

Covid-19 Vaccination & Misinformation Survey Report

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Table of Contents

Background	2
Purpose of the Survey	3
Method	4
Population, Sampling Frame, and Sampling Method	4
Participants, Response Rate, and Survey Procedure	5
Measures	5
Results	7
Demographics of Respondents	7
Subgroup Analysis	13
Discussion & Conclusion	16
Summary	16
Key Insights	17
Conclusion	18
Works Cited	20

Background

When looking to understand African American hesitancy regarding Covid-19 vaccination, our research looked to develop data that would explain why or why not African American college students felt weary about vaccination based on selected factors including ethnicity, gender and political orientation. As of May 5, 32% of the total U.S. population (more than 107 million Americans) were fully vaccinated and nearly 45% of the population had received at least their first dose (Rapfogel). However, the vaccine doses available far exceed the number of patients waiting to receive them.

Looking demographically, as of May 11, 2021, the CDC reported that 55% of people had received at least one dose of the vaccine against Covid-19. They found that within this group, “nearly two thirds were White (63%), 13% were Hispanic, 9% were Black, 6% were Asian, 1% were American Indian or Alaska Native, and <1% were Native Hawaiian or Other Pacific Islander, while 8% reported multiple or other race” (Nambi). As of this week, the lack of vaccination among minority groups demonstrates a hesitancy or unwillingness to receive the free vaccination, which translates from hesitancy, lack of access, and other demographic factors related to race. This situation has limited vaccination rates among the total populations, which represents an issue when working to achieve herd immunity, which helps protect the members of the population who cannot be vaccinated by eradicating the virus among vaccinated populations.

Contributions from other countries regarding vaccination show similar results about hesitancy. In a nationally representative UK survey of 12,035 people conducted from November-December 2020, 71.8% of Black and 42.3% of Pakistani and Bangladeshi people were ‘unlikely or very unlikely’ to receive the vaccine (Khan). The representative samples of populations demonstrate a hesitancy of vaccination. Our survey looked to understand some of the reasons and concerns regarding vaccination as correlated to specific demographic factors including ethnicity, gender and political affiliation. However, our results yielded unexpected findings about vaccine hesitancy among African Americans.

Purpose of the Survey

The goal motivating this survey was to understand what causes African American college students to be hesitant regarding Covid-19 vaccination. Our team hoped to understand which factors could impact vaccination rates depending on selected demographic factors. We hoped to

find insights that demonstrated the reasons why African Americans were hesitant. Using the results of this survey, we looked to compare the reasons causing fear of vaccination to better draw insights into national trends.

Our previous research regarding African American hesitancy found that the CDC reported that only 5.4% of black Americans received their first dose of the vaccine compared to 60% of white Americans who received the first dose (Young). Thirty-five percent of black Americans stated that they do not plan on receiving a Covid-19 vaccine even if it becomes available to them, according to a Kaiser Family Foundation study (Young). We found that many African Americans lived far away from vaccination centers, demonstrating both a lack of access among black Americans as well as a national prioritization of vaccination centers by white neighborhoods. “In the 69 counties studied—which are home to 26 million people—Black residents were significantly more likely than whites to live more than a mile from the closest vaccination facility” (University of Pittsburgh). Understanding these demographic factors relating to race created national understandings of hesitancy. Our group hoped to gear our survey closer to the target demographic of African American students currently enrolled in college. This allowed us to develop our methodology regarding surveying and looking for representative insights. To gain a more holistic view of different racial/ethnic perspectives of Covid-19 vaccination, our team created a survey that asked college students a series of questions about Covid-19, information and Covid-19 vaccination as well as collecting demographic information of respondents.

Method

Population, Sampling Frame, and Sampling Method

Our target demographic was African American college students. To weed out the irrelevant groups, we included a restrictive question at the beginning to limit the respondents of our survey to those currently enrolled in a college or university. This developed our general population of college students, which we could then further specify using identification questions regarding their race/ethnicity, gender and political affiliations to see their impact on vaccination tendencies. Our sampling frame included college-aged students who self-identified themselves into smaller groups.

Our team collected data using an Amazon MTurk survey conducted from April 22, 2020 to April 26, 2020. The survey was administered to current college students, and each of whom was assigned to a random ID at the end of the survey. The survey included questions on the habits of vaccinations, reasons impacting people's decisions of getting vaccinated, and the trustworthiness of entities. It is more in depth than convenience sampling, because MTurk contains a more diverse and heterogeneous group of respondents than a selected group at a single university, such as Syracuse.

Participants, Response Rate, and Survey Procedure

Our team used Qualtrics to create the survey, and collected the data using Amazon MTurk, which automatically distributed our survey after payment to the audience. Participants were able to opt out following the restriction questions at the beginning. There were 615 responses for the first question. However, since our target population is college students, 511 (83.09%) respondents met the requirements. The survey received 502 completed survey reports in full during the time period that the survey was available, which generated a response rate of 81.63%.

Measures

Our key concepts in creating the survey questionnaire include reasons for Covid-19 vaccine hesitancy, information-seeking behavior, and misinformation and media use. Our demographic measures included race/ethnicity, gender and political alignment, and all response answers counted are from respondents that stated they are currently enrolled in a college or university.

