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Nursing Students' Perspectives on the COVID-19 Vaccines: Moderna, Pfizer, and Johnson and Johnson

An Honors Thesis submitted in partial fulfillment of the requirements for Honors
in the School of Nursing

By
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Under the mentorship of Dr. Wilma Matti

ABSTRACT

There are very few things that everyone in the world shares in common, but there is one thing that has recently plagued our entire world and has impacted each person's life. The first case of COVID-19 occurred in the United States in January of 2020. In the United States during March of 2020, life as we knew it changed. Restrictions were put in place, schools closed, food and supply chain shortages occurred, travel was banned, and we were warned to stay away from others as they could be symptomatically or asymptotically carrying the novel coronavirus. Since the time of quarantine and shutdowns, we have become more knowledgeable about the spread and effects of COVID-19. Scientists have worked to create vaccines in an effort to end the pandemic. However, there has been a major obstacle. Since the news of vaccines approved for emergency use by the Food and Drug Administration, there has been a widespread mistrust of the vaccines. Many citizens in the United States population will not consider receiving the new COVID-19 vaccines. However, this varies based on many social determinants of health. The presented research focuses on Georgia Southern University nursing students' perspectives and preferences of the new vaccines.

Keywords: nursing students, vaccines, COVID-19, pandemic, nursing, infection

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**Nursing Students' Perspectives on the COVID-19 Vaccines: Moderna,
Pfizer, and Johnson and Johnson**

The first case of SARS-CoV-2 occurred in the United States on January 20, 2020 (Centers for Disease Control and Prevention [CDC], 2022a; Harcourt et al., 2020). Since then, the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) have officially declared COVID-19 a pandemic (CDC, 2022a). Due to the pandemic each person's life has been impacted in one way or another. However, some lives have been more impacted than others such as those of lower education and socioeconomic status (Bennett et al., 2020). Due to the risk of contracting COVID-19 and the safety regulations enacted, many places in America have seen an increase in child abuse and neglect and intimate partner violence which has increased substance use, depression, and risky behaviors (Substance Abuse and Mental Health Services Administration [SAMHSA], n.d.). These adverse events are among the numerous detrimental impacts of COVID-19.

More than 6.1 million lives have been lost worldwide due to COVID-19 or related complications (Elflein, 2022). Due to the major impacts of the novel coronavirus, it is important to research the likelihood of reaching herd immunity, which is defined by Oxford (n.d.) as "resistance to the spread of an infectious disease within a population that is based on pre-existing immunity of a high proportion of individuals as a result of previous infection or vaccination" (para. 1). Herd immunity would require that approximately 70% of the population receive the vaccine or become immune to the virus by previous exposure (Mayo Clinic,

2021). Once this percentage is met, we are told by Mayo Clinic (2021) that we will see a rapid decline in COVID-19 cases and deaths, but not without the possibility of overwhelming the healthcare system. Considering this declaration, achieving herd immunity would significantly help improve the quality of life for everyone and survival rate of those infected around the world; however, according to MacMillan (2022) with the new variants such as Delta, Lambda, and Omicron spreading, Pfizer and Moderna are recommending six month booster shots while Johnson and Johnson is recommending a two month booster shot.

Background

There are three COVID-19 vaccines that were approved by the Food and Drug Administration (FDA) for emergency use. These included the Moderna, Pfizer, and Johnson and Johnson (Janssen) vaccines (CDC, 2022b). Full FDA approval was granted for the Pfizer vaccine in late August of 2021 and early January of 2022 for the Moderna vaccine (CDC, 2022b). The Johnson and Johnson and Moderna vaccines are approved for use in patients that are 18 years of age or older; whereas, the Pfizer vaccine is approved for patients that are at least 5 years of age (CDC, 2022b). Both the Moderna and Pfizer vaccines are administered intramuscularly and require a course of two injections to be considered fully vaccinated (CDC, 2022b). CDC (2022b) states that Moderna is delivered 28 days apart, and Pfizer is delivered around 21 days apart. Both vaccines have been shown to be at least 90% effective in preventing symptomatic COVID-19 or lessening symptoms (CDC, 2022b). The last vaccine introduced was the Johnson and Johnson vaccine. This vaccine is a single dose

injection administered intramuscularly and is estimated to be around 60% effective in developing immunity to COVID-19 (CDC, 2022b). According to the FDA (2021), this vaccine was paused for a short period of time due to blood clots that presented in some patients; after a review of safety of the vaccine by the CDC and FDA, the recommended pause has been lifted and vaccine administration can be resumed.

