stroud, 2011). Some argue however that the extent of partisan selective exposure has been exaggerated (Eady et al., 2019). This argument raises the possibility that, because most Americans are exposed to mainstream news sources, they are made aware of alternative viewpoints (Allen et al., 2020; Guess, 2021) and as a result may be buffered from distortive misinformation or conspiracy theorizing in partisan channels.

While exposure to mainstream media and alternative viewpoints may be widespread, conspiracy beliefs are a particularly troublesome form of misinformation not only because they are difficult to disconfirm but because they assert that sources of information that could undermine them are implicated in the conspiracy and its cover-up. In short, information from experts (Sunstein and Vermeule, 2009; Uscinski et al., 2016) and the government (Earnshaw et al., 2020; Einstein and Glick, 2015) is not to be trusted. Conservative media were especially likely to support conspiratorial claims made by the 45th US president regarding the pandemic (Evanega et al. n.d.; Summers, 2020). He suggested that efforts to provide accurate information about cures and prevention that contradicted his opinions were politically motivated (Associated Press, 2020), suggested that SARS-CoV-2 may have originated in a Chinese research lab (Marcus, 2020), and accused unidentified members of the "deep state" within the government of using the pandemic to undermine his presidency and of delaying the approval of drugs and a vaccine that would hasten its end (Herper and Florko, 2020). Two of the conspiracies we study are related to these claims (i.e., China created the virus as a bioweapon, and some within the CDC exaggerated the severity of COVID-19 to undermine the Trump presidency). Because these claims were made by Donald Trump, even if users of conservative media were not prone to conspiratorial thinking, they were likely to be influenced by these claims because they were offered by a leader with whom these individuals identified (Romer and Jamieson, 2020, 2021).

Where mainstream broadcast and print news aspire to accuracy, objectivity, and balance, that is not the case for conservative Fox News hosts such as Tucker Carlson, Laura Ingraham and Sean Hannity and talk radio hosts such as the late Rush Limbaugh, or websites such as Breitbart (Benkler et al., 2018). Unsurprisingly, an analysis of coverage of the pandemic found that misinformation about mask-wearing was more prevalent on Fox News than on mainstream broadcast news (Muddiman et al., 2020). And in dismissing a defamation suit against Fox News, a US District judge agreed with that outlet's lawyers that the "'general tenor'" of the Tucker Carlson show indicates that "he is not 'stating actual facts' about the topics he discusses and is instead engaging in 'exaggeration' and 'non-literal commentary.'"(Vyskocil, 2020). One commentator noted that users of Fox News "want their 'news' to affirm them rather than inform them." (Ellison and Barr, 2021). Barnidge and Peacock (2019) refer to these sorts of media as "hyperpartisan" because they promote "anti-system messages that are critical of both mainstream media and establishment politics, often relying on misinformation to do so."

Although President Trump supported the notion that a deep state was sabotaging his efforts to deal with the pandemic, he was eager to secure credit for combating the virus by means that included accelerated development of vaccines against COVID-19. As a result, we would expect that conservative media users would have confidence in a health agency (the CDC) led by his appointee and also would be eager to take a vaccination for which he was claiming credit. In particular, Trump initiated a process designed to fast track development of a COVID-19 vaccine and claimed in March, 2020 that an effective vaccine could be developed in a matter of months (Samuels, 2020). When it took longer to develop than he anticipated, he alleged that a "deep state" within the

FDA was slowing its release to ensure that he would not be credited with it before the election (Lee, 2020). One might as a result expect that, early in the pandemic, conservative media users would report greater support for vaccination and the CDC than for mask-wearing, a behavior that the president occasionally disparaged and largely failed to model (Victor et al., 2020). We expect therefore that users of conservative media would be accepting of vaccination and would trust the CDC at the outset of the pandemic but that this acceptance would erode as continued exposure to COVID conspiracies reduced confidence in vaccination (Hornsey et al., 2020; Jolley and Douglas, 2014) and trust in the government's major disease control agency (Einstein and Glick, 2015; Kim and Cao, 2016).

To test our hypotheses, we built on an earlier study that found relations between media use and pandemic conspiracy beliefs from March to July 2020 (Romer and Jamieson, 2020). By examining these relations into November 2020, we can determine if the increase in conspiracy beliefs predicted by conservative media use continued beyond July and whether users of conservative media were disproportionately drawn from those who are prone to conspiratorial thinking and who avoid use of mainstream news media that might contradict their conspiratorial worldviews. By controlling for differences in political ideology, we also can determine whether media exposure exerts an influence on conspiracy beliefs over and above the influence of partisan identities. We also examine changes in three public health-related outcomes over the study period: vaccination intentions, current mask-wearing, and trust in the CDC as mediated by changes in pandemic conspiracy beliefs. This three-wave design allowed us to test four hypotheses regarding relations that remained stable over the study period (intercepts) versus changes within respondents over the study period (slopes):

Media Use and Conspiracy Belief (H1): Use of conservative media will predict both maintenance and increase of two pandemic conspiracy beliefs, while reliance on mainstream news sources that are nationally distributed online, in print and on broadcast TV, will predict reductions in acceptance of them over the study period of March to November 2020.

Media Use in relation to Conspiratorial Thinking, Support for President Trump, and Conservative Political Ideology (H2): Conspiratorial thinking along with support for the incumbent president and conservative ideology will be associated with the use of conservative media and non-use of mainstream print and broadcast TV news, a combination of behaviors that should enhance their belief in pandemic-related conspiracies. These audience differences will predict both maintenance and change in conspiracy beliefs channeled by their media use.

Conservative Media Use and Public Health beliefs at the Outset of the Pandemic (H3): Users of conservative media will express support for vaccination and trust in the CDC at the outset of the pandemic apart from their acceptance of COVID conspiracies. In contrast, users of conservative media will not express support for mask-wearing apart from their belief in COVID conspiracies.

Media use and Public Health Outcomes over the Course of the Pandemic (H4): Belief in COVID conspiracies as predicted by protracted use of conservative media will be associated with decreases in (a) intentions to vaccinate (b) reported wearing of masks and (c) trust in the CDC, while use of mainstream media will predict increases in vaccination intentions, mask-wearing, and trust in the CDC as mediated by reductions in COVID conspiracy beliefs.

2. Methods

2.1. Survey sample

A sample of US residents recruited by Qualtrics from a national probability panel completed three waves of an online survey as part of the NORC of the University of Chicago's AmeriSpeak Panel (2020). The first survey was conducted in March ($N = 1050$), the second in July ($N = 840$), and the third in November ($N = 828$). We restricted our

analysis to the respondents who completed at least two surveys ($N =$ 883). The sample that remained at each wave was similar to that at Wave 1, with missingness largely unrelated to major outcomes or predictors at Wave 1 (i.e., no correlations greater than |0.10|). In addition, political party identification which was not included in the model did not show differential attrition throughout the study. The study was deemed to be exempt from IRB review.

A power analysis conducted before the study indicated that a sample size of approximately 800 would enable us to detect standardized mediated associations of 0.04 or greater at the 99 % CI (Romer and Jamieson, 2020). Direct effects would also be sufficiently sensitive. NORC provided demographic weights to be used to make national projections. Although, analyses were conducted with unweighted data along with demographic controls.

2.2. Survey content

2.2.1. Conspiracy beliefs

We assessed belief in two pandemic-specific conspiracies with content circulating in conservative media during the course of the study period (Lynas, 2020) and accepted by at least 10% of surveyed respondents in the US (Jamieson and Albarracín, 2020; Miller, 2020; Uscinski et al., 2020): "The coronavirus was created by the Chinese government as a biological weapon." "Some in the U. S. Centers for Disease Control and Prevention, also known as CDC, are exaggerating the danger posed by the coronavirus to damage the Trump presidency." Belief in each was registered on a 4-point scale ranging from (1) "Definitely false" to (4) Definitely true". Belief in these conspiracies was distinguishable from endorsement of other forms of misinformation that were also prevalent during the early phase of the pandemic in the US (Enders et al., 2020). These beliefs were correlated within respondents with values ranging from 0.53 to 0.64 across the waves. We use the mean of the two beliefs as the measure of this outcome in the analysis. The means and standard deviations at the three waves in Table 1 indicate that the trend over time was primarily linear with no change from Wave 2 to 3.