In order to understand respondents' reasons for Covid-19 vaccine hesitancy, our survey asked: "For what main reason would you not get a Covid-19 vaccine?" Respondents could choose from 14 answer choices, including the statement 'I will/already have taken the vaccine,' an 'Other' choice where respondents could write-in their response, and the 12 other choices included options informed from previous studies. Previous studies that helped inform our survey questions on Covid-19 vaccine hesitancy include COVID-19 Vaccine Hesitancy in Underserved Communities of North Carolina by Doherty, Pilkington, Brown, Billings, Hoffler and Paulin in

2020 and Trust in a COVID-19 vaccine in the U.S.: A social-ecological perspective by Latkin, C., Dayton, L., Yi, G., Konstantopoulos, A., and Boodram, B. in 2021.

Information-seeking behavior in regard to Covid-19 vaccination is defined as an individual specifically looking for information regarding Covid-19 and Covid-19 vaccination information. Generally, information-seeking is “a volitional process of acquiring desired information from relevant sources” and a “perceived need for additional information” (Kim, Ahn, Atkinson & Kahlor, 2020). This information-seeking is important as misinformation can arise and inhibit subsequent seeking and processing. We defined our measures using Effects of COVID-19 Misinformation on Information Seeking, Avoidance, and Processing: A Multicountry Comparative Study by Kim, Ahn, Atkinson and Kahlor in 2020.

Our survey asked respondents “Have you sought out information regarding the Covid-19 vaccine?,” and they had the option to reply ‘yes’ or ‘no.’ If respondents answered ‘yes,’ they were asked “Where have you looked for Covid-19 information?,” and respondents could choose from eight possible answer choices, including an ‘Other’ choice where they could type in a response. Finally, we asked “How often do you look for Covid-19 information?,” to which respondents could choose from a 5-point Likert scale ranging from ‘Very Often’ to ‘Never.’

The exposure to Covid-19 misinformation on social media is overwhelming. When considering that social media was selected by respondents as their most-utilised Covid-19 information seeking medium, the effects of repeated misinformation exposure to these individuals demonstrated that 5-10% respondent are less inclined to get a Covid-19 vaccine because of the negative and false claims they often see on their social media. A 5-point Likert-type scale with 11 measure items was used to report the frequency that respondents encountered Covid-19 misinformation and conspiracies, ranging from “Claims that Covid-19 vaccines do not exist,” to “Claims that Covid-19 vaccines cause infertility.” These conspiracy or misinformation examples were drawn from High Rates of COVID-19 Vaccine Hesitancy and Its Association with Conspiracy Beliefs: A Study in Jordan and Kuwait among Other Arab Countries.

Results

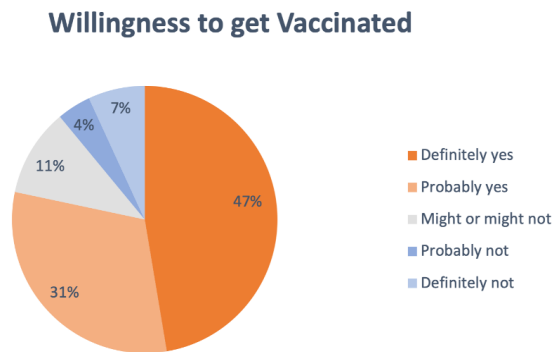
Demographics of Respondents

Table 1. Demographic Information (N=502)

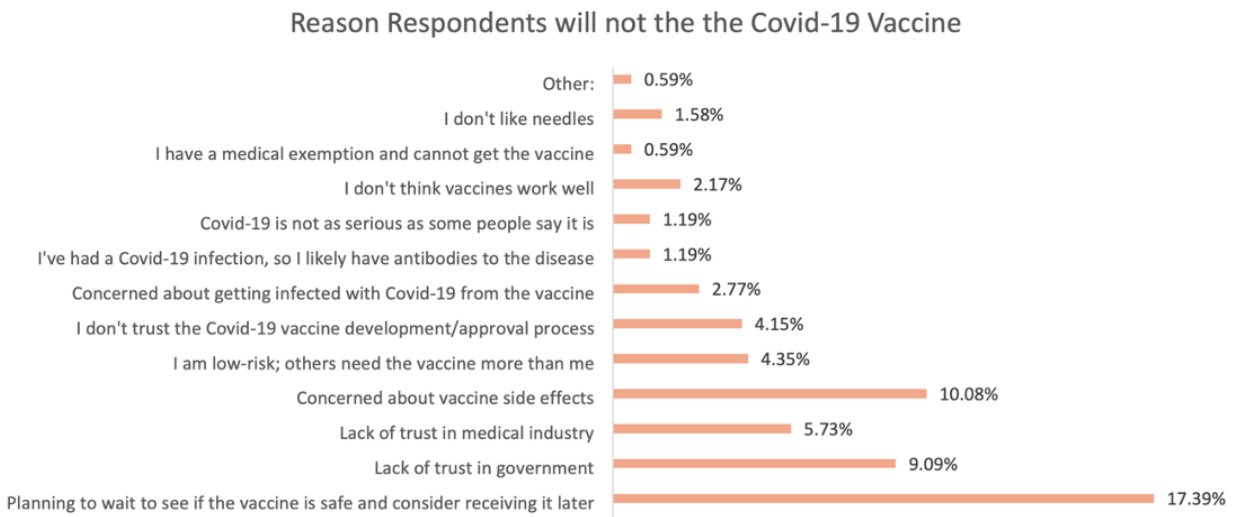
Demographic Characteristics	%	N
<i>Gender</i>		
Male	62.95%	316
Female	36.65%	184
Other	0.20%	1
Prefer not to say	0.20%	1
<i>Ethnicity</i>		
White	66.33%	333
Black or African American	19.92%	100
Hispanic	4.58%	23
Asian	7.77%	39
Native Hawaiian or Pacific Islander	0.20%	1
Other:	1.20%	6
<i>Political Alignment</i>		
Liberal	39.64%	199
Progressive	10.76%	54
Moderate	21.91%	110