There are many different views surrounding these vaccines including concern over the time taken to create them and long term side effects, such as swollen lymph nodes (Cleveland Clinic, 2021). According to Cleveland Clinic (2021), many women have noticed enlarged lymph nodes that have been misdiagnosed as breast cancer on mammograms after receiving the COVID-19 vaccine. Dr. Laura Dean, MD from the Cleveland Clinic tells patients not to worry about swollen lymph nodes as this is a sign that the immune system is functioning properly and building immunity to the coronavirus as it should after receiving the vaccine. Additionally, she urges women to consider waiting four to six weeks after the second vaccination of Moderna or Pfizer before completing a mammogram in order to allow time for the lymph node swelling to go down (Cleveland Clinic, 2021). Another common side effect that is deterring people from receiving the Moderna vaccine is what has been labeled as “COVID arm” (Ries, 2021). According to Ries (2021), “COVID arm” is a delayed skin rash that appears on the upper arm as swollen, red, or itchy and is most likely triggered by the vaccine's ingredients. This is a harmless side effect that is more common after receiving the second dose of the Moderna vaccine especially if you have

previously contracted COVID-19 (Ries, 2021). Lastly, there has been some concern surrounding the Pfizer vaccine and Bell's Palsy (Repajic et al., 2021). According to Johns Hopkins Medicine (n.d.), "Bell's Palsy is an unexplained episode of facial muscle weakness or paralysis" (para. 1). However, a study completed by Repajic, Lai, Xu, and Liu (2021) has shown that some cases of Bell's Palsy after the vaccination have been related to patients who had recurrent cases of Bell's Palsy before receiving the vaccine. Additionally, this study found that more research needs to be completed in order to determine if an association between the vaccine and Bell's Palsy exists.

In addition to these concerns, the rise of anti-vax culture has led to disbelief in science, scientists, and vaccines. An older study conducted by Andrew Wakefield in 1998 showed that vaccines could be linked to autism and other developmental disorders, however, this study has since been disproven by various studies conducted by the CDC, The Institute of Medicine, and others (CDC, 2021; Children's Hospital of Philadelphia, 2018). The culture of anti-vax has led to an increase in once eradicated diseases and fewer children and adults with immunity (Phadke et al., 2016). One study done by Funk and Tyson (2020) suggests that only 60% of Americans would consider getting the COVID-19 vaccine in 2020, but confidence in the vaccines is rising (para. 2). Furthermore, feelings about the vaccine vary based on region, political affiliation, socioeconomic status, religion, education level, gender, and age. Even some of those who received the first vaccinations have become concerned about receiving a booster dose. Vaccines can only be effective if people are willing to

get them; therefore, it is important that researchers consider factors that can help improve the intent of people to receive the vaccine. According to the Georgia Department of Public Health (2020), Georgia gave priority for receiving the vaccine to frontline workers and the elderly. Georgia released their vaccines and boosters in phases, and only people designated in each phase received the vaccine at a given time. Later on, the Georgia Department of Public Health had enough vaccines available for every resident in the state.

Hypothesis

For my research, I surveyed Georgia Southern University School of Nursing students enrolled in the Registered Nurse Bachelor of Science in Nursing (RN-BSN) program to better understand their thoughts and beliefs about COVID-19 vaccines. The survey was open from August 2021 to December 2021. I used Qualtrics to survey nursing students of any age, gender, or background. Questions in the survey included demographic information, students' intent and reasoning to receive or not receive a vaccine, vaccine preference, and basic knowledge about vaccines and COVID-19 precautions. I expected to find that the majority of nursing students have been vaccinated, specifically with the Moderna vaccine. Additionally, I expected that the majority of those who were not vaccinated would consider getting the vaccine and that most nursing students would be moderately educated about vaccines and basic COVID-19 knowledge, such as how to stop the spread of the illness.