2.2.2. Trust in government public health officials

This outcome was assessed using two indicators: "How much trust, if any, do you have in: [the Centers for Disease Control and Prevention, also known as CDC; Dr. Anthony Fauci of the National Institutes of Health (NIH)] when it comes to addressing issues of public health?" Responses were indicated on a 4-point scale going from "Very little trust at all" to "A great deal of trust." In the case of Dr. Fauci, the option of not knowing him was also provided. Not surprisingly, the proportion who did not know him decreased over the study period (from 10% to less than 2%). Nevertheless, for those who did know him, the two items were highly related, ranging from 0.59 to 0.69. Because the lack of knowledge about Fauci might be a marker for unknown covariates and trust in Fauci was highly related to trust in the CDC, we only used the rating of CDC to assess trust in government public health officials.

2.2.3. Vaccination intentions

We also assessed intentions to accept a vaccine by asking, "If there were a vaccine that protected you from getting the coronavirus, how likely, if at all, would you be to decide to be vaccinated?" Responses were recorded on a 4-point scale going from "Not at all likely" to "Very likely." The proportion who reported either "not at all likely" or "not very likely" increased from 15.0% ($N = 132/879$) at Wave 1–25.8% ($N = 215/833$) at Wave 2, and 31.4% ($N = 258/823$) at Wave 3. As seen in Table 1, this finding represented a strong linear decline in vaccination intention over the period of the study, a pattern that has been observed in the US in other surveys as well as in other countries (Lin et al., 2021).

2.2.4. Mask-wearing

We only assessed this outcome at Waves 2 and 3 because mask wearing was not recommended until after Wave 1 was completed. This behavior minimizes spread of the virus through the air and through contact between the hands and face (Howard et al., 2020). Mask-wearing also has been a contentious issue in the US with many objecting to requiring it (Blood and Swanson, 2020). We assessed mask-wearing using the question: "In the past few days, how often, if ever, have you done the following to protect yourself from getting or spreading the coronavirus? Worn a face mask when you go out to public places where you might encounter other people." Response options were "Every day, Some days, or Never." At Wave 2, 79% ($N = 660/832$) of the sample reported wearing a mask every day they went to public places where they "might encounter other people." (This value increased to 85% (698/825) at Wave 3). As seen in Table 1, this increase represented a significant rise in mask-wearing. The outcomes were positively correlated across the two waves (r = 0.59). This trend was evident as well in another large poll conducted during the period between Waves 2 and 3 of this study (Thompson, 2020).

2.2.5. Media use

We examined media use as a source of information by asking about each of three kinds of sources: "How much information do you get from sources such as … (see Table 1)" on a 6-point scale from "No information" (0) to "A lot of information" (5). Our use of conservative and mainstream media categories was consistent with classifications that are commonly used to categorize media in the US (Benkler et al., 2018; Edgerly, 2015.; Pew Research Center, 2020; Weeks et al., 3016). The modal response was "No information" except for mainstream TV, for which the mode was the highest level of information on the response scale. For this study, we did not include the use of the major social media platforms in the analysis because our measure was too gross to detect the unique influence of the platforms that were likely to support the incumbent president and preliminary analysis revealed that those platforms did not add to prediction of conspiracy beliefs beyond the use of conservative and mainstream media. We were able to test media influences on the conspiracies that the president supported by focusing on conservative media.

As seen in Table 1, the reported amount of information that

Table 1
Means (SDs) of health outcomes, conspiracy beliefs, and media use for March, July, and November and associated tests of linear and quadratic trends.

Variable	T1 Mean (SD)	T2 Mean (SD)	T3 Mean (SD)	t-value Linear	p-value	t-value Quad.	p-value
Vaccination	3.39 (.86)	3.11 (1.08)	2.94 (1.08)	−14.9	<.001	−2.2	.028
Mask Use		2.74 (.54)	2.82 (.46)	4.9	<.001		
Pandemic Conspiracy Beliefs	1.87 (.77)	2.04 (.88)	2.03 (.90)	7.1	<.001	5.2	<.001
Trust in CDC	3.33 (.70)	3.14 (.79)	3.15 (.76)	−6.1	<.001	−4.5	<.001
Media Use							
Conservative Media: Fox News, Rush Limbaugh, Breitbart News, One America News or The Drudge Report	1.35 (1.74)	1.27 (1.69)	1.22 (1.61)	−2.3	.022	.3	.763
Mainstream TV: ABC News, CBS News or NBC News	2.87 (1.75)	2.57 (1.72)	2.49 (1.69)	−7.4	<.001	−2.1	.037
Mainstream print: the Associated Press, The New York Times, the Washington Post, or the Wall Street Journal	1.44 (1.60)	1.91 (1.74)	1.93 (1.70)	7.1	<.001	4.7	<.001
Sample Size	883	840	828				

respondents received from conservative media and mainstream TV tended to decline from March to November while use of mainstream print increased. In each case, the linear trend was dominant and deviations from linearity did not reverse the linear trend. Individual use of each media category was highly stable across time, with peak correlations of 0.72 for conservative media, 0.64 for mainstream print news, and 0.66 for mainstream broadcast TV news.

2.2.6. Conspiratorial thinking

This personality disposition was assessed at Wave 3 using three items that have been employed in previous research (Uscinski et al., 2016): "Much of our lives is controlled by plots hatched in secret places." "Even though we live in a democracy, a few people will always run things anyway." "The people who really 'run' the country are not known to the voters." Each was rated on a 5-point agree-disagree scale. Responses to the items were highly inter-correlated (rs ranging from 0.53 to 0.67, $\alpha = 0.81$), and we created an index using the mean of the standardized items. The distribution of this index in Fig. 1 indicates that approximately 20% of the sample was located at the high end of the scale. We transformed the index into a 5-point scale more comparable to other measures in the dataset with approximately 20% of the sample in each category.

2.2.7. Support for President Trump and political ideology

At the Wave 3 in November, we asked respondents whether they voted and if so whether it was for Donald Trump, Joe Biden, or a third-party candidate. When those who did not vote are included, approximately 33% of our respondents reported voting for Trump. We also assessed political ideology on a 5-point scale by asking, "Generally speaking, would you describe your political views as: (with responses ranging from) "Very conservative" to "Very liberal." As would be expected, political ideology was highly related to voting for the President ($r = -0.56$).

Conspiratorial thinking was positively related to both voting for Trump ($r = 0.25$) and to conservative political ideology ($r = 0.24$), and each was also related to several covariates. In particular, for conspiratorial thinking: education ($r = -0.25$), household income ($r = -0.17$), age ($r = -0.14$), and white racial-ethnic identity ($r = -0.14$). It was unrelated to male gender ($r = 0.04$). Similarly, conservative political ideology was related to education ($r = -0.24$), white racial-ethnic identity ($r = -0.11$), income ($r = -0.17$), and age ($r = -0.12$), but

not to male gender ($r = 0.03$). And Trump vote was related to education ($r = -0.11$), income ($r = 0.07$), white racial identity ($r = 0.19$), age ($r = 0.14$), and male gender ($r = 0.12$). It was important therefore to control for these relations in our analyses.

2.3. Analysis

We used the program Mplus (Muthen and Muthen, 1998–2017) to test growth curve models for the relations between our four types of media use, pandemic conspiracy beliefs, and vaccination intentions. For each of these measures, we identified an *intercept* that reflected stable between-person differences across the three waves of the study and a *slope* that identified linear within-person change across the three waves. This multilevel structure permits the analysis of relations between: (a) the various intercepts, (b) the intercepts and other stable covariates, (c) the intercepts, covariates, and slopes, and (d) relations between slopes. For mask-wearing we used the same growth-curve predictors but with only the ability to assess change from July to November relative to the means at each time point.

To test the first hypothesis, we examined whether intercepts and slopes of media use were associated with intercepts and slopes of conspiracy beliefs. For the second hypothesis, we examined relations between both intercepts and slopes of media use and individual differences in conspiratorial thinking and conservative political ideology. For the third hypothesis, we examined whether intercepts of media use were related to intercepts of vaccination intention, mask-wearing, and trust in the CDC with particular attention to use of conservative media.

To test the fourth hypothesis, we examined relations between intercepts and slopes of media use in relation to slopes of the three public health outcomes as mediated by conspiracy beliefs.