Conservative	26.49%	133
None	1.20%	6

Table 2. Willingness to get Vaccinated



The results of Table 2 reported that 47% of respondents cited their willingness to receive a Covid-19 vaccine as “definitely yes.” Thirty-one percent of respondents cited their Covid-19 vaccine willingness as “probably yes.” Therefore, 78% of respondents demonstrated that they are probably, or more likely than not, going to receive a Covid-19 vaccine. While 11% of respondents recorded that they will probably or definitely not get a Covid-19 vaccine, 11% of respondents are undecided and “might or might not” get a vaccine.

Table 3. Reason Respondents will not get Covid-19 Vaccine

To understand reasons for vaccine hesitancy or refusal, researchers compiled questions using other Covid-19 vaccine studies. Thirteen reasons for Covid-19 vaccine hesitancy were given, with one fill-in option labeled 'Other.' Respondents could only pick one reason. The vast majority of respondents (39%) stated that they will or have already received the vaccine. Three other answer choices stood out: planning to wait to see if the vaccine is safe and consider receiving it later (17%), concern about vaccine side effects (10%), and lack of trust in the government (9%). Other reasons that were less popular included lack of trust in medical industry, respondent perceives themselves as low risk and other need the vaccine more, distrust of the vaccine development or approval process, concern about getting Covid-19 from the vaccine, belief that vaccines do not work, fear of needles, belief that Covid-19 is not serious, belief that already having had Covid-19 would protect oneself, and medical exemption. The results of Table 3 indicate that around 61% of respondents have some feelings of hesitancy or distrust in the Covid-19 vaccine.

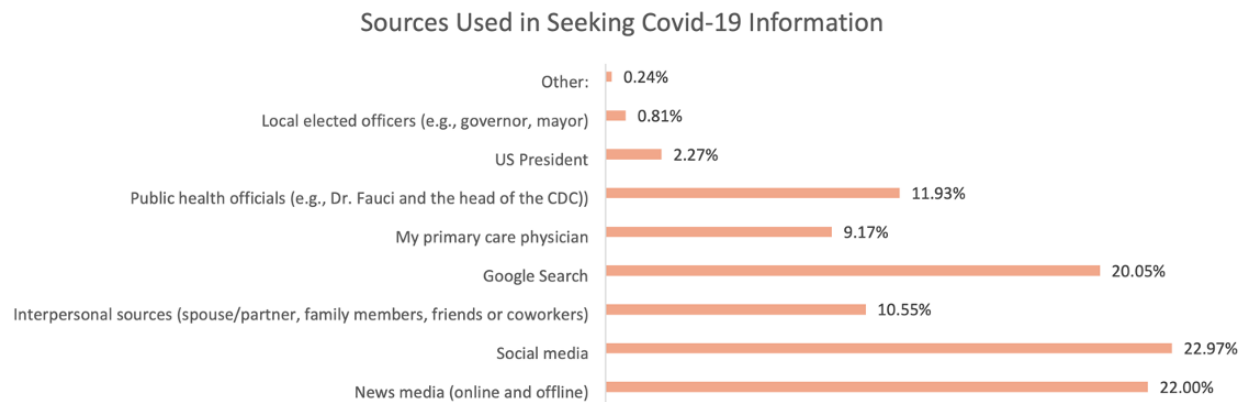
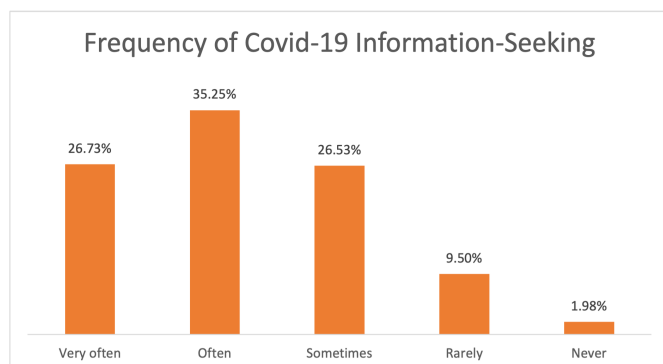
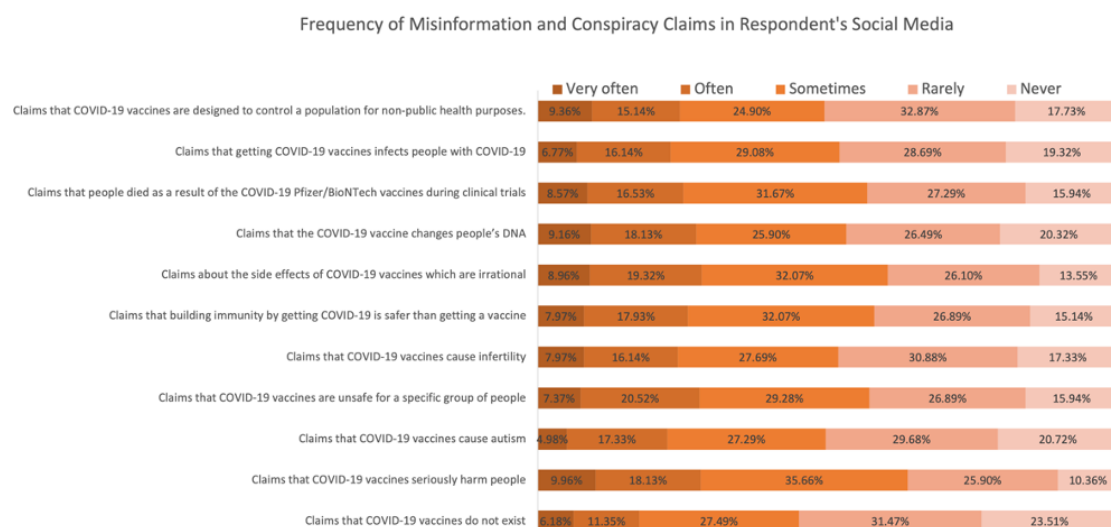
Table 4. Sources Used in Seeking Covid-19 Information

