

Explaining Vaccine Hesitancy

MOSAIC Data Brief

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MOSAIC Data Brief Series

MOSAIC (Measuring Online Social Attitudes and Information Collaborative) is a collaboration between SSRS, Georgetown University, and the University of Michigan. This collaboration will focus on understanding how to leverage survey data and social media data to better capture public opinion in reliable, valid, and scientifically rigorous ways. This data brief series is intended to share public opinion results to inform researchers and decision makers with information about attitudes in the United States related to different aspects of the COVID-19 pandemic. Data briefs will utilize open-ended survey responses, social media posts, and/or both in order to gain different perspectives on public attitudes.



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Despite being among the first countries to roll out COVID vaccines to the entire population, the United States lags significantly behind many other nations in vaccination rates. The 55% of Americans currently vaccinated fall behind more than three dozen countries that boast higher vaccination rates, including Spain (79%), Chile (74%), France (66%), Bahrain (64%), and Hungary (59%)¹.

Even following the emergence of the Delta variant and the rollout of increased employment-related vaccine mandates, many eligible Americans have still chosen not to take advantage of the safe and effective vaccines that protect against COVID-19. While a majority of Americans are now fully vaccinated, the question remains as to **why eligible people have chosen not to get a vaccine**.

In this data brief, we describe results from a nationally representative survey where we explicitly asked Americans why they had not gotten the vaccine and examined their answers. We also compare the results to findings from another recent survey in an effort to understand whether the same story emerges across multiple methods.

In a survey conducted from late April until early June, we asked people who were not planning on getting the vaccine the following open-ended question: “What are the main reasons you would not get a coronavirus vaccine?” We received a range of responses that we categorized using topic modeling (see Methodology section for more information). These categories were generated using the participants’ own words, as described below.