The sample included 43 respondents who did not complete the Wave 2 of the study and 55 who did not complete the Wave 3. We used maximum likelihood estimation to impute their missing values. For those who participated in any of the three waves, less than 3% of their data was missing for any analysis, and Mplus imputed those scores. We used bootstrap procedures with 1000 samples to construct 99% and 95% confidence intervals (CIs) for all tests of direct and mediated paths. We report standardized coefficients for all paths in the models that had CIs excluding zero. To avoid overfitting, we removed paths that did not fall outside of 90% CIs and used standard measures of goodness of fit for all
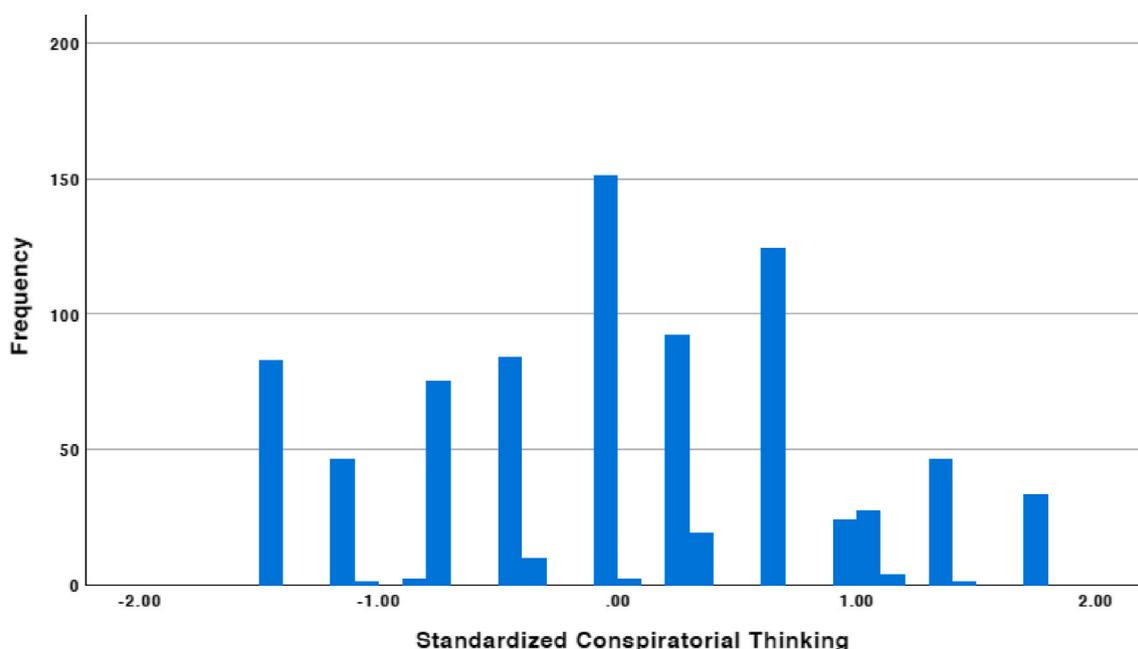

Fig. 1. Distribution of conspiratorial thinking scores standardized to a mean of zero and standard deviation of 1.

models (Bollen and Davis, 2009).

3. Results

3.1. Media use and conspiracy beliefs

Fig. 2 shows the standardized coefficients (and associated confidence intervals) for relations between the use of three different media and both the intercepts and slopes of conspiracy beliefs as determined by the growth curve analysis. It also shows the relations between conspiracy belief intercepts and slopes with corresponding intercepts and slopes of trust in the CDC. That model fit the data adequately, RMSEA = 0.053 (90% CI: 0.048, 0.053), CFI = 0.94, TLI = 0.93, with a standardized root mean squared residual of only 0.044. The model accounted for 68% of the variation in conspiracy belief intercepts and 73% of the variation in slopes. We describe the entire model later in tests of H3 and H4.

As predicted by H1, use of conservative media at the intercepts was positively related to conspiracy belief intercepts, while mainstream print use was negatively related to them. Conservative media use intercepts also were positively related to the slopes of conspiracy beliefs, suggesting that stable use of those media was related to increases in conspiracy beliefs over the study period. At the same time, slopes in mainstream print news were negatively related to slopes in conspiracy beliefs, indicating that as use of that news increased, conspiracy beliefs declined. Contrary to prediction, use of mainstream TV news was unrelated to either the intercepts or slopes of conspiracy beliefs, and they were removed as predictors of conspiracy beliefs in the model. There were also no contributions to conspiracy slopes from slopes in any other media than mainstream print.

Table 2 shows how conspiratorial thinking, ideology, and Trump vote were directly related to conspiracy belief intercepts and slopes as well as to each of the media uses in Fig. 2. Conspiratorial thinking was positively related to conspiracy belief intercepts (.304) but not to slopes. Similarly, Trump vote was also related to conspiracy belief intercepts (.210) but not to slopes. Political ideology was not directly related to conspiracy belief intercepts apart from conspiratorial thinking tendencies. However, conservative political views directly predicted increased slopes of conspiracy beliefs (0.258), suggesting that acceptance of pandemic conspiracies related to those views developed over the study period apart from the media in the model.

There were other relations with intercepts of conspiracy beliefs and media use apart from conspiratorial thinking and political ideology. Older respondents were less likely to accept the conspiracy theories. Education, income, and non-white racial-ethnic identity were related to greater use of print media, and mainstream TV was used more by older, less educated, and non-white respondents. Holding these characteristics constant reduces their influence as potential confounders in relations between media use and conspiracy beliefs.

3.2. Media use and conspiratorial thinking

As predicted by H2, conspiratorial thinking was positively related to both stability and change in conspiracy beliefs as mediated by media use. The paths from conspiratorial thinking to conservative media use and print intercepts combined to predict greater conspiracy belief intercepts, $(0.209 \times 0.351) + (-0.060 \times -0.271) = 0.090$, 99% CI = 0.081, 0.094. This finding in combination with the direct relation to conspiracy belief intercepts (0.304) produced a total relation of 0.394, indicating that about 23% (0.090/.394) of the relation between conspiratorial thinking and belief in the two conspiracies at intercept was attributable to use of conservative media and nonuse of mainstream print. In addition, all of the relation between conspiratorial thinking and *changes* in conspiracy beliefs was mediated by a combination of conservative media use and the non-use of mainstream print, $(0.209 \times$
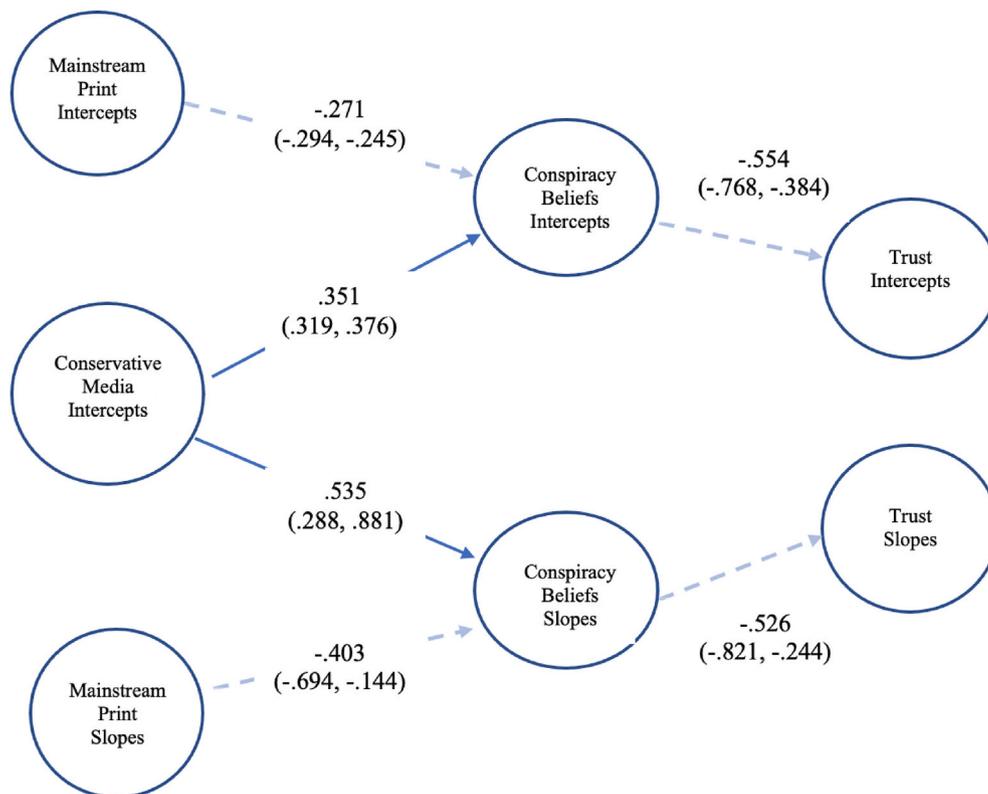
Fig. 2. Standardized relations (CIs) between media use, conspiracy beliefs, and trust in the CDC from March to November 2020. All paths fell within the 99% CI. Paths between media use and conspiracy beliefs were used to test H1.