Table 4 indicates the sources where respondents have looked for Covid-19 information. Eight possible sources and an ‘Other’ source were listed for respondents to choose from. Multiple choices were allowed. The majority of respondents look for this information on online and offline news media, on social media and in a Google search. Less popular but still relevant were public health officials (12%), interpersonal sources (11%) and respondent’s primary care physician (9%). The least common sources were US presidents (2%) and local elected officers (0.81%). The large amount of Covid-19 information-seeking behavior is troublesome as social media information is not always accurate and can be misleading or conspiratory. The most factual sources are likely to be public health officials and primary care physicians, who are medically trained professionals. Ideally, these sources should be respondents’ primary sources of information, as Google searches are tailored to the data history of whoever is searching, news media can have misleading opinion pieces, and social media is often misleading and inaccurate.

Table 5. Frequency of Covid-19 Information-Seeking

In order to see if respondents are actually seeking information about Covid-19, we asked how often respondents look for Covid-19 information with answer options on a 5-point Likert scale. Table 5 indicates that over half of respondents, 61.62%, are proactively seeking Covid-19 information. 26.73% of respondents cited that they very often seek for Covid-19 information, while 35.25% said that they often seek for Covid-19 information. An additional 26.53% of respondents stated that they sometimes search for Covid-19 information, implying that they are still somewhat seeking for Covid-19 information, whether it is presented to them directly without seeking or not. While 9.5% of respondents said that they rarely proactively seek out Covid-19 information, only 1.9% of respondents cited that they never seek out Covid-19 information. Given that this pandemic can affect all persons as a highly-spreadable virus, it bodes well that the majority of respondents are not apathetic and are seeking out information on Covid-19.

Table 6. Frequency of Misinformation and Conspiracy Claims in Respondent's Social Media



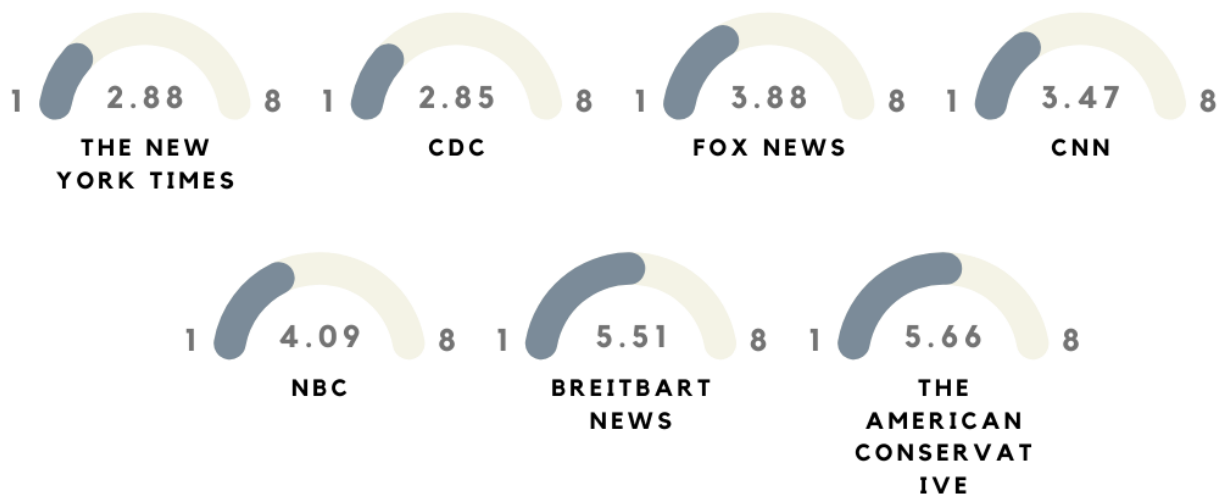
Eleven conspiracy misinformation claims about Covid-19 were presented to respondents to see how often they encounter these claims in their media consumption. For each claim, respondents chose from a 5-point Likert scale to indicate how often they saw each claim: very often, often, sometimes, rarely, never. Around 5-20% of respondents often or very often saw many of the misinformation and conspiracy claims. Around 26-36% of respondents sometimes saw many of the misinformation and conspiracy claims. Around 10-32% of respondents rarely or

