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THE COVID STATES PROJECT:
A 50-STATE COVID-19 SURVEY
REPORT #82: COVID-19 VACCINE
MISINFORMATION TRENDS

USA, February 2022

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Report of February 14, 2022, v.1

The COVID States Project

From: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States

A joint project of:
Northeastern University, Harvard University, Rutgers University, and Northwestern University

Authors: Katherine Ognyanova (Rutgers University); David Lazer (Northeastern University); Matthew A. Baum (Harvard University); James Druckman (Northwestern University); Roy H. Perlis (Harvard Medical School); Mauricio Santillana (Harvard Medical School); Hong Qu (Northeastern University); Kristin Lunz Trujillo (Northeastern University); Alauna C. Safarpour (Harvard University); Ata Uslu (Northeastern University); Alexi Quintana (Northeastern University); Jon Green (Northeastern University); Caroline Pippert (Northwestern University), and Anjuli Shere (Harvard University)

COVER MEMO

Summary Memo — February 14, 2022

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Note on methods:

Between December 22, 2021, and January 24, 2022, we surveyed 18,782 individuals across all 50 states plus the District of Columbia. The survey was conducted by PureSpectrum via an online, nonprobability sample, with state-level representative quotas for race/ethnicity, age, and gender (for methodological details on the other waves, see covidstates.org). In addition to balancing on these dimensions, we reweighted our data using demographic characteristics to match the U.S. population with respect to race/ethnicity, age, gender, education, and living in urban, suburban, or rural areas. This was the latest in a series of surveys we have been conducting since April 2020, examining attitudes and behaviors regarding COVID-19 in the United States.

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Contents

COVID-19 vaccine misinformation trends, awareness of expert consensus, and trust in social institutions

Misinformation remains an important public health concern, especially as it is widely seen as a factor affecting people's behavior during the COVID-19 pandemic. In past reports, we have discussed the prevalence and demographics of COVID-19 misinformation, its link to vaccination rates, and its dependence on social media news consumption.

Here, we examine the over-time shifts in COVID-19 vaccine misperceptions across different social groups. We explore whether those who believe misinformation are aware that their views contradict the prevailing opinion of scientists and medical experts. We highlight the connection between COVID-19 misinformation and trust in the government, media, science and medicine. Finally, we update our findings linking misperceptions with attitudes towards the COVID-19 vaccine.

KEY FINDINGS

We asked respondents to mark four popular vaccine misinformation claims as true or false. When in doubt, they could also select "Not sure." Here are some of the patterns we found:

- While we observe a decline in believing misinformation since the early days of COVID-19 vaccination efforts in 2021, 16% of Americans still hold vaccine misperceptions. Close to half (46%) are uncertain about the veracity of at least one vaccine misinformation statement.

- People aged 25 to 44, parents with children under 18, Americans who did not go to college, and Republicans are most likely to hold vaccine misperceptions, with over 20% of the respondents in each group marking at least one misinformation statement as true.

- Early in the pandemic, people with high socioeconomic status were amongst the most likely to hold vaccine misperceptions. Over time, people with graduate degrees and those with high income made large shifts towards rejecting misinformation. The groups least likely to espouse false claims now include graduate degree holders, Democrats, Asian Americans, and those over 65 years of age.

- A third of the people who believe vaccine misinformation statements are aware that scientific and medical experts reject those claims as false. Additionally, over a fifth of Americans (21%) are aware that science considers a particular claim to be false, but still say they are not sure whether to believe it or not.

- People who think they know a lot about COVID-19 vaccines are more likely to hold vaccine misperceptions. Among those who claimed to have expert knowledge, 48% believed false claims compared to only 16% of those who said they knew almost nothing about vaccines.

- Compared to those with no vaccine misperceptions, Americans who believe misinformation claims are less likely to trust the government, news media, science, and medicine. That pattern is reversed with regard to trust in Fox News and Donald Trump.

- Vaccine misinformation beliefs, uncertainty about false claims, trust in government and science remain among the most important predictors of getting vaccinated, even after accounting for demographic and other factors.
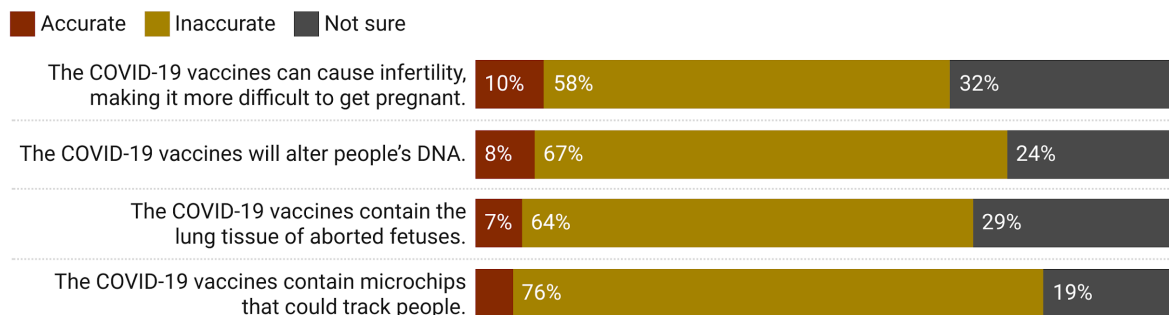
Vaccine misperceptions: US Trends over time

In COVID States project surveys, we ask respondents to evaluate four popular vaccine misinformation items. The false statements we ask about include[1]:

- The COVID-19 vaccines will alter people's DNA.

- The COVID-19 vaccines contain microchips that could track people.

- The COVID-19 vaccines contain the lung tissue of aborted fetuses.

- The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.

While all of those claims have been debunked, **over 16% of Americans still believe one or more false vaccine statements to be true.** As of January 2022, about 5% of our respondents thought that vaccines contained microchips, 7% said that vaccines used aborted fetal cells, 8% believed vaccines could alter human DNA, and 10% were concerned that vaccines could cause infertility (see Figure 1). In addition, **close to half of our respondents (46%) reported being uncertain whether at least one of those claims was true or not.** As discussed in our past reports, both holding misperceptions and being uncertain about them are linked to higher levels of vaccine hesitancy and resistance.

COVID-19 misinformation beliefs among Americans

[Percent respondents who believe each false statement is accurate, inaccurate, or say they are not sure]

■ Accurate   ■ Inaccurate   ■ Not sure

	Accurate	Inaccurate	Not sure
The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.	10%	58%	32%
The COVID-19 vaccines will alter people's DNA.	8%	67%	24%
The COVID-19 vaccines contain the lung tissue of aborted fetuses.	7%	64%	29%
The COVID-19 vaccines contain microchips that could track people.		76%	19%

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 1.

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[1] We debrief respondents after they answer our vaccine misinformation questions. They are informed that each of those items is false, and that the additional true items we include in this question are correct.

The COVID States Project has tracked COVID-19 vaccine misinformation starting in the spring of 2021. Over time, we do observe some positive trends in our data. The proportion of respondents who hold misperceptions has declined from 19% in April 2021 to 16% in January 2022. The percent of Americans who correctly identified all statements as false has increased from 38% in April 2021 to 47% in January 2022. People also report less uncertainty about the vaccine: close to 37% of respondents in our most recent survey did not identify any false statements as accurate, but did say that they were not sure about the veracity of some claims. That represents a five percentage point decline from the 42% we recorded back in April 2021.