Table 2

Direct standardized predictors of latent intercepts and slopes of conspiracy beliefs and media use.

	Conspiracy Beliefs Intercepts	Conspiracy Beliefs Slopes	Conservative Media Intercepts	Print News intercepts	Print News Slopes	TV News Intercepts
Predictor						
Age	-.165					.245
Male Gender						
Education				.223		-.092
Income				.097		
White Identity						-.102
Conservative Ideology		.258	.245	-.261		
Trump Vote	.210		.388	-.234		-.298
Conspiratorial Thinking	.304		.209	-.060	-.384	-.110

Note: All coefficients had 99% confidence intervals excluding zero.

$0.535) + (-0.384 \times -0.403) = 0.266$, 99% CI = 0.155, 0.450.

Conspiratorial thinking also was associated with less use of mainstream TV news, but since those media sources were unrelated to conspiracy belief intercepts or slopes, they had no implications for those outcomes. Nevertheless, as we show below, use of mainstream TV news had implications for adoption of preventive measures, which was related to use of those news sources.

The relations between conspiracy beliefs and Trump vote essentially paralleled those for conspiratorial thinking. Trump vote was positively related to conspiracy belief intercepts (.200) as mediated by conservative media use and nonuse of mainstream print, and this finding accounted for nearly half of the relation with those beliefs (0.49 = 0.200/.410). Trump vote was also inversely related to use of mainstream TV news (−.298). In addition, all of the relation between Trump vote and change in conspiracy beliefs was mediated by use of conservative media, $.388 \times 0.535 = 0.207$, 99% CI = 0.112, 0.322.

Also consistent with H2, apart from conspiratorial thinking and Trump vote, conservative ideology was positively related to use of conservative media intercepts and negatively related to use of mainstream print and TV news intercepts. Overall, those with conservative political views were more likely to accept conspiracy beliefs at intercept

attributable to use of conservative media and nonuse of print news (.157). They also were more likely to believe in pandemic conspiracies over time as mediated by conservative media use ($0.245 \times 0.535 = 0.131$, 99 % CI = 0.213, 0.074), which in addition to a direct relation with growth in conspiracy beliefs (0.258) produced an overall increase in conspiracy beliefs of 0.343. In total, about 34% of the change in conspiracy beliefs for conservatives (0.131/.389) was attributable to media use.

Overall, conspiratorial thinking was a strong independent predictor of increase in pandemic conspiracies over the study period (0.266) compared to the two measures of conservative ideology: support for Trump (0.207) and reported ideology (0.389). Nevertheless, in total, the two reflections of conservative ideology accounted for 69% of the change in conspiracy beliefs.

The patterns of media selection defined by conspiratorial thinking, Trump vote, and political ideology are illustrated in Figs. 3–5 with data at Wave 3 weighted to represent national demographics. In these figures, we divided the sample into four mutually exclusive groups defined by two with high vs. low levels of conspiracy beliefs (levels 4 and 5 vs. 1 to 3 on the 5-point scale) and by two classifications of likely conservative media users: Trump voters vs. non-Trump voters who also identified as
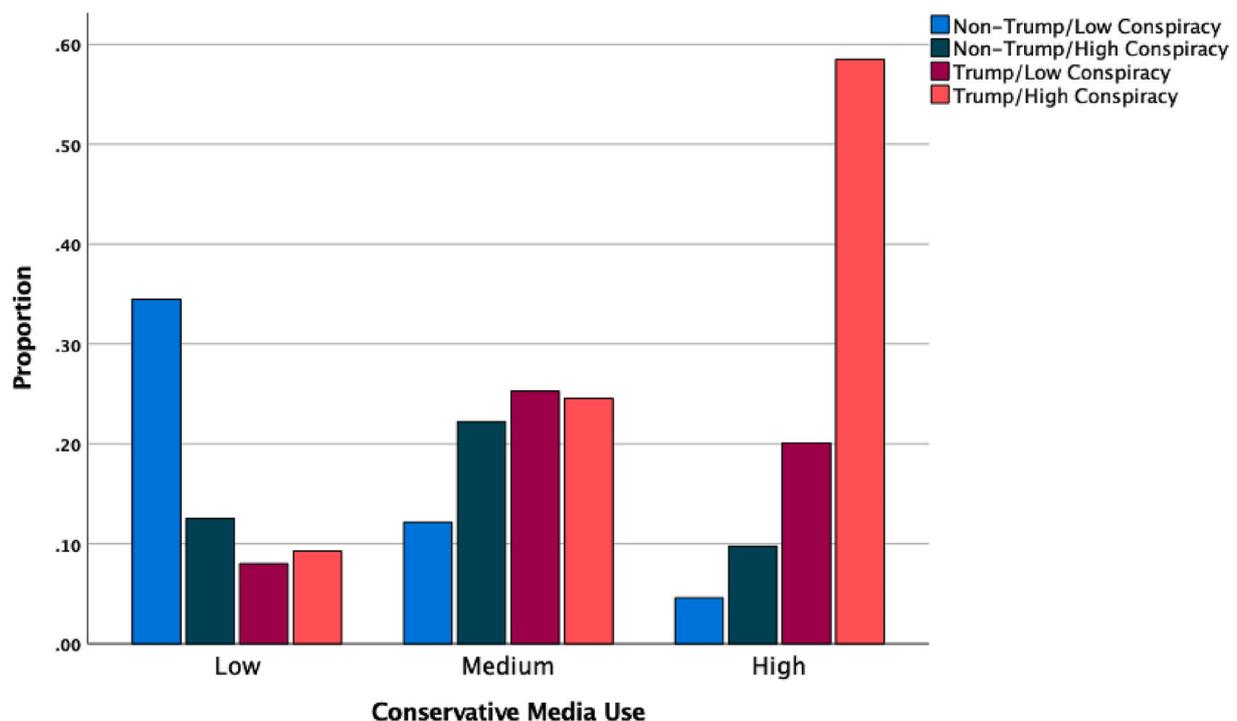