never saw the misinformation and conspiracy claims. This data indicates that around 5-10% of respondents are seeing these false or misleading claims on their social feed very often. These specific respondents are likely less inclined to get a Covid-19 vaccine because of the negative and false claims they often see on their social media. The most popular claim was that Covid-19 vaccine seriously harms people, and is seen very often at 9.96%. This indicates that people are afraid of being harmed by a Covid-19 vaccine.

Table 7. Rank Entities Trustworthy on Covid-19 Information

RANK ENTITIES TRUSTWORTHY ON COVID-19 INFORMATION

THE RESPONDENTS WERE ASKED TO RATE EACH ENTITIES BY USING NUMBER MOST TRUSTWORTHY (1) TO LEAST TRUSTWORTHY (8).



The respondents were asked to rate each entity by using 1-8. The lower the number, the higher the participants' trust in the information published on the platform. According to the means, Respondents' trust in Entity is ranked from highest to lowest as follows: CDC (2.85), The New York Times (2.88), CNN (3.47), Fox News (3.88), NBC (4.09), Breitbart News (5.51), and The American Conservative (5.66). Other entities which were not mentioned above did not earn

high credibility among respondents (7.66). The standard deviation of the answers to this question did not have an obvious difference (1.34-1.89), which means that the rating of all entities by participants did not vary greatly, and the trust degree of all entities was similar (See Table 7). Responses from the participants reflected a very high level of trust in information from official channels (CDC), and varying levels of trust in information from news centers with different political backgrounds (Fox News, CNN, and NBC, etc).

Subgroup Analysis

Table 8. Willingness to get Vaccinated

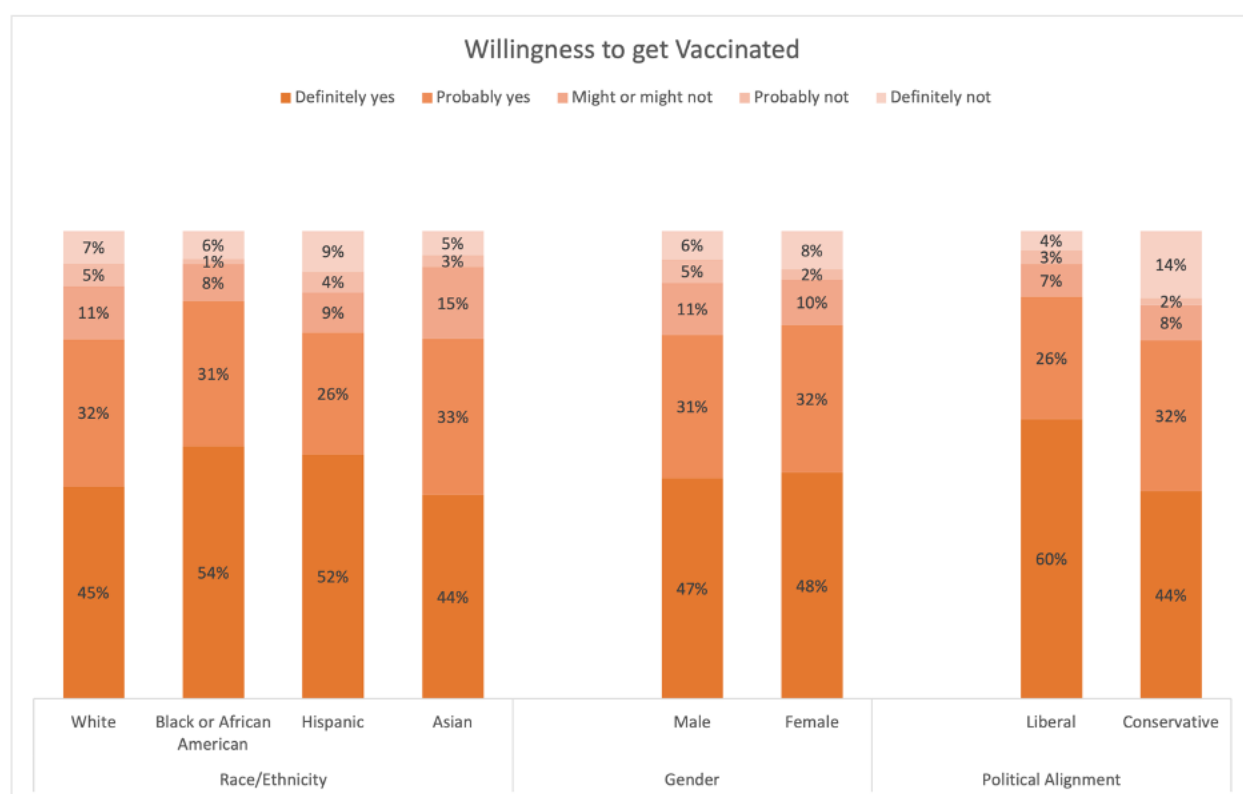


Table 8 shows respondents' willingness to get a Covid-19 vaccine by race/ethnicity, gender and political alignment. Our data on race and vaccine willingness does not reflect data collected in other studies. Fifty-four percent of black respondents will or have gotten the vaccine, followed by 52% of Hispanic respondents, 45% of white respondents and 44% of Asian respondents. The highest vaccine refusal percentage of 9% was reported by Hispanic respondents. As for gender and vaccine willingness, a higher percentage of female respondents