COVID-19 vaccine misperceptions and uncertainty over time

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*
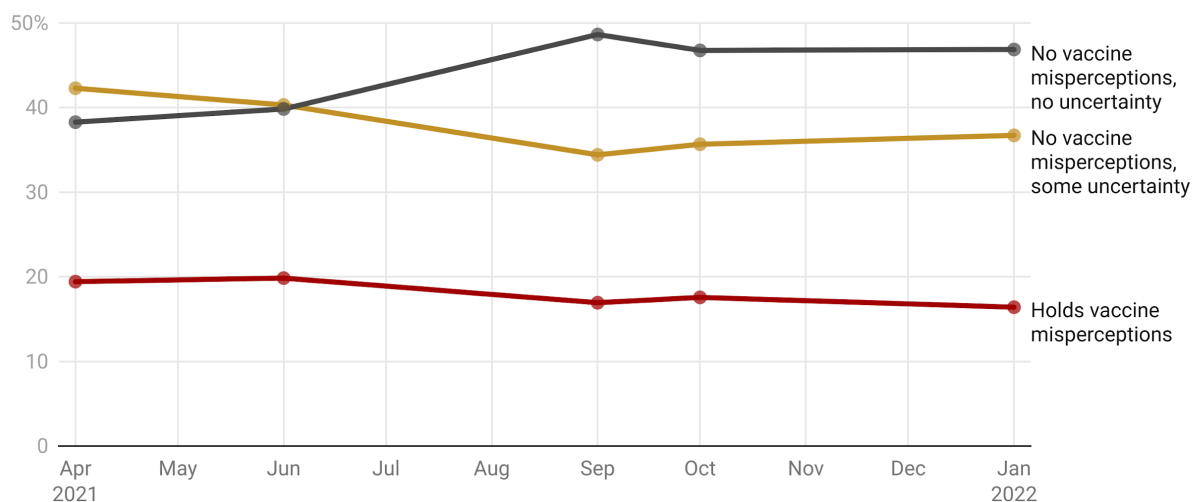
National sample, average N per wave = 17,702, Time period: 04/2021-01/2022

Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 2.

The shifts in misperception levels differ considerably across demographics and political affiliation. Updated charts showing vaccine misperceptions across gender, age, race and ethnicity, education, income, urbanicity, and political party are available in an appendix to this report starting on p.19. As of January 2022, we find that **people aged 25 to 44, Americans who did not go to college, and Republicans are most likely to hold vaccine misperceptions**, **with over 20% of the respondents in each group marking at least one misinformation statement as true** (see appendix figures A1 to A6 for details)**.**
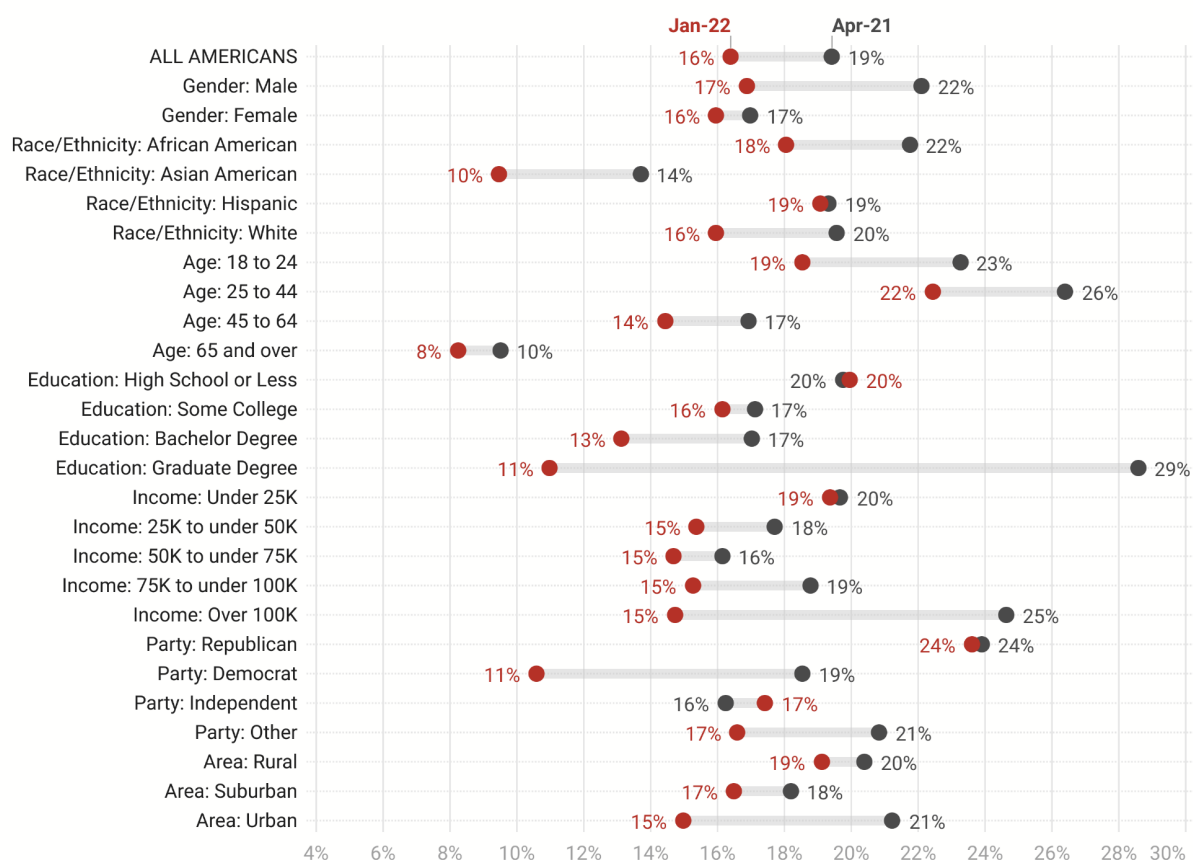
Figure 3 shows the over-time shift in the percent of Americans who believe at least one false vaccine statement. Political independents were the only group we observed that became more likely to believe vaccine misinformation over time. Independents saw a small increase in the proportion of group members holding misperceptions, from 16% in April 2021 to 17% in January 2022.

Shift in vaccine misperceptions across demographics over time

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*
[Percent respondents in each category who hold at least one vaccine misperception at each time point.]

National sample, April 2021: N = 16,266, Time period: 04/2021-01/2022; January 2022: N = 18,782, Time period: 12/22/2021-01/24/2022

Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 3.

The social groups with largest shifts towards rejecting misinformation were Democrats and people with high socioeconomic status. Early on, Americans with graduate degrees were among those most likely to hold vaccine misperceptions (29% in April 2021). Presently, however, graduate degree holders are among the people least likely to believe those claims (11% in January 2022).

Similar patterns emerged for those with annual income over $100,000, who moved from 25% misinformed in April 2021 to 15% in January 2022. Democrats registered an 8 percentage point drop, from 19% to 11%.
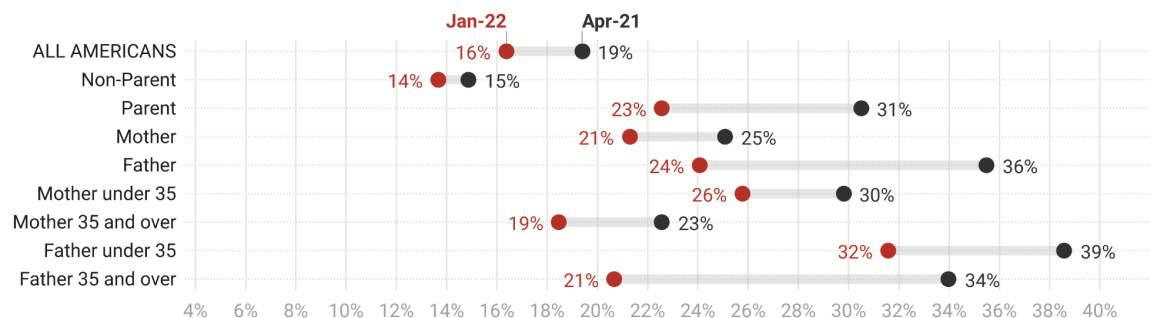
Conversely, **people who did not go to college, those with annual income under $25,000, Hispanic Americans, and Republicans were least likely to update their false vaccine beliefs**, with each group seeing less than 1 percentage point decline in members who hold misperceptions.

Shift in vaccine misperceptions across parenting status over time

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*
[Percent respondents in each category who hold at least one vaccine misperception at each time point.]

National sample, April 2021: N = 16,266, Time period: 04/2021-01/2022; January 2022: N = 18,782, Time period: 12/22/2021-01/24/2022

Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 4.

Another important group to consider are parents of children under 18. Americans with kids at home have to make health decisions not only for themselves but also for their children. **Parents are, unfortunately, one of the groups most likely to believe vaccine misinformation, with 23% holding at least one vaccine misperception, compared to 14% for non-parents.** This pattern is even more pronounced among younger fathers and mothers. About 32% of fathers under 35 and 26% of mothers in the same age group identify some misinformation claims as true.

Fathers over 35 are the parent group which shifted most towards rejecting false statements over time, with a 13 percentage point decline from 34% in April 2021 to 21% in January 2022. Figures describing the full demographic breakdown for parents are available in the appendix of the report (see A7 and A8).

Perceptions of medical and scientific knowledge

Public health experts and misinformation researchers are considering a range of possible approaches aimed at fighting widespread misperceptions about important issues. The proposed solutions include media literacy and education campaigns, spreading correct versions of the misinformation, as well as a variety of other technological and regulatory solutions.

In order to assess which of those approaches may be most successful and what communication strategies would work best, it is important to understand the nature of prevalent misperceptions. One possibility is that Americans who hold these misperceptions are largely unaware of the prevailing scientific or medical consensus around an issue. Alternatively, it is possible that people know about the stance of the scientific community and still choose to disregard it. To learn more about these patterns, in one of our survey waves[2] we followed up our standard vaccine misinformation items with an additional question asking respondents "*Now, regardless of your own opinion about their accuracy, do you think most scientists and health experts would consider those statements accurate or inaccurate?*"

Perceptions of scientific consensus on false COVID-19 vaccine statements

1. To the best of your knowledge, are the following statements accurate or inaccurate?
2. Now, regardless of your own opinion about their accuracy, do you think most scientists and health experts would consider those statements accurate or inaccurate?
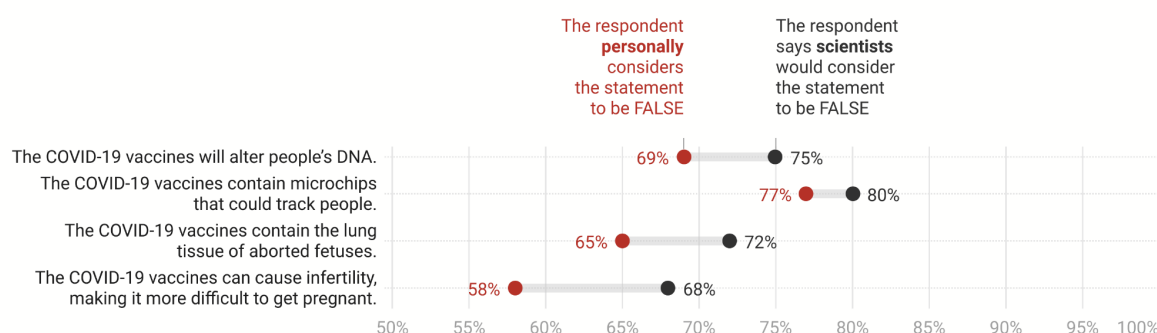
National sample, N = 19,060, Time period: 11/03/2021-12/02/2021

Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 5.

Do Americans knowingly disagree with scientific views on vaccines?

Survey respondents were asked to identify vaccine misinformation items as either true or false.
When uncertain, they also had the option of saying "Not sure". Respondents were later asked whether
they thought most scientists and health experts would consider the same statements to be true or false.

Doubting science: percent respondents in each category who said they were not sure
if a statement was true, but said scientists and health experts would consider it false.

Disbelieving science: percent respondents in each category who said they thought
a statement was true, but said scientists and health experts would consider it false.

	Doubting science	Disbelieving science
ALL AMERICANS	21%	6%
Gender: Male	19%	6%
Gender: Female	23%	6%
Race/Ethnicity: African American	25%	7%
Race/Ethnicity: Asian American	18%	3%
Race/Ethnicity: Hispanic	21%	7%
Race/Ethnicity: White	21%	6%
Age: 18 to 24	27%	8%
Age: 25 to 44	25%	9%
Age: 45 to 64	20%	5%
Age: 65 and over	13%	3%
Education: High School or Less	24%	7%
Education: Some College	23%	6%
Education: Bachelor Degree	18%	5%
Education: Graduate Degree	13%	6%
Income: Under 25K	24%	6%
Income: 25K to under 50K	22%	6%
Income: 50K to under 75K	20%	6%
Income: 75K to under 100K	20%	7%
Income: Over 100K	17%	6%
Party: Republican	24%	8%
Party: Democrat	16%	5%
Party: Independent	25%	6%
Party: Other	26%	7%
Area: Rural	25%	7%
Area: Suburban	21%	6%
Area: Urban	20%	7%

National sample, N = 19,060, Time period: 03/11/2021-02/12/2021

Figure 6.

For each of the four vaccine misinformation statements we presented, respondents were more likely to say scientists would consider it false than to say they personally knew it to be incorrect. Only 58% of respondents said the claim that COVID-19 vaccines caused infertility was false, but 68% said that scientists would deem that claim false. Similarly, 65% said the claim that vaccines contain aborted fetal cells was false, compared to 72% who thought scientists would say this was untrue. Further, 69% said the claim vaccines altered DNA was false, compared to 75% who said science would consider it false. Finally, 77% of respondents knew vaccines did not contain a microchip, and 80% said scientists would reject the idea that COVID-19 shots come with a chip.

Overall, 6% of Americans said a vaccine misinformation claim was true, even while knowing that scientists and medical experts deemed it to be false. Our findings thus indicate that **a third of those who believe false vaccine claims are aware that scientists and medical experts reject those claims**. **Additionally, over a fifth of Americans (21%) are aware that science considers a particular claim to be false, but still say they are not sure whether to believe it or not**.

Figure 6 shows the demographic differences among respondents who disbelieve or doubt the scientific consensus around vaccine misinformation. Republicans and people ages 18 to 44 are most likely to knowingly disagree with the expert consensus; Asian Americans and people over 65 years of age are least likely to do so.

The groups most likely to be uncertain while still knowing the accepted scientific stance include people with lower income and education, those living in rural areas, Republicans and Independents, African Americans, as well as people younger than 45. On the other end of the spectrum, Democrats, those with a graduate degree, and people over 65 are least likely to doubt science.

Perceived vaccine knowledge among those with different misperception levels

How much do you know about the COVID-19 vaccines?
[Perceived vaccine knowledge among respondents who believe zero, one, or more than one vaccine misinformation items]
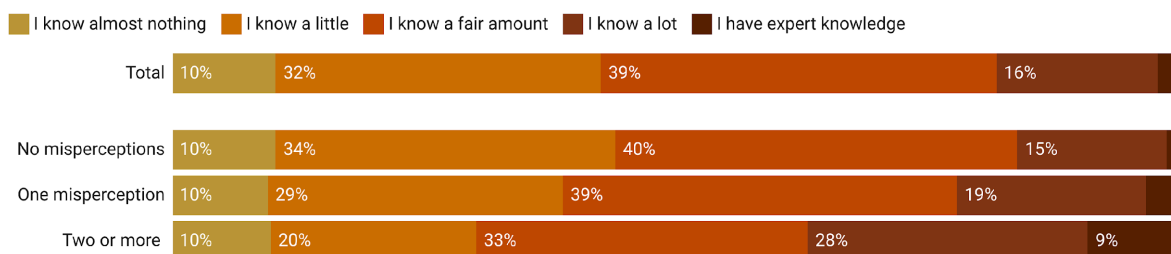
■ I know almost nothing ■ I know a little ■ I know a fair amount ■ I know a lot ■ I have expert knowledge

Total	10%	32%	39%	16%	
No misperceptions	10%	34%	40%	15%	
One misperception	10%	29%	39%	19%	
Two or more	10%	20%	33%	28%	9%

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper
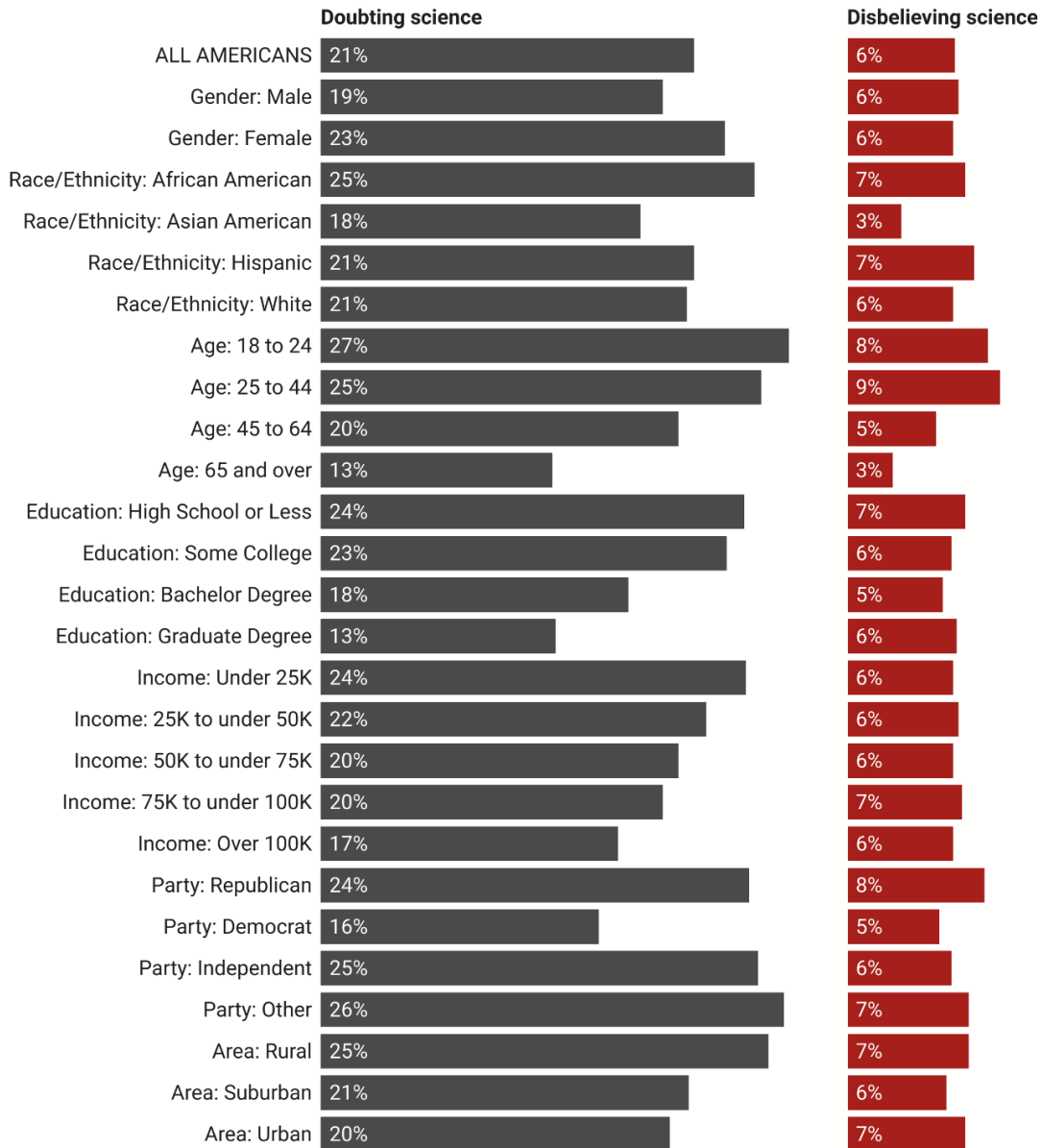
Figure 7.

Misperceptions among those with different perceived vaccine knowledge levels

How much do you know about the COVID-19 vaccines?
[Number of vaccine misperceptions among respondents with different perceived vaccine knowledge]

■ No misperceptions ■ One misperception ■ Two or more misperceptions

All Americans	84%	9%	8%
I know almost nothing about vaccines	85%	8%	8%
I know a little about vaccines	87%	8%	5%
I know a fair amount about vaccines	85%	9%	7%
I know a lot about vaccines	76%	10%	14%
I have expert knowledge about vaccines	52%	13%	35%

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 8.

We also asked respondents to tell us how much they knew about COVID-19 vaccines. In response, 10% claimed they knew almost nothing, 32% said they knew a little, 39% a fair amount, 16% a lot, and 2% said they had expert knowledge in the area. The self-assessed higher vaccine knowledge of the respondents did not prevent them from holding misperceptions. In fact, the more knowledgeable someone claimed to be, the more likely they were to believe multiple false claims. As Figure 7 shows, **37% of those who held multiple misperceptions thought they were very knowledgeable about vaccines, compared to 16% of those who held no misperceptions.** Among those who claimed to have expert knowledge about vaccines, 48% believed false claims compared to 16% of those who said they knew nothing.