Fig. 3. Audience composition of conservative media by four combinations of Trump vote, conspiratorial thinking, and conservative political ideology. High use of conservative media accounted for 12.3% of the weighted sample, while moderate use was 24.1% and low use was 63.6%.
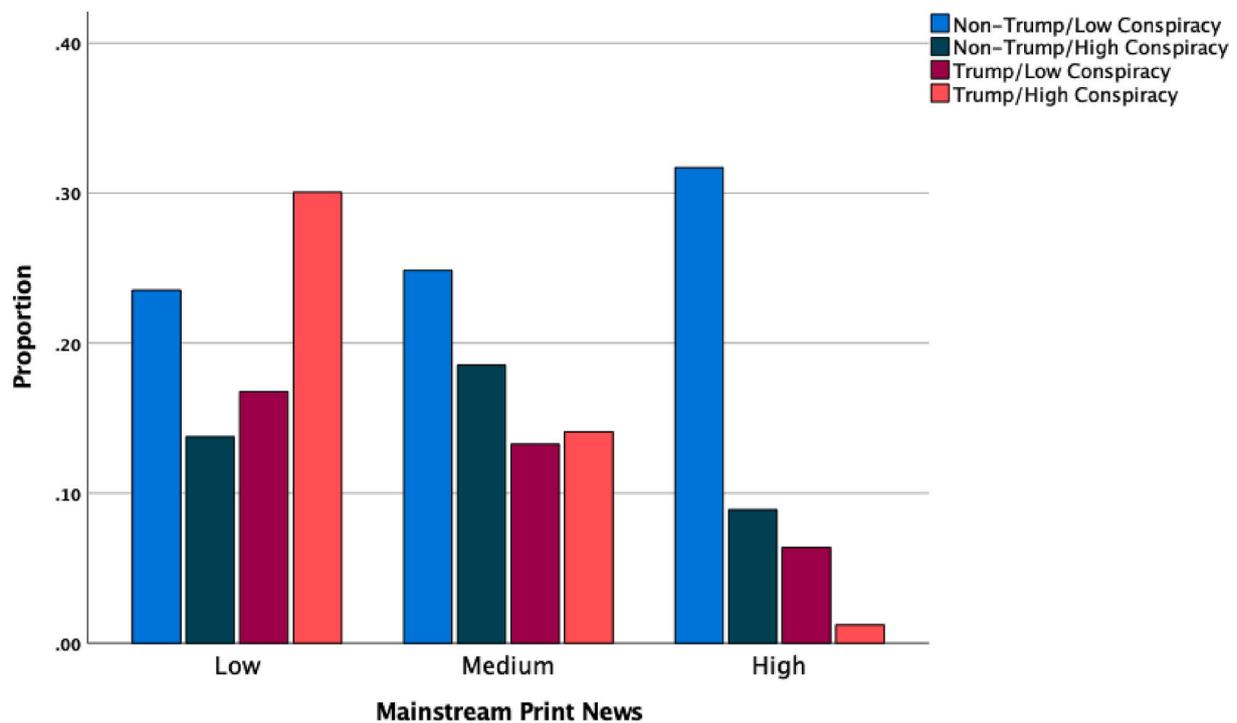
Fig. 4. Audience composition of mainstream print by four combinations of Trump vote, conspiratorial thinking, and conservative political ideology. High use of mainstream online/print accounted for 18.4% of the weighted sample, while moderate use was 34.1% and low use was 47.4%.
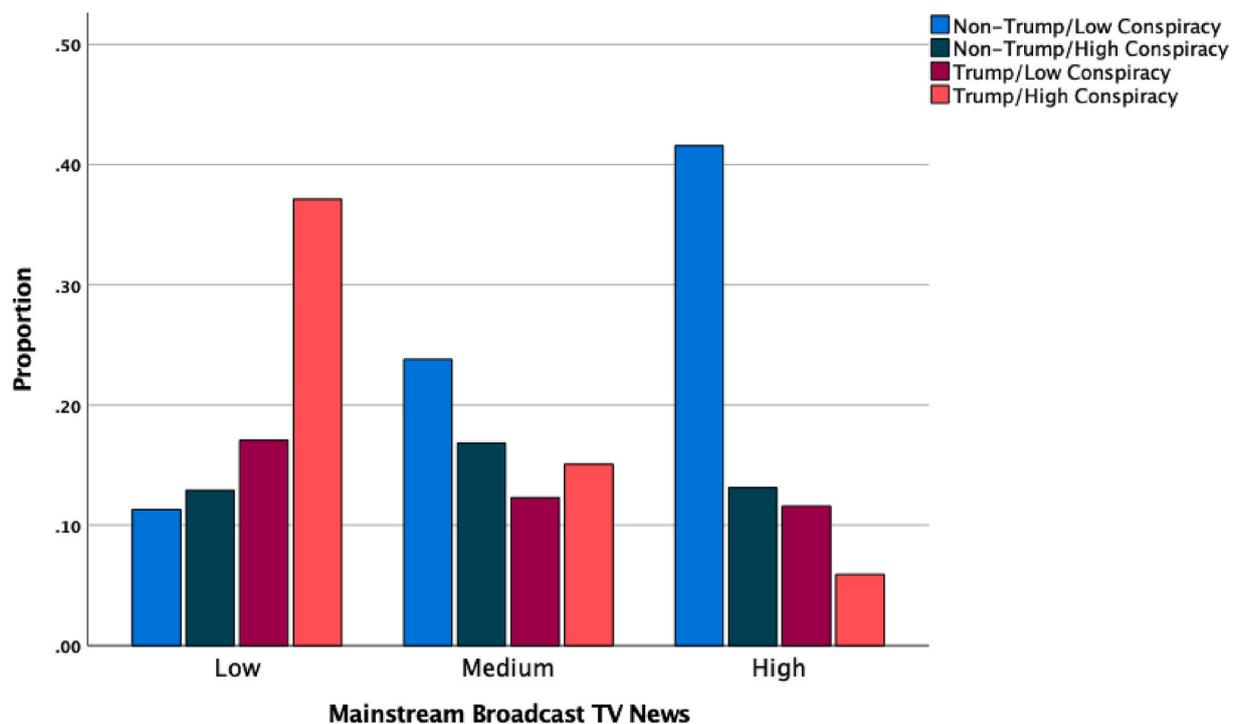

Fig. 5. Audience composition of mainstream TV news by four combinations of Trump vote, conspiratorial thinking, and conservative political ideology. High use of mainstream TV news accounted for 30.2% of the weighted sample, while moderate use was 38.4% and low use was 31.4%.

more politically conservative. Media use was classified as high (levels 4 and 5 on the 6-point scale), medium (levels 2 and 3) and low (levels 0 and 1).

As seen in Fig. 3, conservative media use tended to increase among those who voted for Trump and had high levels of conspiratorial thinking (red bars), while avoidance of conservative media tended to

increase among those who did not vote for Trump and had low conspiratorial tendencies despite their more conservative political views (blue bars). The separate influence of conspiratorial thinking was evident in its moderation of conservative media use by Trump supporters who had low levels of conspiratorial tendencies (purple bars). Non-Trump supporters with high conspiratorial levels still tended to

cluster at medium levels of conservative media. Respondents with liberal ideologies and conspiratorial tendencies who tended not to vote for Trump were a small proportion of the sample (7.4%) and for the sake of simplicity are not shown. Although conspiratorial thinking dominated among those at the high end of the conservative media use scale, approximately 36% of respondents used either moderate or high levels of conservative media, indicating the potential reach of conspiratorial messages in the population.

Fig. 4 shows the distribution for mainstream print news. In this case, high users were disproportionately represented by more conservative non-Trump supporters with low conspiratorial tendencies. Avoidance of print news was associated with Trump supporters with high levels of conspiratorial thinking, but it was weaker among those with low levels of conspiratorial thinking. Nevertheless, those who did not support Trump but had higher conspiratorial thinking still tended to avoid print news.

Finally, in Fig. 5, use of mainstream TV news displayed similar patterns to print news, with Trump supporters with high levels of conspiratorial thinking showing the most avoidance of this medium. Trump supporters with low levels of conspiratorial thinking displayed less avoidance. Non-Trump supporters with high levels of conspiratorial thinking were relatively balanced in their use of this medium, but those with low conspiratorial tendencies were drawn to TV news. Nevertheless, more than two-thirds of the sample used mainstream TV news to at least a moderate degree, making it a powerful source of information during the study period. In addition, over half of persons prone to conspiratorial thinking (55%) used mainstream TV to at least a moderate degree.

All told, apart from support for Trump and conservative political views, those with conspiratorial thinking style were more likely to be users of conservative media than those without that style and tended to be under-represented in use of both forms of mainstream news. In addition, those attracted to conservative media, including those with a conspiratorial disposition, those who supported Trump, or those who reported being conservative were more likely to report acceptance of pandemic conspiracies associated with their media use than they reported at the outset of the study period. It was noteworthy that associations between these predispositions and conspiracy beliefs were not only attributable to use of certain media but also to lack of use of mainstream print news. Recall that use of print news outlets was associated with reductions in conspiracy beliefs over time.

3.3. Predictors of public health outcomes

Our tests of the final hypotheses (H3 and H4) examined how the effects of various types of media use on conspiracy beliefs were associated with stability and change in two behaviors recommended to prevent the spread of COVID-19 (accepting a vaccine and wearing a mask whenever encountering people outside of the home) and to trust in the CDC. To test these predictions, separate models were created for each outcome.