(8%) would definitely not get the vaccine compared to 6% of male respondents. Yet, female respondents were also slightly more likely to get or have already received the vaccine at 48% compared to 47% of male respondents. Moving to political alignment, 60% of liberal respondents would definitely get a vaccine, while only 44% of conservative respondents would. However, 14% of conservative respondents would definitely not get a vaccine while only 4% of liberal respondents would definitely not get a vaccine. This indicates that conservatives are less likely to get the vaccine.

Table 9. Frequency of Encounters with Misinformation and Conspiracy in Social Media by Race/Ethnicity

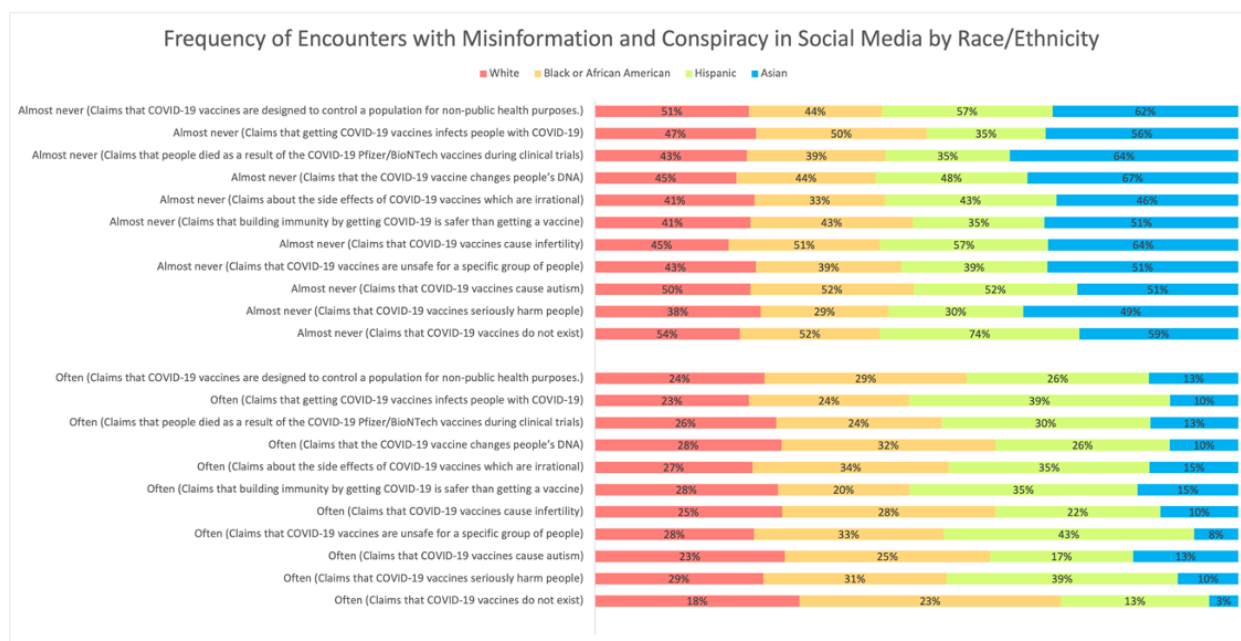


Table 9 shows a subgroup analysis between race/ethnicity and encounters with Covid-19 misinformation or conspiracy claims. This data shows that Asians saw these claims very infrequently, seeing them often only 3-18% of the time. For Hispanics, some claims were seen more often compared than other claims, ranging from 13% to 43%. This indicates that certain conspiracies are more popular in some ethnic communities than others.