Trust in science, media, and the government

Misinformation exposure and acceptance are known to have a strong association with people's trust in key social institutions, among them the government, media, scientists, and doctors. In both the domains of health and politics, believing false claims is linked to lower trust in experts and people in a position of power.

Figure 8 shows the percent of respondents who trust political actors and social institutions among those who: (1) believe some false COVID-19 vaccine claims; (2) do not believe any false claims but are uncertain whether some of them are true; and (3) correctly identify all claims as false.

In the majority of cases, those who hold misperceptions or have doubts are less likely to trust the listed political actors or social institutions. Two major exceptions from this pattern are Donald Trump and Fox news, who are trusted more by those who believe vaccine misinformation (55% for Trump and 49% for Fox) or experience uncertainty (39% Trump and 44% Fox) compared to people who reject false vaccine claims (22% Trump and 32% Fox). Social media presents another interesting case, with almost identical low levels of trust (below 30%) for all 3 groups of people. Facebook in particular is slightly more trusted among those who hold misperceptions (33%) compared to those who reject them (31%). The CDC, FDA, Anthony Fauci, and Joe Biden have the largest drop in trust from people who do not hold misperceptions to those who do (over 35 percentage points lower in each case).

Trust in institutions and COVID-19 vaccine misperceptions

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

The chart compares levels of trust (percent who say they trust an institution "Some" or "A lot") among respondents who:
(1) *Identify at least one of the four false COVID-19 vaccine statement as correct;*
(2) *Do not identify false statements as correct but respond "Don't know" at least once; or*
(3) *Correctly identify all statements as false.*
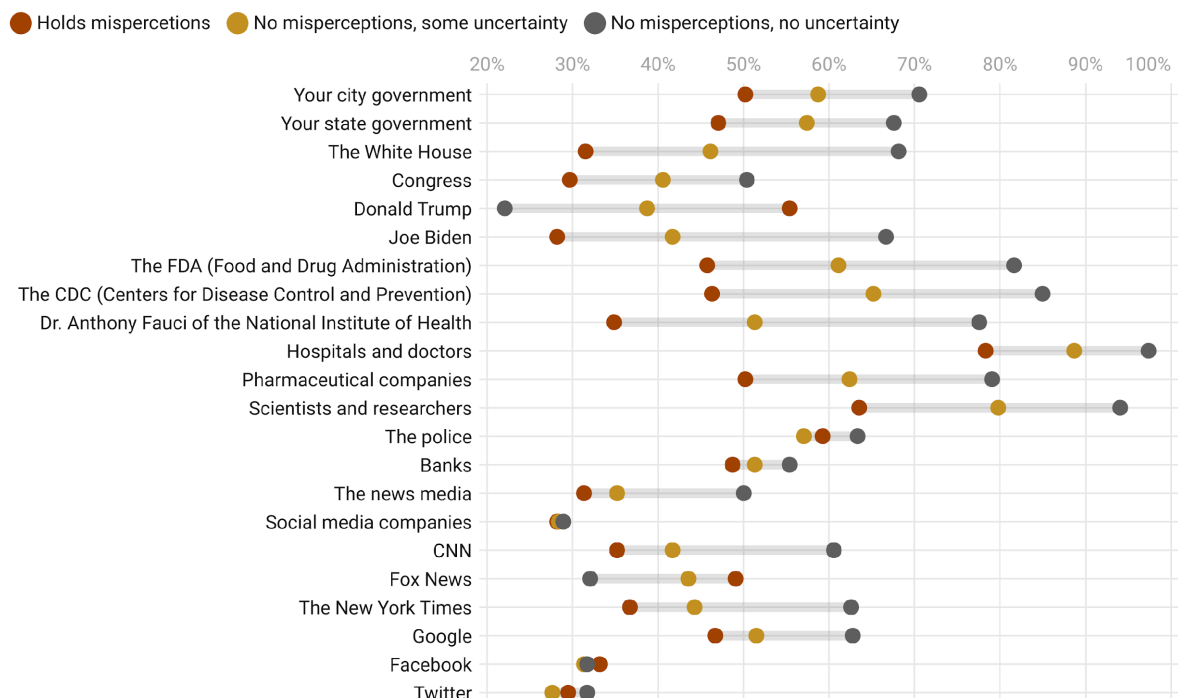
National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

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Figure 9.

As levels of trust differ among social groups ([see our interactive COVID trust tracker](#)), we also examine a model[3] that looks at trust as a predictor of misperceptions while accounting for demographics, geography, political party, news consumption, and personal experience with COVID-19. With all of those factors taken into consideration, trust in science and medicine along with trust in the government remain among the most important negative predictors of holding vaccine misperceptions (Figure 9).

COVID-19 vaccine misinformation: Key predictors of holding misperceptions

The numbers are coefficients from logistic regressions. Estimates presented in red, confidence intervals in gray.
Outcome variable: respondents hold at least one of the following four COVID-19 vaccine misperceptions.
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

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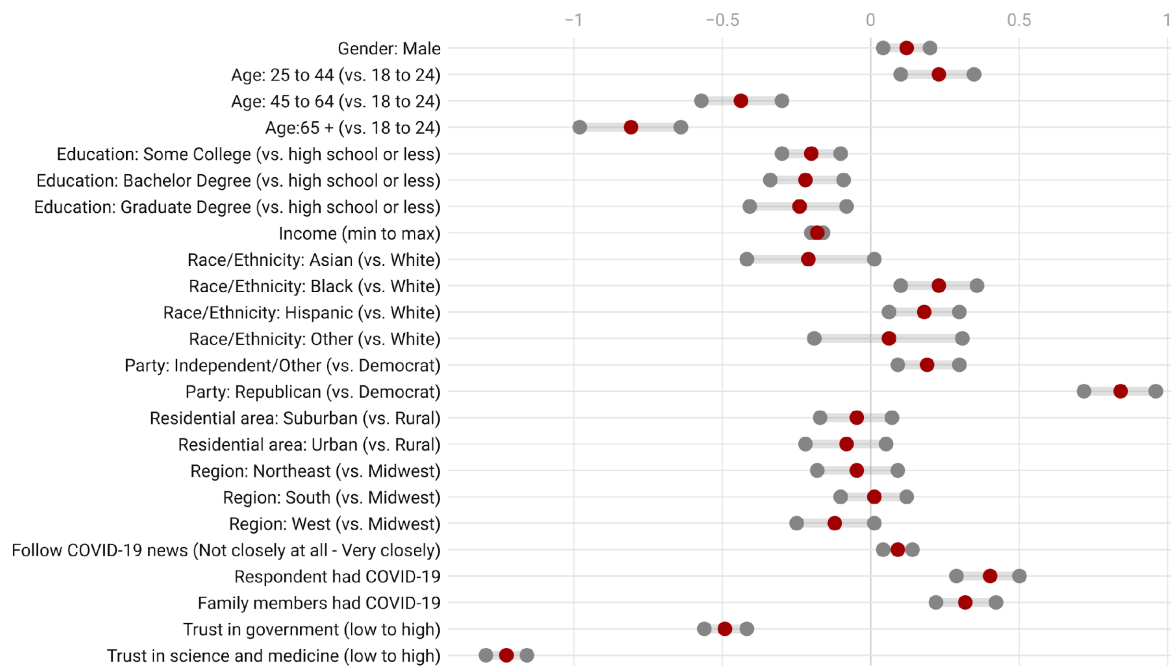
Figure 10.

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[3] Figure 9 presents the results from a logistic regression estimating the probability of holding COVID-19 vaccine misperceptions. The vertical reference line at zero indicates no effect. Coefficients whose confidence intervals touch that zero line are not statistically distinguishable from zero. Coefficients that are to the right (left) of the line are associated with a higher (lower) marginal probability of observing the outcome.

Misinformation and vaccination rates

One major reason for concerns over misinformation is its expected detrimental effect on important attitudes and behaviors. In a previous misinformation report, we highlight the association between misperceptions and attitudes towards the COVID-19 vaccine. Similar patterns continue to hold in our most recent survey findings.

Among people who did not believe any misinformation items, 80% reported being vaccinated, and 13% were vaccine resistant. For those who marked a single false item as accurate, 49% were vaccinated and 42% were vaccine resistant. In the group that thought multiple statements were true, 32% were vaccinated, and a staggering 60% were vaccine resistant (see Figure 11).

COVID-19 vaccine status and number of misperceptions

COVID-19 vaccine status among respondents who said none, one, or more than one of the following false statements were accurate:
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ Vaccinated ■ May get vaccinated ■ Vaccine resistant

None	80%	7% 13%
One	49%	9% 42%
Two or more	32%	9% 60%
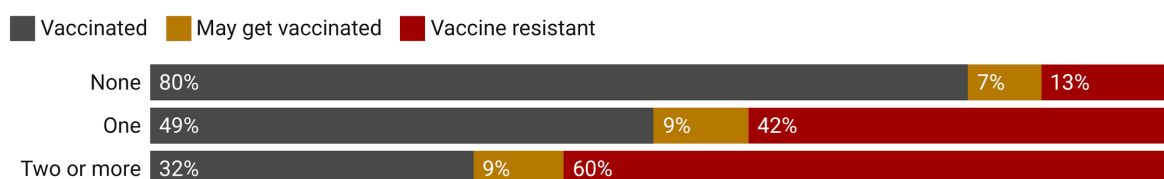
National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 11.

Figures 11 and 12 show two models[4] predicting getting vaccinated or being vaccine resistant. After accounting for demographics, geography, politics, and COVID-19 news consumption, the most important predictors in each case remain vaccine misperceptions, uncertainty about false vaccine claims (both reducing the chances of being vaccinated), as well as trust in government and science (both increasing the chances of getting vaccinated).

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[4] The figures present results from logistic regressions with identical predictors, estimating the probability of reporting that one has been vaccinated (Figure 11) or that one will *not* get vaccinated (Figure 12). The vertical reference lines at zero indicate no effect. Coefficients whose confidence intervals touch that zero line are not statistically distinguishable from zero. Coefficients that are to the right (left) of the line are associated with a higher (lower) marginal probability of observing the outcome.

COVID-19 vaccine status: Already vaccinated

The numbers are coefficients from logistic regressions. Estimates are presented in red, confidence intervals in gray.
Outcome variable: respondent reports they have received at least one dose of the COVID-19 vaccine.
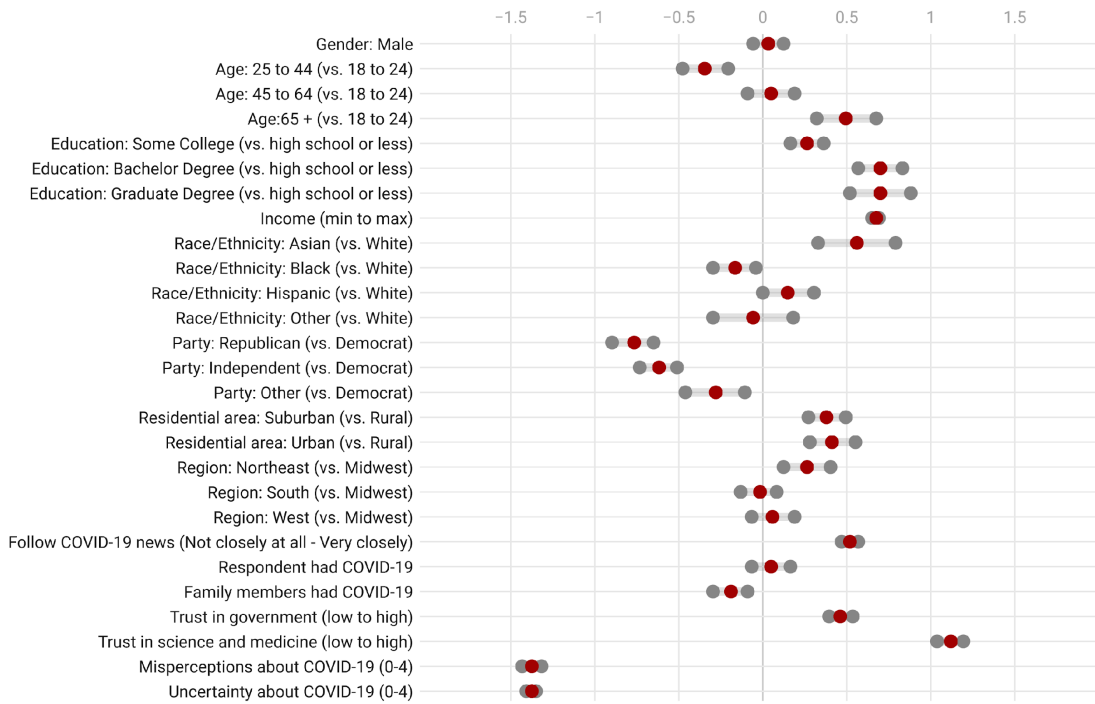
National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

COVID-19 vaccine status: Will not get vaccinated

The numbers are coefficients from logistic regressions. Estimates presented in red, confidence intervals in gray.
Outcome variable: respondent reports they do not intend to get vaccinated
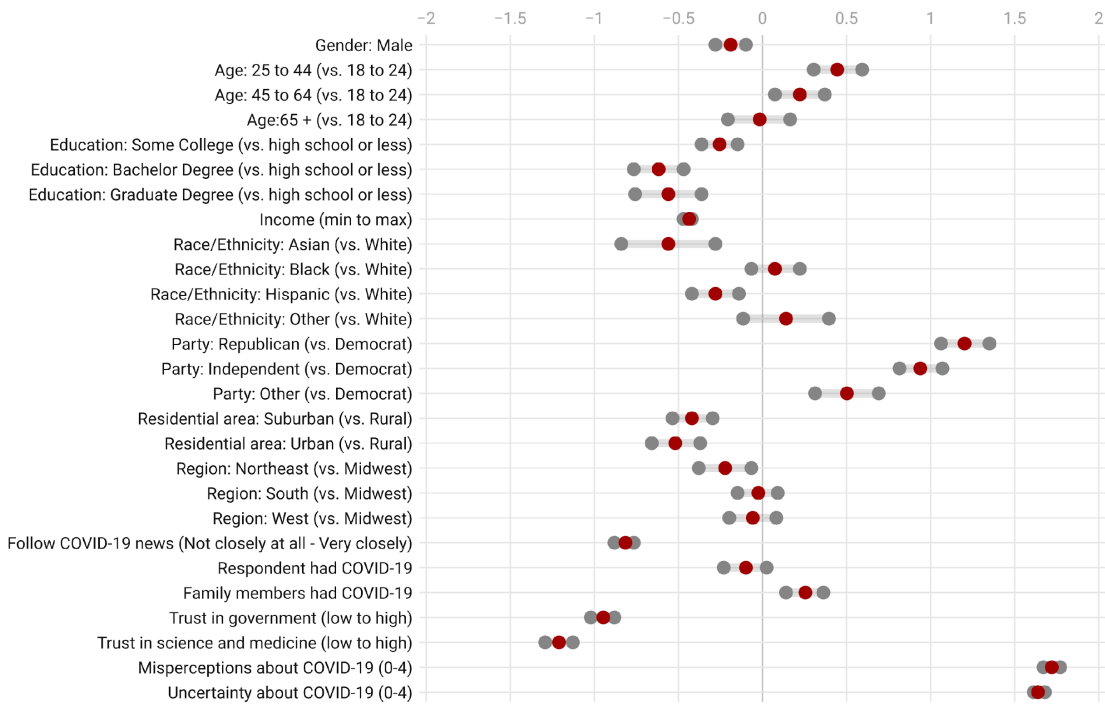
National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure 12 and Figure 13.

Appendix: Demographics of vaccine misperceptions

COVID-19 misperceptions by gender, race/ethnicity, and age

Respondents who said none, one, or more than one of the following false statements were accurate:
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ None ■ One ■ Two or more

	None	One	Two or more
Total	84%	9%	8%
Male	83%	9%	8%
Female	84%	9%	7%
African American	82%	9%	10%
Asian American	91%	6%	
Hispanic	81%	11%	9%
White	84%	8%	8%
18 to 24	82%	12%	7%
25 to 44	78%	11%	12%
45 to 64	86%	7%	7%
65 and over	92%	5%	

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Figure A1.

COVID-19 misperceptions by gender, race/ethnicity, and age

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ Respondents who marked at least one misinformation item as true
■ Respondents who marked none as true, but at least one as "not sure"
■ Respondents who correctly marked all misinformation items as false

| Category	At least one true	None true, at least one not sure	All correctly false
Total	16%	37%	47%
Male	17%	36%	47%
Female	16%	38%	46%
African American	18%	42%	40%
Asian American	10%	32%	58%
Hispanic	19%	39%	42%
White	16%	35%	49%
18 to 24	19%	42%	40%
25 to 44	22%	42%	36%
45 to 64	14%	36%	49%
65 and over	8%	26%	66%

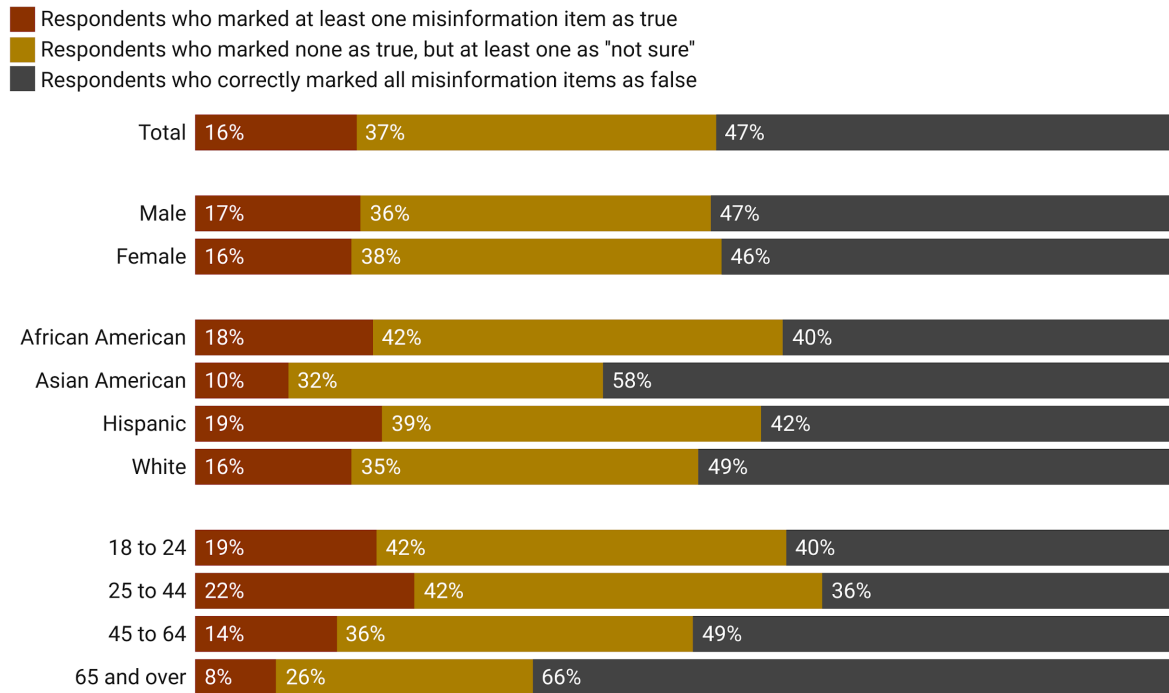*National sample, N = 18,782, Time period: 12/22/2021-01/24/2022*

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure A2.

COVID-19 misperceptions by education, income, and urbanicity

Respondents who said none, one, or more than one of the following false statements were accurate:
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ None ■ One ■ Two or more

	None	One	Two or more
Total	84%	9%	8%
High School or Less	80%	10%	10%
Some College	84%	9%	7%
Bachelor Degree	87%	7%	6%
Graduate Degree	89%	6%	5%
Under 25K	81%	10%	10%
25K to under 50K	85%	9%	7%
50K to under 75K	85%	7%	7%
75K to under 100K	85%	9%	7%
Over 100K	85%	8%	7%
Rural	81%	10%	10%
Suburban	84%	9%	8%
Urban	85%	8%	7%

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure A3.

COVID-19 misperceptions by education, income, and urbanicity

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ Respondents who marked at least one misinformation item as true
■ Respondents who marked none as true, but at least one as "not sure"
■ Respondents who correctly marked all misinformation items as false

	Marked ≥1 true	Marked none true, ≥1 "not sure"	Marked all false
Total	16%	37%	47%
High School or Less	20%	45%	35%
Some College	16%	36%	48%
Bachelor Degree	13%	28%	59%
Graduate Degree	11%	25%	64%
Under 25K	19%	44%	37%
25K to under 50K	15%	37%	47%
50K to under 75K	15%	34%	52%
75K to under 100K	15%	31%	54%
Over 100K	15%	28%	57%
Rural	19%	39%	42%
Suburban	17%	37%	47%
Urban	15%	35%	50%

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper
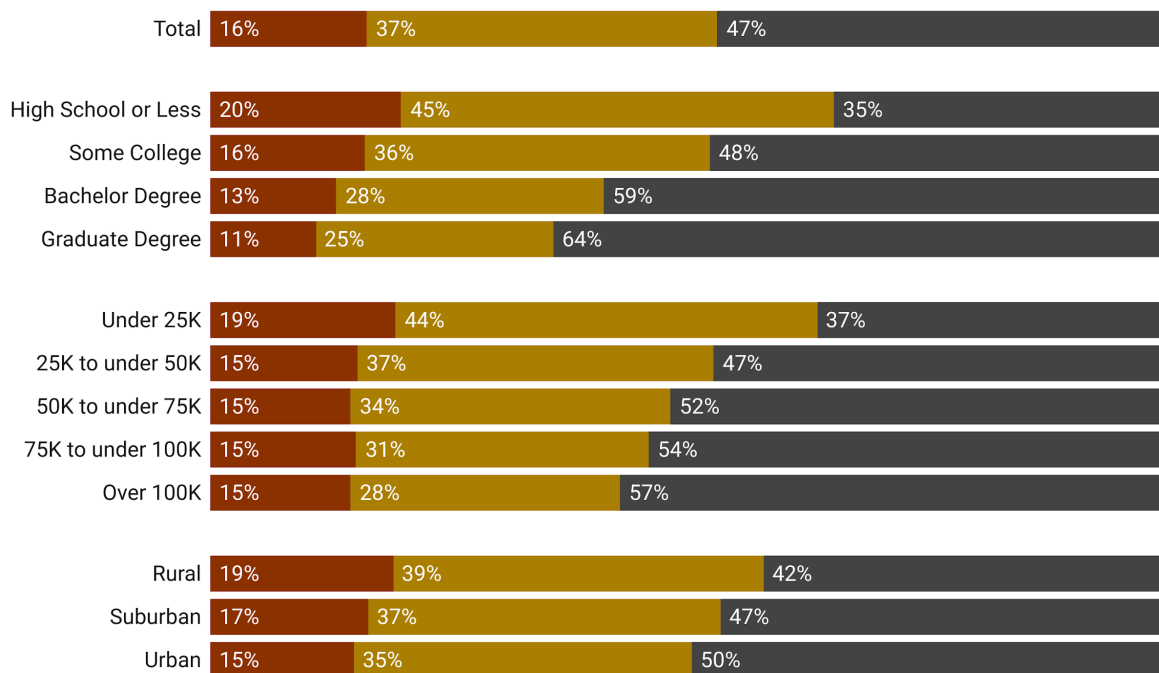
Figure A4.

COVID-19 misperceptions by political party

Respondents who said none, one, or more than one of the following false statements were accurate:
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ None   ■ One   ■ Two or more

	None	One	Two or more
Total	84%	9%	8%
Republican	76%	12%	12%
Democrat	89%	6%	5%
Independent	83%	9%	8%
Other	83%	8%	9%

National sample, N = 16,996, Time period: 06/09/2021-07/07/2021

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure A5.

COVID-19 misperceptions by political party

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ Respondents who marked at least one misinformation item as true
■ Respondents who marked none as true, but at least one as "not sure"
■ Respondents who correctly marked all misinformation items as false

	At least one true	None true, at least one "not sure"	All correctly false
Total	16%	37%	47%
Republican	24%	40%	37%
Democrat	11%	28%	61%
Independent	17%	41%	41%
Other	17%	50%	34%

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper
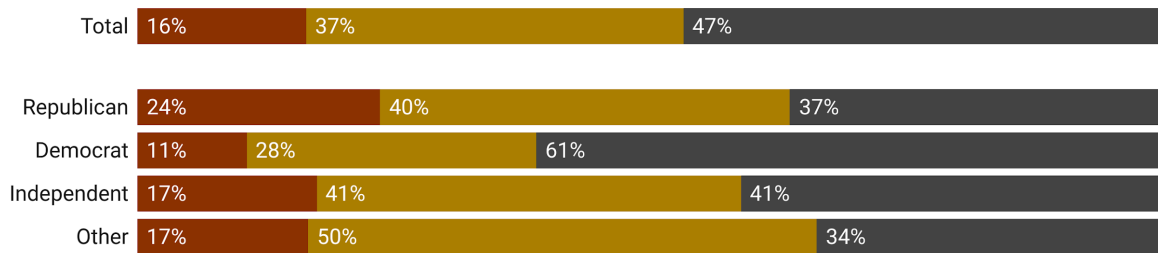
Figure A6.

COVID-19 misperceptions by parent status

Respondents who said none, one, or more than one of the following false statements were accurate:
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ None ■ One ■ Two or more

	None	One	Two or more
Total	84%	9%	8%
Non-Parent	86%	7%	6%
Parent	77%	11%	12%
Mother	79%	11%	11%
Father	76%	12%	12%
Mother under 35	74%	12%	14%
Mother 35 and over	81%	10%	9%
Father under 35	68%	16%	15%
Father 35 and over	79%	9%	11%

National sample, N = 16,996, Time period: 06/09/2021-07/07/2021

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper
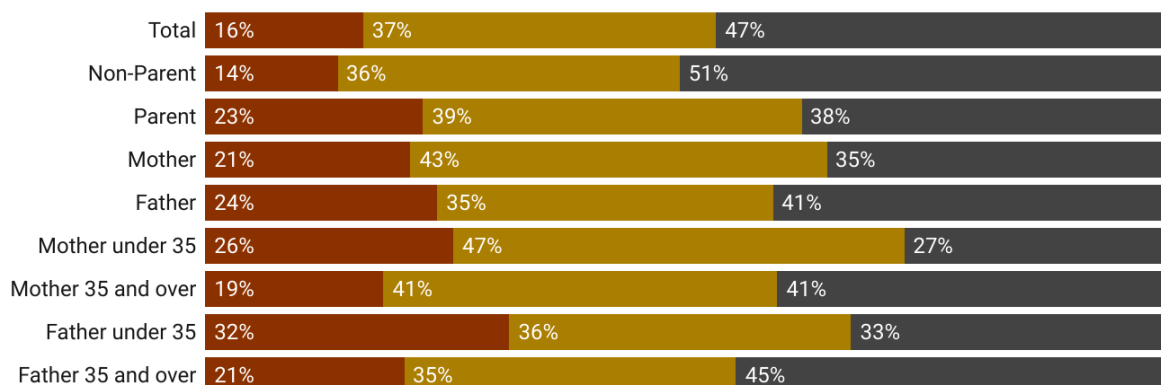
Figure A7.

COVID-19 misperceptions by parent status

Survey respondents were asked to identify the following four vaccine misinformation items as either true or false. When uncertain, they also had the option of saying "Not sure".
1. *The COVID-19 vaccines will alter people's DNA.*
2. *The COVID-19 vaccines contain microchips that could track people.*
3. *The COVID-19 vaccines contain the lung tissue of aborted fetuses.*
4. *The COVID-19 vaccines can cause infertility, making it more difficult to get pregnant.*

■ Respondents who marked at least one misinformation item as true
■ Respondents who marked none as true, but at least one as "not sure"
■ Respondents who correctly marked all misinformation items as false

	At least one true	None true, at least one not sure	All correctly false
Total	16%	37%	47%
Non-Parent	14%	36%	51%
Parent	23%	39%	38%
Mother	21%	43%	35%
Father	24%	35%	41%
Mother under 35	26%	47%	27%
Mother 35 and over	19%	41%	41%
Father under 35	32%	36%	33%
Father 35 and over	21%	35%	45%

National sample, N = 18,782, Time period: 12/22/2021-01/24/2022

Source: Source: The COVID-19 Consortium for Understanding the Public's Policy Preferences Across States (A joint project of: Northeastern University, Harvard University, Rutgers University, and Northwestern University) www.covidstates.org • Created with Datawrapper

Figure A8.