Table 3 shows the direct predictors of the three outcomes at the beginning and throughout the study period. The three models accounted for substantial variation in each outcome, ranging from 18 to 37%, and goodness of fits that were comparable to the model in Fig. 2. Consistent with H3, intercepts for conservative media use were positively related to intercepts of vaccination (0.290) and trust in the CDC (0.276), while this outcome was not the case for mask-wearing in July.

Conspiracy belief intercepts were inversely related to the intercepts of vaccination (−0.578) and trust (−0.554) and to mask-wearing in July (−0.293) and change in November (−0.186), indicating the strong association between belief in pandemic conspiracies and each outcome at the outset of the study. For mask-wearing, conspiracy intercepts also predicted decline in this behavior over time (−0.186). As already shown in Fig. 2, conspiracy belief slopes were also inversely related to slopes of trust in the CDC (−0.535) and in the analysis of vaccination, to slopes in that outcome (−0.432).

Mainstream TV news intercepts which were unrelated to conspiracy beliefs were nevertheless positively related to vaccination and trust intercepts (0.193, 0.233) and mask-wearing in July (0.219). Older age, male gender, and white identity were also positively associated with intercepts of intentions to vaccinate, and older age was associated with increases in vaccination intentions.

Table 4 shows the indirect relations between uses of conservative and mainstream print media and the intercepts and slopes of the three outcomes as mediated by pandemic conspiracy beliefs. The indirect relation between conservative media use intercepts and vaccination intercepts was negative (−0.204). Yet, at the same time (see Table 3), use of conservative media was positively and directly related to vaccination intercepts (0.290). These opposing relations resulted in an overall relation not different from zero, 0.290-0.204 = 0.086, 95% CI = −0.007, 0.176. This finding indicates that despite the belief in the two conspiracies associated with use of news and commentary on conservative media, use of these media was not related to vaccination intentions at the intercept. Although, use of mainstream print (0.159) was positively related to vaccination at the intercept.

As seen in Tables 3 and 4, the overall use of conservative media was also unrelated to trust intercepts, 0.276–0.195 = 0.081, 95% CI = −0.041, 0.190, indicating again that despite its role in carrying conspiratorial content, it did not reduce trust in national public-health officials at the outset of the pandemic. As with vaccination, use of mainstream print was indirectly and positively related to trust intercepts (0.150), and mainstream TV was directly related (0.233).

As seen in Table 4, use of conservative media as mediated by conspiracy beliefs was indirectly and inversely related to mask-wearing in July (−0.102). Unlike the case with vaccination or trust, there was no

Table 3
Direct standardized predictors of vaccination, mask-wearing, and trust.

	Vaccination intercepts	Vaccination slopes	Mask wearing	Mask wearing	Trust intercepts	Trust slopes
			July	November		
Predictor						
Conspiracy intercepts	**-.578**		**-.293**	**-.186**	**-.554**	
Conspiracy Slopes		**-.432**				-.535
Conservative Media Intercepts	**.290**				**.276**	
Mainstream TV Intercepts	**.193**		**.219**		**.233**	
Age	**.080**	**.143**				
Male Gender	**.131**					
Education						
Income						
White Identity	**.202**					
% Variance Accounted	**37**	**20**	**18**	**36**	**29**	**28**

Note: Bolded coefficients have 99% confidence intervals excluding zero; unbolded has 95% confidence interval excluding zero. Relations with mask-wearing in November controlled for mask-wearing in July.

Table 4

Indirect standardized relations (CIs) between media uses and vaccination, mask-wearing, and trust.

Media use to conspiracy belief	Vaccination intercept	Vaccination slope	Mask Wearing July	Mask Wearing November	Trust intercept	Trust slope
Print Int→CB Int→	.159 (.117, .209)		.077 (.054, .097)	.049 (.030, .071)	.150 (.104, .207)	
Print Sl→ CB Sl→		.218 (.119, .369)				.212 (.072, .329)
Conserv Int→ CB Int→	-.204 (-.267, -.148)		-.102 (-.129, -.072)	-.065 (-.093, -.039)	-.195 (-.267, -.137)	
Conserv Int→ CB Sl→		-.232 (-.374, -.137)				-.281 (-.437, -.079)

Note: Int = intercept; Sl = slope; Print = mainstream print news use; Conserv = conservative media use; TV = mainstream TV news; CB = conspiracy beliefs. All coefficients have 99% confidence intervals excluding zero.

offsetting direct relation between conservative media use and mask wearing in July. Use of print media was indirectly related to mask-wearing (0.077), and mainstream TV added a direct relation with mask-wearing (0.219).

In regard to H4, the relation between conservative media use and each outcome's change over time was negative. For vaccination, the relation was −0.232. Although print media use intercepts predicted a positive relation with vaccination slopes (0.218), this outcome was not sufficient to outweigh the negative influence of conservative media (−0.014).

Use of conservative media predicted less change in mask-wearing in November (−0.065) as mediated by conspiracy belief intercepts, while use of print media was positively related to change in mask-wearing (0.049) for an overall negative relation between those media and mask wearing as mediated by conspiracy beliefs (−0.016). Here again, all of the relations between the two media and mask-wearing change were mediated by change in conspiracy beliefs.

Conservative media use predicted decline in trust over time as mediated by conspiracy belief slope (−0.281), but this negative relation was somewhat offset by an overall positive relation (0.212) between print slopes and trust. As a result, although conspiratorial beliefs associated with conservative media use were outweighed by other media influences at the start of the study period, this advantage eroded over its course (0.212 - 0.281 = −0.069).

4. Discussion

As the pandemic unfolded in the US, concern focused on social media which were found to harbor misinformation and conspiratorial content that questioned the source, seriousness, and means to curb the pandemic (NewsGuard, 2020). Less attention has focused on the treatment of COVID-19 and information and misinformation and conspiracy content about it in conservative media and mainstream sources. Our analysis of three waves of surveys conducted with a national longitudinal sample from March to November of 2020 found support for our hypotheses about their influence and the role that conspiratorial thinking and selective exposure play in it.

Consistent with H1 and beyond our earlier studies which only extended from March to July (Romer and Jamieson, 2020, 2021), we found that use of conservative media was related to increased belief in two pandemic conspiracy theories. At the same time, use of mainstream print news was associated with declines in conspiracy beliefs, but there was no evidence that mainstream TV broadcast news affected belief in the conspiracies. Unlike Enders et al. (2021), we did we not find an association between reported use of social media and conspiracy beliefs. However, our measure of conservative media likely overlapped with the uses of social media that their study identified, namely social media used by those with conspiratorial tendencies. Thus, our findings with different measures complement theirs.

Second, consistent with H2, we found that persons prone to conspiracies and those who had conservative political leanings including voting for President Trump were more likely than others to be in the audience of conservative media that predicted increases in beliefs about pandemic conspiracies. We estimated that 12% of the population were heavy users of conservative media with another 24% who used those

media to a moderate degree (Fig. 3), indicating the wide exposure to the content on these media.

Persons attracted to conservative media were also less likely to be among the heavier users of mainstream print and TV news (Table 2), exposure to which in the case of print was associated with reduction in conspiracy beliefs (Fig. 2) and in the case of mainstream broadcast news with ongoing support of preventive behavior and trust in public health officials as represented by the CDC (Table 3). These findings support the prediction that users of conservative media were isolated from media sources that either failed to support conspiratorial thinking or promoted recommendations to prevent the spread of the pandemic. Third, consistent with H3, we found that users of conservative media were supportive of vaccination and trusted the CDC at the outset of the study period despite their greater belief in pandemic conspiracies (Table 3). There was no evidence that users of conservative media supported mask-wearing despite their belief in conspiracies in July when we first assessed this outcome. As with vaccination, their support for mask-wearing declined over time.

Finally, in line with H4, we found that changes in vaccination intentions, reported use of masks, and trust in the CDC were predicted by stable and changing levels of media use as mediated by pandemic conspiracy beliefs (Table 4). The positive relations between mainstream TV news and the three health outcomes were only evident in the intercepts, and even there, users of conservative media were less likely to rely on this source.

Our findings supported our hypothesis that conservative media have drawn an audience that is either prone to conspiratorial thinking or holds conservative political views that predict increased belief in COVID-related conspiracies. These in turn are linked with reduced trust in the CDC and reduced willingness to engage in actions to prevent the spread of the infection. These relations were observed apart from direct associations between important individual differences in age, racial-ethnic identity, education, and income, adding weight to a causal role for media reliance.