Purpose and Significance

SARS-CoV-2 is a relatively new virus that is plaguing our world. Little

research has been done about the coronavirus when compared with other diseases and even less has been done regarding the vaccine than previously established vaccines. I believe that my research will help shed some light on major concerns of nursing students when receiving the vaccine and ideas to combat these concerns. My hope is that my research will be helpful to other colleges and universities and that Georgia Southern University and its School of Nursing can use this information to better serve their undergraduate and graduate populations.

Methods

Research Design

A predominantly quantitative study was completed by asking participants to answer a series of survey questions (see Appendix A). Free response questions were optional, but available to those who had additional comments regarding the research, COVID-19 vaccines, or prevention techniques.

Instrument Description

Georgia Southern University undergraduate nursing students from both the Armstrong and Statesboro campuses were invited to complete the survey. Students must have been 18 years of age or older at the time of completion and currently enrolled in the Georgia Southern University School of Nursing Registered Nurse Bachelor of Science in Nursing (RN-BSN) program. The survey was distributed via QR codes around the School of Nursing and via the Undergraduate Nursing Folio page. Students were able to self-select via a convenience sampling to enter the research after receiving an informed consent

that ensured privacy and had the respondent agree to the terms of the research. The survey should have taken approximately 15 minutes to complete thoroughly.

The first few questions asked for demographic information which included age, enrollment, and gender. These questions were formatted as multiple choice. The following questions asked about the student's vaccination status and if the student would be willing to receive a vaccine and if so, which one. These questions were presented in a quantitative multiple choice and select all that apply format. The next questions allowed students to select all that apply and regarded reasons for vaccine hesitancy and precautions used against COVID-19. Two other questions used a scale of 1-10 that regarded the severity of anxiety surrounding contracting or dying from COVID-19. Students were also asked about their previous exposures, quarantines, or illness from COVID-19 via multiple choice style questions. Some of which included an option for participants to choose 'Other' and allowed a free response explanation. Lastly, a qualitative free response question about additional concerns regarding the COVID-19 vaccines was included.

Students were instructed to answer the survey as truthfully and as completely as possible. The survey required that all multiple choice questions were answered before proceeding to the next section of the survey. This ensured that data was collected accurately and allowed for comparison between participants' responses. The free response question was not required and there were no limitations on what could or could not be included.

Ethical Considerations

In order to ensure that ethics were followed, this research was approved by the Institutional Review Board (IRB) under H21427 at Georgia Southern University before publication. The participants' rights were included in the informed consent and they were informed of their right to withdraw their consent at any time by exiting the survey. Assurance that the survey was completely voluntary and there would be no repercussions for not participating were also explained. Sensitive questions allowed a response of 'Prefer Not to Say' in order to allow participants to only answer questions in which they felt comfortable answering. Lastly, all collected data has been handled securely with only access to the primary researchers and stored within a secured system, Qualtrics.

Data Analysis and Results

The data was analyzed using the program Qualtrics, which provides charts and percentages of which response was selected most or least frequently, also known as descriptive statistics. Overall, 118 students started the survey; however, only 93 students fully completed the survey. The sample size and following data only reflect the 93 participants who fully completed the survey to allow for comparison of responses.

Most of the 93 participants (55.9%) were between the ages of 20-25 (see Table 1). Majority of the participants were also female (90.3%) and all (100%) were enrolled at Georgia Southern University in the RN-BSN program on either the Statesboro or Armstrong campus (see Table 1).