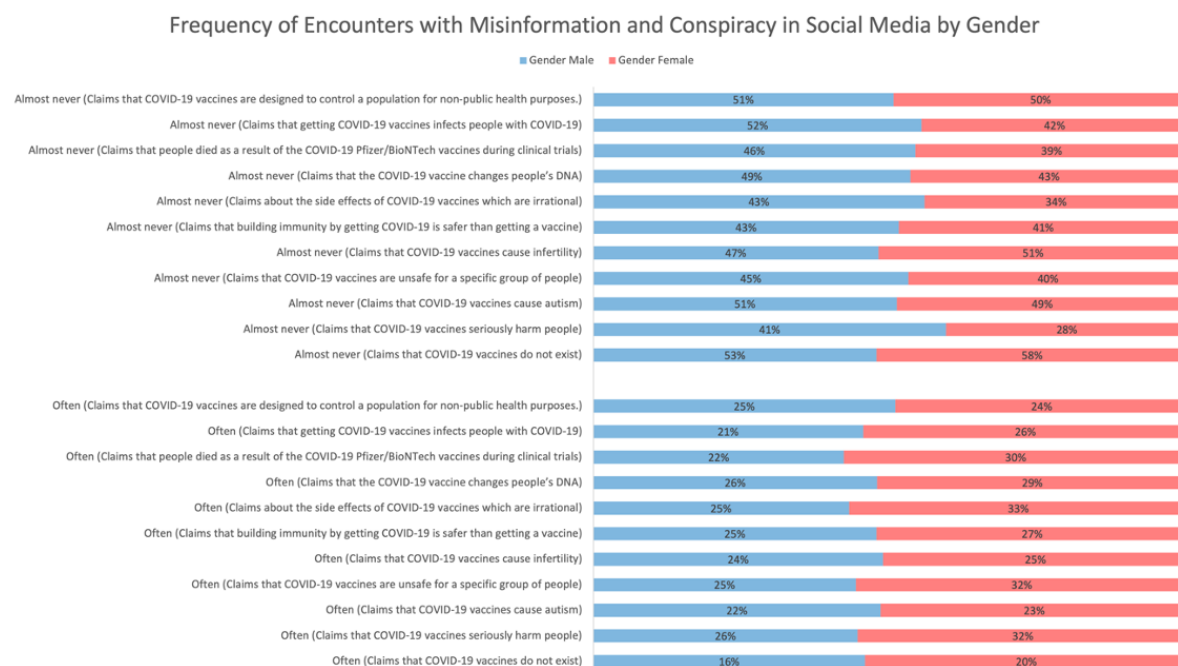
Table 10. Frequency of Encounters with Misinformation in Social Media by Gender

Table 10 shows a subgroup analysis between gender and encounters with Covid-19 misinformation or conspiracy claims. Males overall never saw many of the given claims, ranging from 41-53%. Overall, women saw these misinformation claims more than males, ranging from seeing the listed claims often 20-33% of the time, whereas men saw these misinformation claims often 16-26% of the time. Interestingly, the most common claim females saw was claims about the side effects of Covid-19 vaccines which are irrational at 33%.

Table 11. Frequency of Encounters with Misinformation in Social Media by Political Alignment

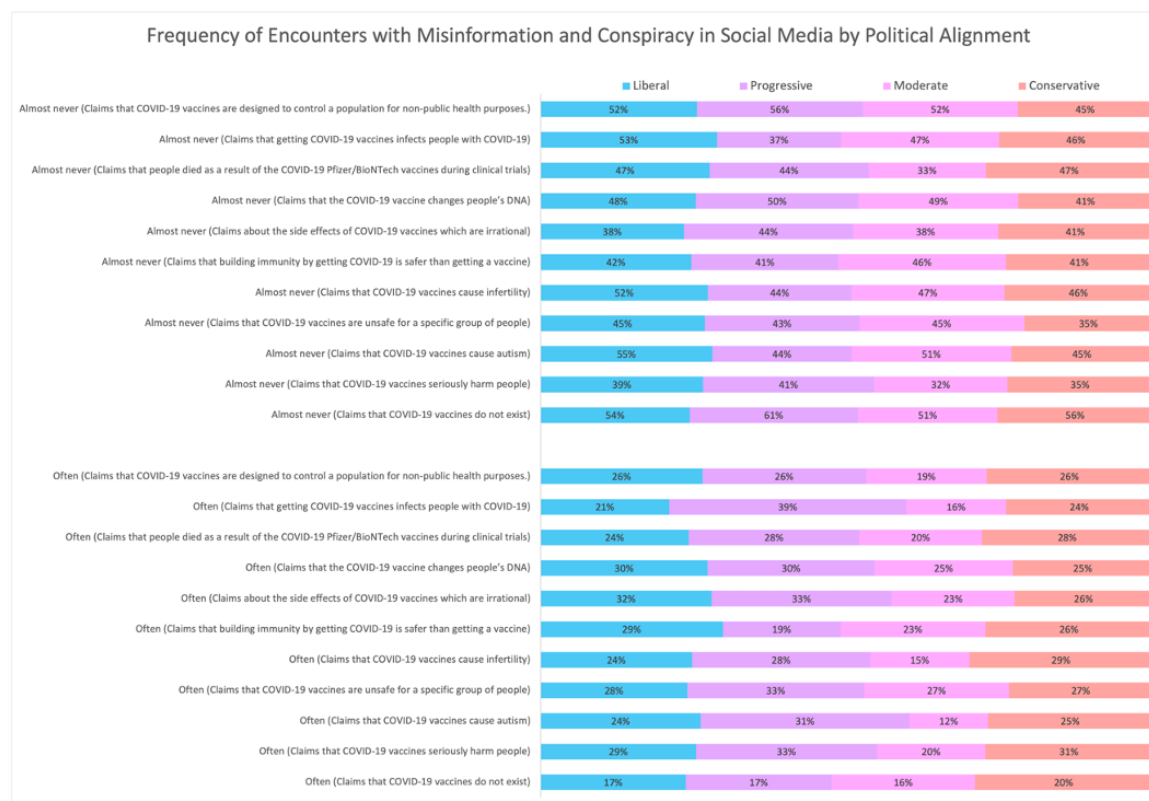


Table 11 shows a subgroup analysis between political alignment and encounters with Covid-19 misinformation or conspiracy claims. For political alignment, there were no extreme stand-out trends in frequency of claims. Overall, respondents often saw these claims 18-28% of the time. Respondents almost never saw these claims 36-55% of the time.

Discussion & Conclusion

Summary

Initial research suggested that hesitancy among minority groups including African Americans and Hispanics would be reflected in the data collected within the target population of college students. However, in our study 54% of black Americans reported that they will or already have been vaccinated. Similarly, 52% of Hispanics reported that they will or have been vaccinated. The most common reason respondents were vaccine hesitant was that they were

waiting to see how vaccination efforts pan out and will get the vaccine at a later date, followed by fear of side effects and distrust in the government. As for information-seeking behavior on Covid-19, almost all respondents are looking for information on a frequent basis. Yet, the most popular source for that information is social media which is frequently inaccurate or misleading. Further, almost all respondents are encountering misinformation and conspiracy theories about Covid-19 in their media consumption. Yet, on average respondents had the highest level of trust in the CDC compared to other entities such as various news organizations, which bodes well for absorption of accurate information as the CDC is a historically trusted science-based government institution.

Key Insights

Seventy-eight percent of college student respondents definitely or probably will receive a Covid-19 vaccine. While 11% of respondents cited that they definitely or probably not intend to receive a Covid-19 vaccine, the most significant factor for vaccine hesitancy was to wait and see if the vaccine was safe before considering their vaccination intentions. Social media (22.97%) and news media (22%) were the most-utilized Covid-19 information seeking mediums reported by respondents. Also, 61.98% of respondents very often or often proactively seek out Covid-19 information. However, respondents most frequently viewed Covid-19 misinformation or conspiracy claims on social media, which is concerning when considering that social media was the most frequently used platform college student respondents utilized when actively seeking out Covid-19 information. Five to ten percent of these individuals are less likely to get a Covid-19 vaccine because of these misinformation claims they view on social media. Therefore, a more expansive and thorough job of producing factual and proven Covid-19 information needs to be done by the Center of Disease Control and Prevention.

Only 11.48% of respondents recorded that they rarely or never seek out Covid-19 information, but that does not mean that they aren't viewing or being presented Covid-19 information without specifically searching for it. Among eight media entities, respondents trusted the Center for Disease Control and Prevention (CDC) the most and The New York Times the second most in presenting factual Covid-19 information. Of the 502 college aged respondents, black or African American respondents had the highest intention of getting the

vaccine. Fifty-four percent of black respondents will or have gotten the vaccine, followed by 52% of Hispanic respondents. Hispanic respondents demonstrated the highest vaccine refusal (9%). By gender and vaccination willingness, female respondents made up the highest percentage of 'definitely not' vaccination willingness, compared to 6% of male respondents. However female respondents were also slightly more likely to get or have already received the vaccine at 48%, compared to 47% of male respondents. Only 44% of conservative respondents said that they would definitely get a Covid-19 vaccine, compared to the 60% of liberal respondents that cited their Covid-19 vaccination intention as definitely. Conservative respondents were much more likely to not get a vaccine, at 14%, while only 4% of liberal respondents would definitely not. If conservative college students are demonstrating the most hesitancy, then a potential endorsement by a conservatively-affiliated government doctor may help sway these individuals' vaccination hesitancy. Overall, college-aged respondents reported a good amount of Covid-19 information seeking proactiveness, however an abundance of Covid-19 conspiracy/misinformation on the most frequented Covid-19 information seeking medium, social media, is a problem that needs to be addressed as individuals begin to alter their Covid-19 vaccination intention towards no.

Conclusion

American college students are generally proactive in seeking out Covid-19 information. However, the mediums most-utilized in seeking out Covid-19 information, specifically social media, are also the platforms where Covid-19 conspiracy claims/misinformation are most abundant. The viewing of mass-misinformation on these popular channels resulted in 5-10% of respondents being less inclined to receive a Covid-19 vaccine. Additionally, respondent results demonstrated that African American or Black individuals are the most inclined ethnic group to receive a Covid-19 vaccine, with 54% citing that they already have or will receive a Covid-19 vaccine. Hispanic respondents recorded the highest vaccination refusal percentage at 9%. As for gender demographics, a higher percentage of female respondents (8%) would definitely not get the vaccine compared to 6% of male respondents. However, female respondents were also more likely to get or have already received the vaccine at 48% compared to 47% of male respondents. Moving to political alignment, liberal respondents were most willing to get a Covid-19 vaccine (60%), while only 44% of conservative respondents would. 14% of conservative respondents

would definitely not get a vaccine while only 4% of liberal respondents would definitely not get a vaccine, indicating that liberals are generally more willing to get a Covid-19 vaccine than any other political party.

Our survey indicates that social media is the best place to reach college students about Covid-19 information. Further, while minority populations were originally the focus of worry over vaccine hesitancy, our survey reveals that respondents were more willing or are already vaccinated if they were black or Hispanic (however, Hispanics also had a large vaccine refusal rate at 9%). Yet, misinformation is still prominent for these minority populations and certain conspiracy claims such as “Covid-19 vaccines are dangerous for specific groups of people” are more common among certain ethnic groups. This means that misinformation still needs to be proven true or false to expose false claims. The drive towards vaccination should also focus on women as they were more likely to see misinformation and less likely to get vaccinated. Further, the importance of vaccination should be targeted towards those who politically identify as conservative, as they are less likely to get vaccinated.

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