Consistent with earlier analyses of the first two waves of this study (Romer and Jamieson, 2020, 2021), we also found support for the hypothesis that mainstream news use is associated with an important role in communicating information supportive of efforts to contain the COVID pandemic. In addition, among those who increased their use of mainstream print news over the study period, trust in the CDC and willingness to accept the COVID vaccine also increased. This finding is consistent with the expectation that mainstream news sources are unlikely to entertain or support conspiracy theories given their reliance on verifiable information from credible sources (Benkler et al., 2018; Ericson, 1998). Since conspiracy theories are difficult to confirm or debunk, they are unlikely to receive attention from mainstream news sources except to report on their followers or to dispute their credibility. Nevertheless, use of mainstream print news did not counter the effects of conservative media because users of conservative media tended to avoid mainstream print.

Although mainstream TV news attracts substantially larger audiences than conservative outlets, these broadcast news sources had no apparent effect on reducing the spread of pandemic conspiracy beliefs. Their influence tended to be constant across the study period without much ability to increase support for health recommendations over time.

Both findings differ from what was found in our analyses of the first two waves of the study (Romer and Jamieson, 2020, 2021). In those analyses, mainstream TV use predicted reduced baseline belief in conspiracies and increased mask-wearing and vaccination intentions from March to July. Yet, those analyses did not include conspiratorial thinking tendencies which were inversely related to mainstream TV use, and thus did not control for this confound. In any case, both the present and earlier findings suggest that exposure to mainstream news sources does not reduce the ability of conservative media exposure to instate or reinforce conspiracy theories, as some would suggest (Allen et al., 2020; Guess et al., 2018). Consistent with our results, use of *mainstream TV news* has been observed to encourage preventive action for the pandemic in other countries (Allington et al., 2020; Bridgeman et al., 2020), supporting the conclusion that it is a helpful resource during a public health crisis. However, it is not a source that counteracted either of the two conspiracy theories we studied during the COVID-19 pandemic in the US, nor one that *increased* support for preventive behavior during the study period.

These data permit us to provide a tentative answer to the question: to what extent is conservatism rather than conspiracism driving conspiratorial belief? (Uscinski et al., 2020). We address this question in two ways. First, we looked at what predicted pandemic conspiracy beliefs at the outset of the pandemic. Here we saw that conspiratorial thinking was a stronger predictor than support for Trump (0.304 vs. 0.210 in Table 2). Second, we examined the proportion of change in pandemic conspiracy beliefs attributable to conspiratorial thinking versus support for Trump or conservative political views in general. Here we saw that conspiratorial thinking independently accounted for about 31% of the change, indicating that conservativism is not sufficient to explain conspiracist beliefs. In addition, conspiratorial thinking was strongly associated with use of conservative media among supporters of Trump (see Fig. 3), suggesting that these tendencies are difficult to disentangle.

4.1. Limitations

Our study was able to follow a probability-based sample of US respondents over a period of nine months. Our analyses and conclusions are based on reports of beliefs and behaviors. In particular, behaviors may not be reliably reported in surveys. In addition, our use of online interviewing excludes potential respondents who do not have access to or do not feel comfortable using the internet. In so far as older persons are more likely to typify those characteristics, our findings may not generalize to them. Like other national surveys (Clinton et al., 2021), our measure of voting behavior in the 2020 presidential election under-represented Trump voters. Nevertheless, we found strong associations between our measure of support for Trump and pandemic-related outcomes. Importantly, projecting to national rates of those outcomes was not the objective of our study. Also of note is that our measure of conspiratorial thinking was assessed at the Wave 3, and thus may not fully represent those tendencies at the outset of the pandemic. Nevertheless, the scale was strongly associated with acceptance of pandemic conspiracies even at the outset of the study, and it is likely to be a stable individual difference (Beretvas et al., 2008). Finally, our models only accounted for linear increase in media use, conspiracy beliefs, and public health outcomes. The patterns evident in Table 1 indicate that there was less change from July to November, and this nonlinear change may not have been as well encapsulated in our analyses. Although, since all of those variables exhibited stronger linear than nonlinear patterns over time, the analyses captured the major trends over the study period.

5. Conclusions

The emergence of media platforms that feature conspiratorial thinking and attract audiences prone to believe in conspiracies creates a media landscape suited to insulate them from counter-persuasion.

Although mainstream print news can reduce belief in conspiracies and mainstream TV news can support acceptance of preventive behavior and trust in public health authorities, heavy users of conservative media remain largely impervious to these influences. Our findings underscore the importance of considering both the media that promote conspiracies and the audience's levels of reliance on them when designing strategies to increase adoption of public health measures.

Credit author statement

Both authors contributed equally to the conceptualization and writing of the paper. DR conducted the analyses.

References

Allen, J., Howland, B., Mobius, M., Rothschild, D., Watts, D.J., 2020. Evaluating the fake news problem at the scale of the information ecosystem. Sci. Adv. 6, 1–6. https://doi.org/10.1126/sciadv.asy3539.

Allington, D., Duffy, B., Wessely, S., Dhavan, N., Rubin, J., 2020. Health-protective behaviour, social media usage and conspiracy belief during the COVIC-19 public health emergency. Psychol. Med. https://doi.org/10.1017/S003329172000224X.

Associated Press, 2020. AP Fact Check: Trump Trashing Virus Science He Doesn't like. WTTW Radio.

Bakshy, E., Messing, S., Adamic, L.A., 2015. Exposure to ideologically diverse news and opinion on Facebook. Science 348, 1130–1132. https://doi.org/10.1126/science.aaal160.

Barnidge, M., Peacock, C., 2019. A third wave of selective exposure research? The challenges posed by hyperpartisan news on social media. Media Commun. 7, 4–7. https://doi.org/10.17645/mac.v7i3.2257.

Benkler, Y., Faris, R., Roberts, H., 2018. Network Propaganda: Manipulation, Disinformation, and Radicalization in American Politics. Oxford University Press, New York.

Beretvas, S.N., Suizzo, M.-A., Durham, J.A., Yarnell, L.M., 2008. A reliability generalization study of scores on Rotter's and Nowicki-Strickland's locus of control scales. Educ. Psychol. Meas. 68, 97–119.

Blood, M.R., Swanson, E., 2020. AP-NORC Poll: 3 in 4 Americans Back Requiring Wearing Masks. Assoc. Press.

Bollen, K.A., Davis, W.R., 2009. Causal indicator models: identification, estimation, and testing. Struct. Equ. Model. 16, 498–522.

Bridgeman, A., Merkley, E., Loewen, P.J., Owen, T., Ruths, D., Teichmann, L., Zhilin, O., 2020. The causes and consequences of COVID-19 misperceptions: understanding the role of news and social media. Harv. Kennedy Sch. HKS Misinformation Rev. 1. https://doi.org/10.37016/mr-2020-028.

Bruder, M., Haffke, P., Neave, N., Nouripanah, N., Imhoff, R., 2013. Measuring individual differences in generic beliefs in conspiracy theories across cultures: conspiracy mentality questionnaire. Front. Psychol. 4, 1–15. https://doi.org/10.3389/fpsyg.2013.00225.

Clinton, J., et al., 2021. Task Force on 2020 Pre-election Polling: an Evaluation of the 2020 General Election Polls.

Douglas, K.M., Sutton, R.M., Cichocka, A., 2017. The psychology of conspiracy theories. Curr. Dir. Psychol. Sci. 26, 538–542.

Douglas, K.M., Uscinski, J.E., Sutton, R.M., Cichocka, A., Nefes, T., Ang, C.S., Deravi, F., 2019. Understanding conspiracy theories. Polit. Psychol. 40, 3–35. https://doi.org/10.1111/pops.12568.

Eady, G., Nagler, J., Guess, A., Zilinsky, J., Tucker, J.A., 2019. How many people live in political bubbles on social media? Evidence from linked survey and Twitter data. Sage Open 9. https://doi.org/10.1177/2158244019832705.

Earnshaw, W.A., Eaton, L.A., Kalichman, S.C., Brousseau, N.M., Hill, E.C., Fox, A.B., 2020. COVID-19 conspiracy beliefs, health behaviors, and policy support. TBM. https://doi.org/10.1093/tbm/ibaa090.