Table 1

Demographic Information

Variable	Reponse	Frequency (n=93)	Percent %
Participant Age	18-20 years	29	31.2
	20-25 years	52	55.9
	25-30 years	4	4.3
	30+ years	8	8.6
Participant Gender	Male	9	9.7
	Female	84	90.3

The data revealed that the majority (59.1%) of participants have had at least one COVID-19 vaccine with most (44.1%) of them being fully vaccinated (see Table 2). The majority of participants received the Moderna vaccine (41.9%), then Pfizer (15.1%), and Johnson and Johnson (2.2%). According to the data, nursing students would rather receive a Moderna vaccine (46.2%), than Pfizer (44.1%), and lastly Johnson and Johnson (9.7%) (see Table 2). Of those who are not vaccinated, the majority (29%) of nursing students state they would not be willing to get a COVID-19 vaccine (see Table 2).

Table 2

Vaccine Data

Variable	Reponse	Frequency (n=93)	Percent %
Had a COVID-19 Vaccine	Yes	55	59.1
	No	38	40.8
Fully Vaccinated	Yes	52	55.9
	No	41	44.1
Vaccines Received	Moderna	39	41.9
	Pfizer	14	15.1
	Johnson and Johnson	2	2.2
	Not Vaccinated	38	40.9
Vaccine Preference (Ranked #1)	Moderna	43	46.2
	Pfizer	41	44.1
	Johnson and Johnson	9	9.7
Would consider getting a COVID-19 Vaccine	Yes	12	12.9
	No	27	29.0
	Fully Vaccinated	50	53.8
	Partially Vaccinated	4	4.3

In order to determine the students’ understanding of the COVID-19 pandemic, questions were asked to assess their knowledge of precautions, regulations, and their previous experiences with the novel coronavirus. The majority of nursing students (53.4%) stated they are somewhat knowledgeable regarding CDC or WHO guidelines (see Table 3). The majority of participants (59.1%) work in a healthcare facility or high risk job (see Table 3). Of the 93 participants, only a small portion (14%) had pre-existing conditions (see Table 3). Most (61.3%) say they have been exposed to COVID-19 one to two times since the pandemic started, but a smaller portion (43%) have contracted the coronavirus themselves (see Table 3). However, the majority (37.6%) of students

have known more than 10 people who have contracted the virus (see Table 3).

Table 3

COVID-19 Precautions and Social Determinants

Variable	Reponse	Frequency (n=93)	Percent %
Informed on CDC and WHO Guidelines	Knowledgeable	43	46.2
	Somewhat Knowledgeable	50	53.4
	Not Knowledgeable	0	0.0
Work in a Healthcare or High Risk Job	Yes	55	59.1
	No	35	37.6
	Prefer Not to Say	3	3.2
Pre-Existing Conditions	Yes	13	14.0
	No	79	84.9
	Prefer Not to Say	1	1.1
Times exposed to COVID-19 or quarantined	Never	19	20.4
	1-2 times	57	61.3
	3-5 times	12	12.9
	5 or more	5	5.4
Had COVID-19	Yes	40	43.0
	No	53	57.0
	Prefer Not to Say	0	0.0
People you know that have contracted COVID-19	None	1	1.1
	1-4	30	32.3
	5-10	27	29.0
	10 or more	35	37.6

In order to understand why some students are hesitant to receive the COVID-19 vaccines, a select all that apply and free response question was used. Most students (65.6%) are concerned about the long term effects of the vaccines (see Table 4). The 'Other' option allowed students to type additional concerns they may have about the vaccines. Some of these responses included: "Risk outweighs benefits for me," "I have very bad allergies so my doctor told me not to get it," "risk vs benefit," "The fact that it is pushed so hard. It's "my body my choice" when it comes to abortions but not with vaccines?," and "All vaccines are still under emergency use approval and have not been fully FDA approved."