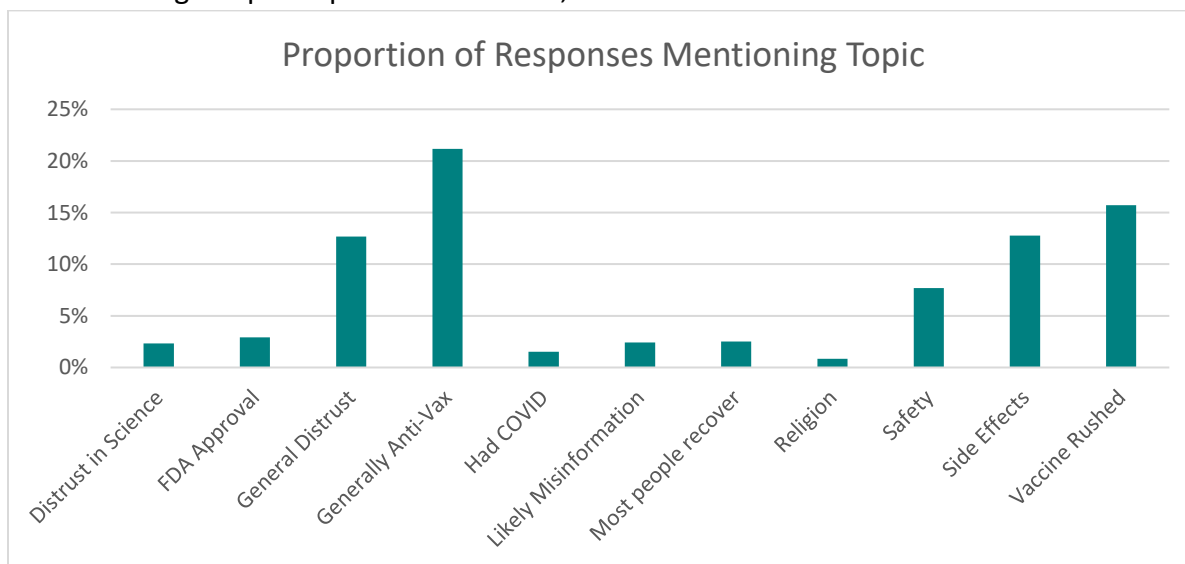


Figure 1. Proportion of Responses Mentioning Topic

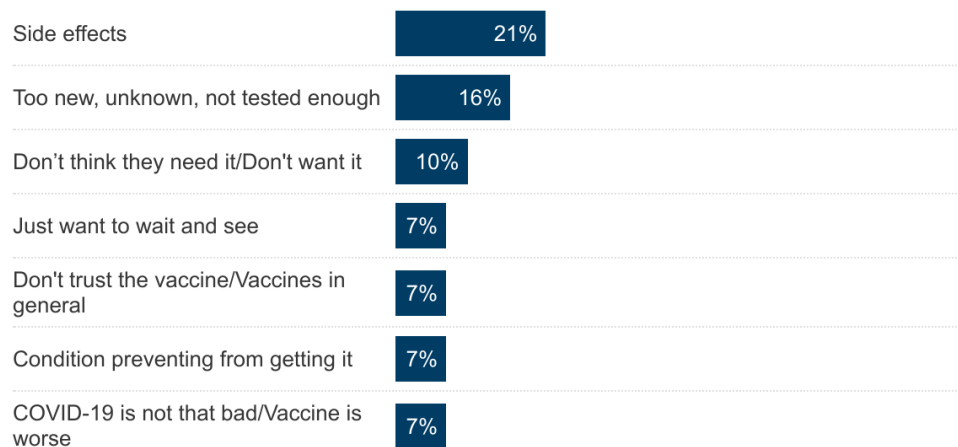
¹ Mathieu, E., Ritchie, H., Ortiz-Ospina, E. et al. (2021). [A global database of COVID-19 vaccinations. Nat Hum Behav \(2021\)](#). Our World in Data [October 7, 2021].

Many of these reasons were somewhat expected - people worried about safety (7.7%) and side effects (12.8%). They said that the vaccine was rushed (“it is too early”) (15.7%), or that they just generally don’t trust science (2.3%) or have a general distrust (12.7%). A large number of people who are vaccine hesitant identify in some way as being generally against vaccination - not just COVID-19 vaccination (21.2%).

Other issues, including religious reasons (0.8%), concerns about FDA approval (2.9%) - (note that the survey was fielded before Pfizer’s vaccine received full FDA approval in August), a general sense that the disease is not that serious (2.5%), and people saying they’d already had COVID-19 and therefore did not need to be vaccinated (1.5%), also emerged. Finally, about 2.4% of participants gave a reason that we identified as being likely misinformation when asked why they were choosing not to receive the vaccine.

Concerns Over Side Effects, Newness Of Vaccine As Well As Perceptions About Not Needing The Vaccine Are Top Reasons Provided For Not Getting A COVID-19 Vaccine

What is the main reason you have **not** gotten a COVID-19 vaccine? (open-ended)



NOTE: Among those who have not been vaccinated for COVID-19. Responses over 6% reported. See topline for full question wording.

SOURCE: KFF COVID-19 Vaccine Monitor: In Their Own Words, Six Months Later (June 15-23, 2021)

[KFF COVID-19 Vaccine Monitor](#)

Figure 2. Survey Results from Kaiser Family Foundation COVID-19 Vaccine Monitor²

² Kirzinger, A. Sparks, G. & Brodie, M. (2021). [KFF COVID-19 vaccine monitor: in their own words, six months later \(june 15-23, 2021\)](#), KFF [July 13, 2021].

Our results largely echo the concerns that emerged in a recent analysis of survey data performed by Kaiser Family Foundation. The topics of overlap between our coding and theirs include safety, side effects, trust, waiting to see, and thinking COVID-19 is not that serious. This triangulation of data - two different surveys with slightly different question wording, and use of human versus machine coding - gives us greater confidence in our findings.

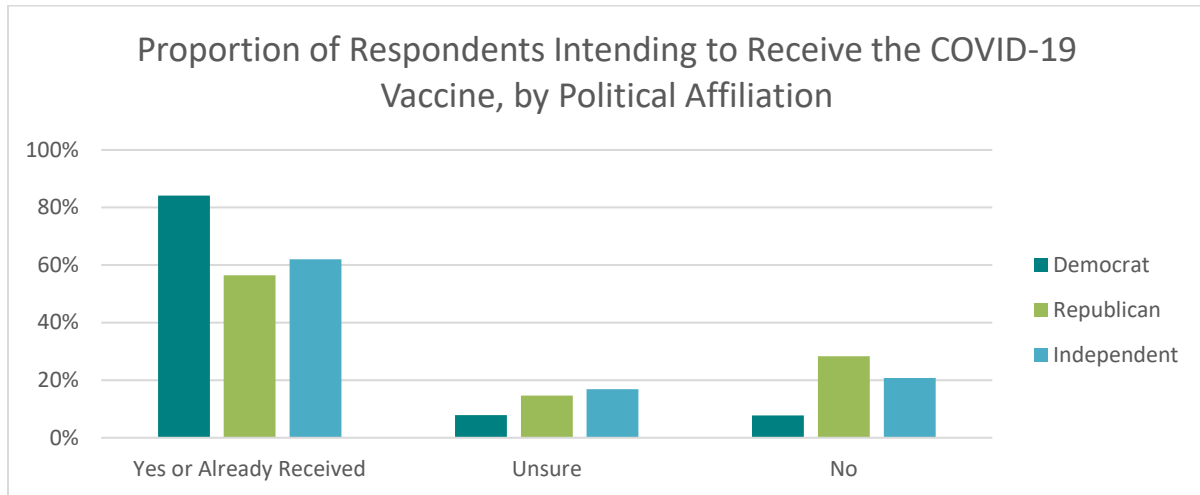


Figure 3. Proportion of Respondents Intending to Receive the COVID-19 Vaccine, by Political Affiliation

If we look at vaccine hesitancy by political party, our findings are also consistent with the results of the KFF COVID-19 Vaccine Monitor. Democratic respondents were much more likely to report their intention to receive the COVID-19 Vaccine when it became available to them (84%) compared to Independent respondents (62%) and Republican respondents (56%). Republicans were more likely than other groups to report that they did not intend to receive the vaccine (28%), while Independents were more likely than other groups to report they were unsure (17%).

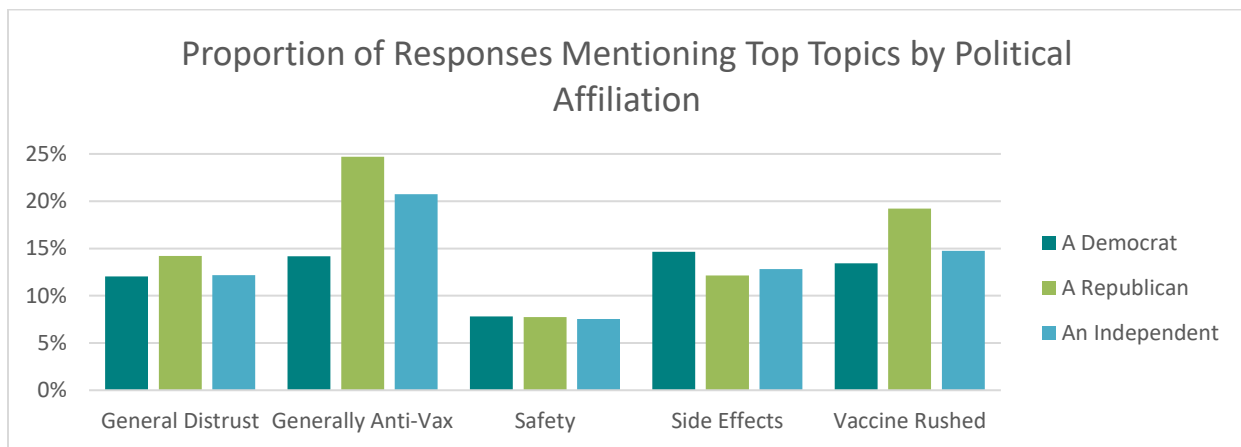


Figure 4. Proportion of Responses Mentioning Top Topics by Political Affiliation

While the top five coded topics among those who did not report intending to receive the COVID-19 vaccine were the same between political parties, Democrats were most likely to report concerns about side effects (15% of responses), while Republicans and Independents were most likely to report being anti-vaccine in general (25% and 21%, respectively). While gender differences in intent to receive the vaccine were smaller than differences by political party, female respondents were more likely to worry about side effects (15%) than male respondents (10%).

These findings give us insight into how to reach people who remain unvaccinated. Notably, people who are against vaccines in general are probably unpersuadable, and this is a substantial portion of unvaccinated respondents in our survey. But for many people - those worried about safety and side effects, those who say they are waiting to see, those who think COVID-19 is not that serious, and those who are misinformed - information and persuasion campaigns have the potential to encourage vaccine uptake.

Methodology

Survey & Social Media Data Collection. The MOSAIC recruitment survey was conducted via the SSRS Opinion Panel and invited U.S. adults aged 18 and older who use the internet to participate. The SSRS Opinion Panel is a probability-based web panel of U.S. adults (including Hawaii and Alaska) and is recruited randomly based on a nationally representative ABS (Address Based Sample) probability design. Data collection was conducted via the web from March 11 – June 13, 2021, among a sample of 9,544 panelists in English (9,468) and Spanish (76). Data were weighted to represent the target U.S. adult population.

Topic Coding of Open-ended Responses. The exact responses to open-ended questions were transcribed by interviewers and coded using semi-supervised topic modeling. Preprocessing steps included capitalization standardization, punctuation removal, and stopword removal. Frequently occurring words and phrases were identified by identifying the frequency with which respondents used different unigrams, bigrams, and trigrams. Experts looked through the list of frequently occurring words and phrases, identifying ones that could be used to represent seed topics. These seed topics were inputs into a generative topic model and used to generate more complete topics and possibly new topics. This topic list was manually adjusted by experts.

Acknowledgments

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