Edgerly, S., 2015. Red media, blue media, and purple media: news repertoires in the colorful media landscape. J. Broadcast. Electron. Media 59, 1–21.

Einstein, K.L., Glick, D.M., 2015. Do I think BLS data are BS? The consequences of conspiracy theories. Polit. Behav. 37, 679–701. https://doi.org/10.1007/s11109-014-9287-z.

Ellison, S., Barr, J., 2021. Sean Hannity Is the Face of the Post-trump Identity Crises at Fox News (Wash. Post).

Enders, A.M., Uscinski, J.E., Klofstad, C., Stoler, J., 2020. The different forms of COVID-19 misinformation and their consequences. Harv. Kennedy Sch. Misinformation Rev. https://doi.org/10.37016/mr-2020-48.

Enders, A.M., Uscinski, J.E., Seelig, M.I., Klofstad, C.A., Wuchty, S., Funchion, J., Murthi, M.N., Premaratne, K., Stoler, J., 2021. The relationship between social media use and beliefs in conspiracy theories and misinformation. Polit. Behav. https://doi.org/10.1007/s11109-021-09734-6.

Ericson, R.V., 1998. How journalists visualize fact. Ann. Am. Acad. Polit. Soc. Sci. 560, 83–95.

Evanega, S., Lynas, M., Adams, J., Smolenyak, n.d. Coronavirus Misinformation: Quantifying Sources and Themes in the COVID-19 "infodemic." Cornell Alliance for Science, Ithaca, NY.

Guess, A., 2021. (Almost) everything in moderation: new evidence on Americans' online media diets. Am. J. Polit. Sci. https://doi.org/10.1111/ajps.12589.

Guess, A., Lyons, B., Nyhan, B., Reifler, J., 2018. Avoiding the Echo Chamber about Echo Chambers: Why Selective Exposure to Like-Minded Political News Is Less Prevalent than You Think. Knight Foundation, Miami, FL.

Hart, W., Albarracin, D., Eagly, A., Brechan, I., Lindberg, M.J., Merrill, L., 2009. Feeling validated versus being correct: a meta-analysis of selective exposure to information. Psychol. Bull. 135, 555–558. https://doi.org/10.1037/a0015701.

Herper, M., Florko, N., 2020. Drug makers rebut Trump tweet that FDA "deep state" is delaying COVID-19 vaccines and drugs. STAT.

Hornsey, M.J., Finlayson, M., Chatwood, G., Begeny, C.T., 2020. Donald Trump and vaccination: the effect of political identity, conspiracist ideation and presidential tweets on vaccine hesitancy. J. Exp. Soc. Psychol. 88 https://doi.org/10.1016/j.jesp.2019.103947.

Howard, J., Huang, A., Li, Z., Tufeckci, Z., Vladimir, Z., van der Westhulzen, H.-M., von Delft, A., et al., 2020. Face masks against COVID-19: an evidence review. Proc. Natl. Acad. Sci. Unit. States Am. 1–8 https://doi.org/10.1073/pnas.

Jamieson, K.H., Albarracín, D., 2020. The relation between media consumption and misinformation at the outset of the SARS-CoV-2 pandemic in the US. Harv. Kennedy Sch. HKS Misinformation Rev. 1 https://doi.org/10.37016/mr-2020-012.

Jolley, D.D., Douglas, K.M., 2014. The effects of anti-vaccine conspiracy theories on vaccination intentions. PLoS One 9, 389177. https://doi.org/10.1371/journal.pone.0089177.

Kim, M., Cao, X., 2016. The impact of exposure to media messages promoting government conspiracy theories on distrust in the government: evidence from a two-stage randomized experiment. Int. J. Commun. 10, 3808–3827.

Lee, B.Y., 2020. Trump Suggests "Deep State" at FDA Is Delaying COVID-19 Coronavirus Vaccine Testing. Forbes.

Lin, C., Tu, P., Beitsch, L.M., 2021. Confidence and receptivity for COVID-19 vaccines: a rapid systematic review. Vaccines 9, 1–42. https://doi.org/10.3390/vaccines9010016.

Lynas, M., 2020. COVID: Top 10 Current Conspiracy Theories. Cornell Alliance for Science, Ithaca, NY.

Marcus, J., 2020. Coronavirus: Trump stands by China lab origin theory for virus. URL. https://www.bbc.com/news/world-us-canada-52496098, 2.16.21.

Miller, J.M., 2020. Do COVOD-19 conspiracy theory beliefs form a monological belief system? Can. J. Polit. Sci. https://doi.org/10.1017/S0008423920000517.

Mitchell, A., Gottfried, J., Kiley, J., Matsa, K.E., 2014. Political Polarization & Media Habits. Pew Research Center, Washington, DC.

Moscovici, S., 1987. The conspiracy mentality. In: Graumann, C.F., Moscovici, S. (Eds.), Changing Conceptions of Conspiracy. Springer, New York, pp. 151–169.

Muddiman, A., Budak, C., Romas, B., Kim, Y., Murray, C., Burniston, M.M., Geiger, J., Purcell, A., Stroud, N., 2020. Cable and Nightly Network News Coverage of Coronavirus. Center for Media Engagement, University of Texas at Austin, Austin, TX.

Muthen, L.K., Muthen, B.O., 1998. Mplus User's Guide. Muthen & Muthen, Los Angeles, CA.

NORC of the University of Chicago, 2020. About AmeriSpeak. https://www.amerispeak.org/about-amerispeak.

NewsGuard, 2020. 106 Sites in the U. S. And Europe Now Promoting Coronavirus Misinformation. NewsGuard, New York.

Pew Research Center, 2020. Republicans, Democrats Move Even Further Apart in Coronavirus Concerns. Pew Research Center, Washington, DC.

Romer, D., Jamieson, K.H., 2021. Patterns of media use, strength of belief in COVID-19 conspiracy theories, and the prevention of COVID-19 from March to July 2020 in the US. J. Med. Internet Res. 23, e25215 https://doi.org/10.2196/25215.

Romer, D., Jamieson, K.H., 2020. Conspiracy theories as barriers to controlling the spread of COVID-19 in the U. S. Soc. Sci. Med. https://doi.org/10.1016/j.socscimed.2020.113356.

Samuels, E., 2020. Factchecking Trump's Statements on a Coronavirus Vaccine (Wash. Post).

Stroud, N.J., 2011. Niche News: the Politics of News Choice. Oxford University Press, New York.

Summers, J., 2020. Timeline: How Trump Has Downplayed the Coronavirus Pandemic. Live Updat.

Sunstein, C.R., Vermeule, A., 2009. Conspiracy theories: causes and cures. J. Polit. Philos. 17, 202–227.

Swami, V., Voracek, M., Sutton, R.M., Cichocka, A., Nefes, T., Ang, C.S., Deravi, F., 2014. Analytic thinking reduces belief in conspiracy theories. Adv. Polit. Psychol. 28, 1–33.

Thompson, D., 2020. Mask Use by Americans Now Tops 90 %, Poll Finds. US News World Rep.

Uscinski, J.E., Enders, A.M., Klofstad, C., Seelig, M., Funchion, J., Everett, C., Wuchty, S., Premaratne, K., Murthi, M., 2020. Why do people believe COVID-10 conspiracy theories? Harv. In: Kennedy Sch. HKS Misinformation Rev. 1, Special Issue on COVID-19 Misinformation. https://doi.org/10.37016/mr-2020-015.

Uscinski, J.E., Klofstad, C., Atkinson, M.D., 2016. What drives conspiratorial beliefs? The role of informational cues and predispositions. Polit. Res. Q. 69, 57–71. https://doi.org/10.1177/1065912915621621.

Victor, D., Serviss, L., Paybarah, A., 2020. In His Own Words, Trump on the Coronavirus and Masks. NY Times.

Vyskocil, M.K., 2020. Karen McDougal vs. Fox News Network, LLC.

Weeks, B., Ksiazek, T.B., Holbert, R.L., 2016. Partisan enclaves or shared media experiences? A network approach to understanding citizens' political news environments. J. Broadcast. Electron. Media 60, 248–268. https://doi.org/10.1080/08838151.2016.1164170.