Table 4*Concerns Regarding the Vaccines*

Reponse (Select all that apply)	Frequency (n=93)	Percent %
I have no concerns	18	19.4
Speed of production	28	30.1
Long term effects	61	65.6
Government or political reasons	18	19.4
Infertility	44	47.3
Diagnosis of COVID-19 within the past 3 months	4	4.3
Religious reasons	7	7.5
Vaccine efficacy	39	41.9
Health condition	11	11.8
Other - please type	9	9.7

To better understand how the COVID-19 pandemic has impacted nursing students and their lives, a scale question was posed to understand how concerned about contracting COVID-19 the students were. It was found that the majority (35.5%) of students rated their concerns at a 5/10 and state that they follow all CDC precautions, but still perform their daily routines (see Table 5). One respondent (1.1%) ranked their concern at a 10/10 meaning their daily function is significantly impaired (see Table 5).

Table 5*Concern About COVID-19*

Reponse	Frequency (n=93)	Percent %
1 - I live life exactly like before the COVID-19 pandemic	17	18.3
2	7	7.5
3	12	12.9
4	14	15.1
5 - I follow all CDC precautions, but still perform my daily routines	33	35.5
6	4	4.3
7	4	4.3
8	0	0.0
9	1	1.1
10 - My daily function is significantly impaired	1	1.1

The survey included a question asking students what COVID-19 precautions they use regularly to protect themselves from contracting the virus. This question was presented as a select all that apply and allowed students to choose as many options as they needed. It was found that frequent handwashing (80.6%) and hand sanitizing (79.6%) are the most commonly used precautions (see Table 6).

Table 6*Regularly Used COVID-19 Precautions*

Reponse (Select all that apply)	Frequency (n=93)	Percent %
Gown	0	0.0
Gloves	2	2.2
Mask	56	60.2
Face shield	0	0.0
Frequent hand washing	75	80.6
Frequent hand sanitizing	74	79.6
Social distancing	25	26.9
Avoid gatherings of 10 or more people	16	17.2
Vaccination	52	55.9
Quarantining if exposed	47	50.5
Other - please type	7	7.5

To understand if or how concerned students are about death from COVID-19, the survey included a scale question. The data found that the majority (32.3%) of students rated their concern of death from COVID-19 at a 1/10 and were “not at all worried” about dying from the virus (see Table 7). One respondent rated their concern as a 10/10 in that they are deathly afraid of dying from COVID-19 (see Table 7).

Table 7

Concern about Death from COVID-19

Reponse	Frequency (n=93)	Percent %
1 - not at all worried	30	32.3
2	16	17.2
3	13	14
4	11	11.8
5 - mildly afraid	12	12.9
6	4	4.3
7	5	5.4
8	0	0
9	1	1.1
10 - deathly afraid	1	1.1

A qualitative free response question was asked at the very end of the survey if participants had any other comments or concerns regarding the vaccines. Many students voiced concern that even after getting the vaccine they had contracted COVID-19 or that people they knew had contracted the virus. Some of the comments made were “I was fully vaccinated, but I was a breakthrough case. I knew the vaccine was not 100% at preventing infection when I got it, but I do believe it still did it’s job. I had a very mild case” or “You can still get covid with the vaccine. I know several people that have gotten it even with the vaccine. Though it is FDA authorized it is not FDA approved. It is an experimental vaccine which is another reason why I’m reluctant.” Another

common concern surrounding the vaccines were that they should not be mandated and that students should have medical freedom to decide on their own whether to get the vaccine. Some examples of these comments were “I'm not against the vaccine if someone wants it. I am against mandating it for everyone. I should be able to weigh risk vs benefit for myself and make an informed decision without coercion or shaming” or “I believe everyone should have medical freedom and have a choice if they do not want the vaccine because that is their right.”

Discussion and Implications

After reviewing the collected data, it was apparent that preferences of the COVID-19 vaccines used to prevent COVID-19 are slightly different based on age and gender. It appears that female nursing students are more likely to be vaccinated or consider getting the vaccine than male nursing students. The same is true for nursing students that are younger than the age of thirty years old; they are more likely to be vaccinated or consider being vaccinated. In addition, there appears to be correlation between pre-existing conditions and working in a high risk or healthcare related field. Those who meet these two criteria, appeared to be more likely to be vaccinated. This is most likely due to their increased risk of contracting the virus. Vaccination appears to be less common in those who have previously had COVID-19. This could be due to the fact that those who have contracted the virus survived, did not have a severe case, or because the recommended time from infection to vaccination has not passed. However, it could also be due to the fact that those who are unvaccinated are more likely to

contract COVID-19. The data also shows that the majority of nursing students use some type of protection to prevent COVID-19 infection.

Using the collected data, it appears that part of the hypothesis proposed is correct. The majority of nursing students are vaccinated, however, the majority of those who are not vaccinated would not consider getting a COVID-19 vaccine. In addition, the data revealed that the majority of students prefer the Moderna vaccine compared to the Pfizer or Johnson and Johnson vaccine. The hypothesis that nursing students are well educated on how to stop the spread of COVID-19 was proven. This was evident by the data collected on the precautions that participants stated they use to protect themselves from COVID-19 and their selected knowledge level on CDC and WHO recommendations. Students stated that they most frequently used appropriate hand hygiene, hand sanitizing, mask wearing, and vaccination.

The results of the collected data implies that it is imperative that nursing students remain educated on how to prevent the spread of COVID-19 and continue to monitor the trends in disease transmission. Education regarding the benefits and risks of the vaccines as well as their effectiveness should be shared with all nursing students. Nursing students should be allowed to ask questions in a non-judgmental environment and voice their concerns not only to their program, but also in the facilities in which they complete clinical or are employed regarding the vaccines. It is a well known fact among the nursing profession that nurses and nursing students must care for themselves and remain healthy in order to best care for their patients.

Strengths and Limitations

There are many strengths to this research, however, there are limitations as well. Understanding how both of these impact the research and its results is necessary. The strengths of this research is that it was collected with a survey with qualitative options which allowed students to give their ideas, opinions, and concerns in their own words, therefore, they were not limited to just what was on the survey. Another strength of this study is that it was anonymous, therefore, nursing students were able to share their opinions without fear of retribution or judgment.

One of the limitations is that Qualtrics records all participant responses including those who do not complete the survey. Overall, 118 students started the survey, however, only 93 students completed the survey, therefore, the presented data is based solely on the 93 participants that fully completed the survey. Due to the predominance of female students enrolled in Georgia Southern University's School of Nursing and the majority of the participants being within the age range of 18-25 years old, there is limited data available to correlate vaccine preferences in nursing students based on age and gender. There is also limited ability to correlate vaccine preference as Georgia Southern University Health Services only had the Moderna vaccine available at the beginning of vaccine administration. Another limitation to this study is that it was a convenience sampling, therefore, it is likely that the responses we received were from participants who had strong positive or negative feelings towards the vaccines. Lastly, the largest limitation is that COVID-19 is still a current pandemic that is

impacting the world around us, therefore, as new variants, boosters, research results, and data are produced opinions and intent surrounding the vaccines continue to evolve.

Recommendations for Future Study

For future studies, data should be collected from students in multiple nursing programs in other areas. In addition, a larger sample size would be beneficial to ensure that results are representative of the total student nursing population. Due to the concerns by students surrounding the COVID-19 vaccines, it is evident that further research regarding the benefits and risk of the COVID-19 vaccines is necessary. Additionally, research regarding the impacts of not only nursing students, but nurses receiving or not receiving the vaccine would be beneficial in determining the importance of vaccination in stopping the spread of COVID-19.

Conclusion

Overall, the data prove that the majority of nursing students at Georgia Southern University are vaccinated, however, it can also be concluded that there are many concerns surrounding the long term effects such as infertility, speed of production of the COVID-19 vaccines, and vaccine mandates. Data suggest that after more time and research students will be more likely to get vaccinated. In the meantime, following CDC and WHO recommendations remains important for nursing students, healthcare professionals, and patients to follow proper protocols such as wearing masks, frequent hand washing, and social distancing. Nurses continue to remain at the forefront of the pandemic and following the

newest evidence based practice remains of utmost importance. The topic of the COVID-19 pandemic and the recent vaccines will continue to remain a top priority for researchers to gain more information regarding the implications and preferences of nursing students surrounding COVID-19 vaccines and precautions.

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Appendix A

Qualtrics Survey Questions

1. Please select an option below to indicate whether or not you agree to participate in this research:
 - a. Yes, I read the terms above and consent to participate in this research.
 - b. No, I do not consent to participate in this research.
2. I understand that participation is voluntary and at any point I can withdraw consent by exiting this survey.
 - a. Yes
 - b. No
3. What is your age?
 - a. Less than 18 years old
 - b. 18-20 years old
 - c. 20-25 years old
 - d. 25-30 years old
 - e. Older than 30 years old
4. Are you currently enrolled in the RN-BSN program at Georgia Southern University?
 - a. Yes
 - b. No
5. What is your gender?
 - a. Female

- b. Male
 - c. Non-Binary/Third Gender
 - d. Prefer Not To Say
6. Have you received the COVID-19 vaccine?
- a. Yes
 - b. No
7. Are you fully vaccinated?
- a. Yes
 - b. No
8. Would you consider getting a COVID-19 vaccine?
- a. Yes
 - b. No
 - c. I am fully vaccinated
 - d. I am partially vaccinated
9. Which COVID-19 vaccine did you receive?
- a. Moderna
 - b. Pfizer
 - c. Johnson and Johnson
 - d. I did not receive a COVID-19 vaccine
10. Please rank these vaccines according to which you would most likely consider getting.
- a. Moderna
 - b. Pfizer

c. Johnson and Johnson

11. What are your biggest concerns about receiving the vaccine? Select all that apply.

- a. I have no concerns
- b. Speed of production
- c. Long term effects
- d. Government or political reasons
- e. Infertility
- f. Diagnosis of COVID-19 within the past 3 months
- g. Religious reasons
- h. Vaccine efficacy
- i. Health condition
- j. Other - please type here

12. On a scale of 1-10, how worried are you about contracting COVID-19?

- a. 1 - I live life exactly like before the COVID-19 pandemic
- b. 2
- c. 3
- d. 4
- e. 5 - I follow all CDC precautions, but still perform my daily routines
- f. 6
- g. 7
- h. 8
- i. 9

j. 10 - My daily function is significantly impaired

13. What precautions do you use regularly to protect yourself from

COVID-19? Select all that apply.

- a. Gown
- b. Gloves
- c. Mask
- d. Face Shield
- e. Frequent hand washing
- f. Frequent hand sanitizing
- g. Social distancing
- h. Avoid gatherings of more than 10 people
- i. Vaccination
- j. Quarantining if exposed
- k. Other - please type here

14. How worried are you that you could die from COVID-19, with 1 being not at all and 10 being deathly afraid?

- a. 1 - not at all worried
- b. 2
- c. 3
- d. 4
- e. 5 - mildly afraid
- f. 6
- g. 7

- h. 8
- i. 9
- j. 10 - deathly afraid

15. How informed are you regarding current COVID-19 precautions by CDC and WHO?

- a. Very knowledgeable
- b. Somewhat knowledgeable
- c. Not knowledgeable

16. Do you work in healthcare or another field where you could be frequently exposed to COVID?

- a. Yes
- b. No
- c. Prefer Not to Say

17. Do you have any pre-existing conditions or ailments that would make you more susceptible to contracting COVID-19 or having a severe case?

- a. Yes
- b. No
- c. Prefer Not to Say

18. How many times have you been exposed to COVID-19 or had to quarantine?

- a. Never
- b. 1-2 times
- c. 3-5 times

d. 5 or more times

19. Have you ever had COVID-19?

a. Yes

b. No

c. Prefer Not to Say

20. How many people do you know personally that have contracted COVID-19?

a. None

b. 1-4

c. 5-10

d. 10 or more

e. Prefer Not to Say

21. Any other comments regarding COVID-19 or the COVID-19 vaccines - please specify: