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COVID-19 and its impact on healthcare and health-related behaviors

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The purpose of this project was to discover how certain psychological, structural, and demographic variables have contributed to people's attitudes and perceptions regarding the COVID-19 pandemic and how it has impacted people's everyday lives. The goal of this research was to understand how these variables, as well as individual's knowledge of the current pandemic, their access to resources, and how they perceive and adhere to suggested safety behaviors can help us to discover why certain populations are significantly affected by COVID- 19. In particular, this research focused on how participants' perceptions of healthcare and the support that they receive from healthcare professionals has changed their understanding and education about the pandemic, and how this has impacted their decisions of vaccination, social distancing, mask-wearing and other safety guidelines mentioned by professional entities like the CDC. Data were obtained through a survey sent to participants and analyzed to determine whether findings were in support of the proposed hypothesis. Implications for the findings will be discussed.

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COVID-19 AND ITS IMPACT ON PERCEPTIONS OF HEALTHCARE AND HEALTH-

RELATED BEHAVIORS

By

Quinn Higgins

A Senior Thesis Submitted to The Honors College at

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Abstract

The purpose of this project was to discover how certain psychological, structural, and demographic variables have contributed to people's attitudes and perceptions regarding the COVID-19 pandemic and how it has impacted people's everyday lives. The goal of this research was to understand how these variables, as well as individual's knowledge of the current pandemic, their access to resources, and how they perceive and adhere to suggested safety behaviors can help us to discover why certain populations are significantly affected by COVID-19. In particular, this research focused on how participants' perceptions of healthcare and the support that they receive from healthcare professionals has changed their understanding and education about the pandemic, and how this has impacted their decisions of vaccination, social distancing, mask-wearing and other safety guidelines mentioned by professional entities like the CDC. Data were obtained through a survey sent to participants and analyzed to determine whether findings were in support of the proposed hypothesis. Implications for the findings will be discussed.

Introduction

In March of 2020, the world changed. All across the globe, businesses shut down, schools cancelled classes, and governments urged their citizens to stay home for all nonessential activities. It was at this point in time that the World Health Organization (WHO) had officially declared COVID-19 a pandemic outbreak (Mayo Clinic, 2021). As of March 2022, about two years after this initial declaration, there have been approximately 435 million confirmed COVID-19 cases worldwide, around 79 million of which were found within the United States (CDC, 2021). We can state all of these statistics and they can show us the severity of the pandemic and how quickly it has spread over the last two years, but we also need to look at the impacts of the pandemic on the world as we know it now and how our lives have changed because of COVID-19.

One major impact that COVID-19 has made on our current world is through people's perceptions of healthcare and how they choose to go about following recommended health-related behaviors and guidelines to prevent the spread of the pandemic. To stop the spread of COVID-19, there have been many recommendations for preventative measures including mask-wearing, social distancing, and getting two doses of a vaccination as well as a highly recommended booster shot. Although these behaviors have been greatly advised by professional organizations and institutions such as the Center of Disease Control (CDC) and the World Health Organization (WHO), some people still choose to not follow them. The reason why may have to do with personal beliefs or ideas of the severity of the pandemic, but in this current study, we aim to discover more about the things that influence a person's choice to comply with recommended behaviors, including their choice to get vaccinated.

In particular, we will look at the specific factors of trust in healthcare and perceived quality of healthcare, socioeconomic status, and influences from other people and how each of these things affects people's choices to follow preventative measures recommended by the CDC, the WHO, and any other health professional or health institution of authority. Trust is a major component of communication and who we choose to take advice from, so discovering more about how this ties into people's health-related behaviors may be able to help us figure out more regarding why some people do not take action against spreading COVID-19 through protective measures. The quality of healthcare varies among patients, especially those of lower socioeconomic statuses due to lack of access or finances to receive the care that they need, so this will also be studied as a possible factor of trust in the healthcare system and resulting choice to follow protective measures recommended by health institutions. The opinions and values of other people in our community, especially from our family and friends, also impacts our own choices and our idea of what normative behavior is like, so we will also look at this as a possible influence on compliance with health-related behaviors through the pandemic.

Our research question is as follows: How have people's perceptions of healthcare impacted their decisions to follow preventative health-related behaviors throughout the COVID-19 pandemic? It is hypothesized that people's perceived quality of healthcare will impact their trust in healthcare in general and in their healthcare provider (Hypothesis 1), and subsequently also hypothesized that a higher trust in healthcare and healthcare providers will lead to better compliance with health-related behaviors that would prevent infection with COVID-19, including vaccination (Hypothesis 2). In addition to this, it is hypothesized that people who are a part of lower socioeconomic statuses will have less trust in healthcare providers and therefore are less likely to follow recommended health-related behaviors including vaccination (Hypothesis

3). Also, when looking at other people's impacts on behavior, we hypothesize that people who believe that their community has been more effective in controlling the spread of COVID-19 are more likely to follow recommended preventative behaviors including being vaccinated (Hypothesis 4). The purpose of this research is to learn more about how perceptions and trust levels in health professionals by their patients can either promote or obstruct the effectiveness of control of the pandemic, and to lead to future research on how to foster trust in these individuals who may be lacking in it so that they comply with recommended behaviors and protect themselves from COVID-19.

Literature Review

Trust of Healthcare Professionals Based on Perceived Quality

One component of the trust that individuals put in their healthcare providers and their healthcare systems has to do with their perceived quality of the care that they had received in previous encounters. The importance of this in the current study is that it is likely that the experiences that people have had in the past regarding the quality of healthcare, whether positive or negative, have impacted their idea of the trustworthiness and competence of their healthcare providers, and if they would be more inclined to follow their advice with how to change their health-related behaviors in the COVID-19 pandemic. Trust, as defined in the healthcare setting, is when a patient believes that a healthcare provider will act in their best interest, and this is strongly dependent on the quality of the healthcare perceived by the patient (Antinyan et al., 2021). The better quality and communication between patient and doctor in an encounter could give them a better sense of confidence in the care and information that they will receive from their healthcare provider, possibly leading to more compliant behavior within the pandemic.

Quality of healthcare is a subjective measure in which many people may have differing opinions as to what makes up a good, positive healthcare experience. Perceived quality can include many components, some of which include communication skills and knowledge, compassion of the healthcare provider, and how the information given by the healthcare institution relates to what is said by the government or other professional institutions. A major part of communication in healthcare occurs between the patient and their doctor or healthcare provider. Throughout the COVID-19 pandemic, communication between these parties has fluctuated due to the novelty of dealing with a rapidly spreading disease, meaning that information that the public receives on a daily basis can change and be somewhat inconsistent based on the new findings of that particular day. This inconsistency has been related to a decrease in people's trust of their healthcare institutions and the information that they receive from their provider (Rubinelli et al., 2020). When it seems as if the professional healthcare provider does not have lasting, completely accurate information due to the continuous change brought about by the pandemic, their patients and the public in general tend to lose trust in the reliability of the knowledge of their doctors and they perceive the quality of their care as being below average. With this issue, individuals may not take the pandemic as seriously as it is, or not want to comply with recommended health-related behaviors suggested by their doctor.

Another component of the perceived quality of healthcare is the compassion and kindness that patients experience from their healthcare professional. This goes along with the effectiveness of good communication that doctors can have with their patients, helping them become more trustworthy when they express their personal care for the patient and making the quality of their care better. People, when they find that their healthcare provider is compassionate and knowledgeable, tend to place more trust in them and listen to their advice, consequently

leading to better control of the pandemic (Saechang et al., 2021). Showing care, kindness, and relatability to the patient increases effectiveness of communication between patients and doctors and encourages the patient to trust their doctor due to the fact that they are likely experiencing better quality in healthcare with this increase in compassion from the provider.

Quality of healthcare also has to do with the consistency of information that the public receives from multiple professional sources, from media to government institutions. Having reliability within the details and facts given from sources outside of the healthcare provider to ones communicated by the healthcare professional gives people more trust in their doctor. Even professionals who worked in hospitals at the beginning of the pandemic were more likely to comply with their hospital's guidelines when they were consistent with national guidelines (Silva et al., 2021). People who did more research and fact-finding regarding the pandemic and who found consistencies between their government recommendations and their provider recommendations tended to have more trust in both of these institutions and were more likely to go along with policies put in place to control COVID-19 (Kleitman et al., 2021). The quality of healthcare is perceived as being better when patients know that the health professionals are educated about the current state of the pandemic through professional institutions. It has also been researched that there is a mediating effect caused by trust in healthcare institutions between trust in government and people's compliance to protective behaviors (Saechang et al., 2021). This trust in healthcare institutions is due to the quality of healthcare that the patients had experienced in their past interactions with their doctors, and through their communication efforts with these professionals and discussing with them about the governmental policies for preventing the spread of COVID-19, patients tended to then increase their trust in the government when they found consistency in what both their healthcare professional and the government were saying

(Saechang et al., 2021). Having higher overall trust in healthcare can lead to more acceptance of recommended behaviors put in place to help control the COVID-19 pandemic.

Trust in Healthcare and How it Affects Compliance and Vaccination

Not only does the quality of healthcare affect the level of trust that patients and the public put in healthcare institutions and their providers, but the perceived trustworthiness of providers also affects whether individuals are compliant with recommended health-related behaviors through the pandemic and their choice to be vaccinated or not. Compliance with the official recommendations from professionals and professional organizations is a major contributor to controlling the pandemic and reducing the transmission of COVID-19 (AlAmodi et al., 2021). In health professionals as well, compliance with preventative behaviors reduces their anxiety in the workplace, making them feel as if they can do their job better when there are more employees in a health institution who are following suggested guidelines, and more patients who comply with preventative measures while being taken care of in the hospital (Billings et al., 2021). Compliant health-related behaviors include things such as mask wearing, social distancing, and restricting the amount of people in social gatherings (Luo et al., 2021). It has been shown through multiple studies that compliance for preventative behavior increases when trust in healthcare is high (Makowska et al., 2022). However, it is best to understand why people may not comply with the recommendations from professional institutes and if it has to do with the amount of trust that these individuals put into healthcare.

In previous research studies, it has been found that the behavior of not complying with mask-wearing throughout the pandemic has been related to distrust in science and in healthcare professionals, especially when what these professionals are saying does not relate to an individual's personal beliefs (Mallinas et al., 2021). The personal beliefs in question may be

related to political beliefs, the idea of personal freedoms, or perception of what is involved

through the COVID-19 pandemic. Consequently, when the recommendations that are being

projected from professional institutions to the public do not go along with people's points of

view on preventative health-related behaviors such as mask-wearing, then they are less likely to

put trust in their doctors and the information that they are receiving from these professionals. So,

not only does distrust in the professional institutions lead to a low chance of mask-wearing in the

first place, but if the recommendations from these professionals tend to be inconsistent with what

people's personal beliefs reflect, then these individuals lose trust in science and healthcare as

well (Mallinas et al., 2021).

Throughout the pandemic, compliant behavior has shifted from mask-wearing and social

distancing to have more of a focus on the decision to be or not to be vaccinated against COVID-

19. This health-related behavior also likely has to do with trust in healthcare and in the

legitimacy and knowledge that people perceive of their healthcare professionals. It has been

shown in some studies that vaccine hesitancy has already been correlated with lack of trust in

doctors, healthcare in general, and in the companies who are creating the vaccines (Makowska et

al., 2022). This means that individuals with this lack of trust will be less likely to be vaccinated

against COVID-19, not taking part in a major preventative measure to control the pandemic. A

study done by Szilagyi and colleagues in 2021 broke down different categories of trust and

which categories affected the decision to become vaccinated. In this study, it was concluded

from the data that trust in the vaccine itself, the vaccine approval process, and in physicians as

well as the World Health Organization and Center of Disease Control are strongly correlated

with the decision to be vaccinated (Szilagyi et al., 2021). This information can help us

understand that trust toward scientific and professional health institutions is a contributor to the final decision of complying with vaccination recommendations.

Vaccine hesitancy can be defined as being unsure of the safety and effectiveness of a vaccine, while vaccine resistance is complete refusal of acquiring a vaccination (Ahorsu et al., 2021). It has been found that more people have vaccine hesitancy than vaccine resistance, meaning that they are skeptical of the seemingly hasty development of the COVID-19 vaccine and do not completely refuse to take it, but instead question the safety of the vaccine before making a final decision (Ahorsu et al., 2021). Either way, refusing or hesitating to get the vaccine relates to mistrust of science and of the companies creating the vaccine, as well as doubt of a healthcare professional's opinion on the vaccine itself. Lack of trust in the healthcare community is a strong contributor to vaccine hesitancy, but the hesitancy seems to prevail in certain racial groups over others. For example, it has been researched in the past that African American individuals tend to have a higher vaccine hesitancy than Caucasian Americans, likely due to prior mistreatment and underrepresentation in healthcare (Nguyen et al., 2021). Previous negative interactions that African Americans have had with healthcare professionals contributes to mistrust and lack of confidence that some individuals have in their healthcare providers who do not treat them with respect and give them the best care possible (Nguyen et al., 2021). Relating to the current study, correlations between racial demographic variables and mistrust in healthcare will be noted if this relation happens to occur.

Quality and Trust in Healthcare Based on Socioeconomic Status

It has long been recognized that socioeconomic status and the quality of healthcare received are intertwined with one another, where having less money leads to the probability of having less efficient healthcare or experiencing a lack of medical visits due to financial issues. A

lower socioeconomic status is correlated with more barriers to quality healthcare, including lack

of access to healthcare coverage or insurance as well as lack of access to transportation or ways

to get to a place with higher quality healthcare which leads to these individuals not being able to

receive the medical help that they may need (Caballo et al., 2021 and McMaughan et al., 2020).

Also, in clinics and other healthcare facilities that the majority of their patients are of lower

socioeconomic statuses, interactions with staff are more negative and feel more rushed to these

patients due to the overcrowding of these places with individuals who are trying to get cheaper

healthcare (Caballo et al., 2021). Perceived quality of healthcare is contributed toward by

accessibility or lack thereof, which is more common among those who are not as financially

well-off, meaning that people who are a part of a lower socioeconomic group may not receive

the quality of healthcare that they deserve or that those who have more money do receive. It has

also been researched that people who have a negative perception of healthcare are less likely to

return to their physician for future care (Arpey et al., 2017). A lower quality makes these patients

not want to come back, and they lose trust in feeling as if a doctor or another healthcare provider

could help them in a meaningful way and give them adequate information.

In addition to the negative quality of healthcare that these patients may experience, being

a part of a lower socioeconomic status also involves more health risks, likely due to lack of

healthcare visits or money to provide for themselves. People who come from lower

socioeconomic statuses are more likely to be diagnosed with a chronic disease, and it takes a

longer time to receive this diagnosis and a longer time for physicians to determine which types of

tests to do on the patient (Arpey et al., 2017). Most of these patients also describe that they feel

biases from their healthcare providers on occasion, and they say that if their doctor was more

educated about their financial status, they would feel more comfortable in the healthcare setting

when discussing their needs and capabilities with their doctor (Arpey et al., 2021). From this we may be able to see a correlation between lower socioeconomic status and mistrust of healthcare due to inconsistent representation and treatment of people with less financial opportunity, possibly leading to less likelihood of complying with preventative health-related behavior and vaccination.

Specifically relating to the pandemic, it has been studied that decreased access to clinical care due to financial deprivation was associated with a greater likelihood of contracting COVID-19 (Cromer et al., 2020). People who are lower socioeconomic status also are more likely to have an underlying and/or diagnosed chronic disease, which puts them at a greater risk of having adverse effects when infected with another illness, especially when this illness is COVID-19 (Cromer et al., 2020). These studies also reflected that this was also correlated with higher hospitalization rates as well, especially for racial minorities who were also in the category of low socioeconomic status (Magesh et al., 2021). A lot of this relationship has to do with the fact that in many low socioeconomic communities, there are fewer doctors and healthcare professionals in the area which corresponds to a greater chance of acquiring COVID-19 and not receiving care for symptoms associated with the disease (Magesh et al., 2021).

Other Influences on Trust in Healthcare and Compliance with Health-Related Behaviors

Not only do healthcare institutions and health professionals influence people's decisions to be vaccinated, comply with health-related behaviors, or even trust their judgement in the first place, but so do other individuals who are involved in this patient's life and decisions. For example, family and friends as well as the person's community in general all influence how people get information, the biases associated with the news that they receive, and how much they trust these individuals rather than or in addition to the influences that they have from their

healthcare professionals. This is important to our current study because it can help us to understand that there are other impacts on people's trust in healthcare and their perceived quality of healthcare besides information directly from these professionals. These opinions and influences from other people can then change how the patient acts and what they choose to do regarding protection against COVID-19, and it is important to understand that factors outside of the healthcare community can still affect a person's opinion of healthcare.

Horizontal trust is defined as trust in the other members of the community including friends, peers, neighbors, and other citizens (Antinyan et al., 2021). Vertical trust on the other hand is trust in higher institutions and people of authority (Chan et al., 2020). Both of these types of trust influence people's behaviors and opinions in different ways and to different extents, and both can affect how someone responds to information and what they choose to do with that information. In horizontal trust, having more support from the community and being able to trust these people's opinions and the information that is passed around can influence health-related behaviors and how people choose to think about things such as the COVID-19 pandemic. It has been studied that people who have a higher sense of horizontal trust within their communities are more likely to want to receive treatment and are more likely to get treatment and have better quality treatment from their healthcare professionals (Antinyan et al., 2021). It seems as if a greater support from the community and peers helps foster a feeling of greater trust in individuals as well as in healthcare institutions, likely leading toward more compliance with health-related behaviors.

Vertical trust is trust in professional institutions or people of authority. This type of trust is less personally involved but is still important when thinking about the influences of places other than healthcare institutions on the choices of individuals regarding their health and health-

related choices. As stated earlier, trust in government influences people's trust in healthcare,

especially when the two seem to disagree on the severity of diseases such as COVID-19 and the

best ways to take action against the continuous pandemic (Kleitman et al., 2021). When

individuals had a higher level of trust in the government, compliance with their

recommendations was increased, showing that more than just healthcare institutions influence

people's decisions and preventative actions during the pandemic (Saechang et al., 2021).

Another type of professional institutions that people tend to put trust in are international

organizations including the World Health Organization (WHO). This is another example of

vertical trust and how professional institutions influence people's reactions to health behavior-

related recommendations. Following the guidelines from the WHO and other similar

organizations was a major part of preventing the spread of COVID-19 at the beginning of the

pandemic, and it still continues to be an important source of information for the public as well as

for the research and recommendations of healthcare professionals (AlAmodi et al., 2021). It has

been shown that in countries with lower socioeconomic statuses and governments with less

perceived authority over their citizens, these preventative behaviors are not as likely to be

followed due to it being more difficult in poor countries, and people not having a sense of trust in

their government to make the right decisions for its people (AlAmodi et al., 2021). Vertical and

horizontal trust are both important components of trust in general and how people other than an

individual's healthcare provider can influence their sense of healthcare reliability and the

behaviors that they recommend.

     In addition to the general community and peers as well as people and institutions of

authority, family and friends are another group of people that influence individual's behaviors

and opinions on a daily basis. Family and friends are those that people intuitively trust, so it

would make sense that their influence is one that they take seriously and see as some of the most

important. People also are raised by their family's values and beliefs, and they choose their

friends based on common interests and morals, so the trust that they put in these individuals can

relay as having the same opinions and following what others say to do, including how they react

to major life events such as the COVID-19 pandemic. Studies that consider family and friend

opinions and influences on the individual do so because these people are perceived as being the

"norm", and if the family and friends are more likely to follow health-related behaviors, then the

individual sees this as normative and is more likely to follow them as well (Mallinas et al.,

2021). Also, when family and friends have more trust in healthcare, it promotes trust in

healthcare by the individual as well as compliance with preventative health-related behaviors

(Mallinas et al., 2021). Individual's responses to survey questions within the current study may

be influenced by any of the mentioned parties, including peers and the community through

horizontal trust, professional institutions through vertical trust, and family and friends who are

influential parties on someone's values and beliefs, and may impact trust in healthcare and

decisions to follow recommended health-related behaviors. Trust in healthcare is fostered by all

of these parties, so having this knowledge may change people's responses to how their trust

influences their perception of COVID-19.

Methods

Participants

The participants in this study consisted of 126 individuals across the country who were

recruited through the online survey system, Prolific. The average age of the participants was

37.12 years old with participants being 47.6% male, 49.2% female, and 3.2% non-binary or other

specified gender. 82% of these individuals were Caucasian as well. These variables are important

to understand because through this demographic data, we can understand more about the participants in our study. The mean income of the participants was $36,461. Also, 23% of the participants were unvaccinated while the other 77% had at least one vaccination. This demographic data contributes to our understanding of the variables that we wanted to study throughout this research.

Measures

The participants were asked to fill out a survey titled "Perceptions of COVID-19 and Its Impact of Mental Health" through Prolific to the best of their capability. This survey had multiple sections focusing on different variables to be studied including anxiety and depression, extraversion and introversion, and healthcare related questions. This was a combined study with multiple researchers who were all looking at different variables, so that is why the other variables of anxiety and depression as well as extraversion and introversion and any other related variables are not included in this analysis.

The participants were asked multiple demographic questions such as race, gender and sexual orientation, socioeconomic status, and level of education in which they selected the best choice that applied to them, including an option for "other" if none of the specified categories described themselves. They were also asked what their age was in an open-ended, fill-in-the-blank question in which they were expected to write in the correct value in numerical form. The participants were also asked if they had been diagnosed with anxiety or depression, and if yes, if they took medication for either of those mental health disorders. In pertaining to COVID-19 demographics directly, the participants were asked about their vaccination status, meaning if they had received one or two doses of either the Pfizer, Moderna, or Johnson and Johnson vaccines, and a separate question asking if they had received a booster shot. There were also two open-

ended questions in which participants were to answer how many screening tests they had

received, meaning if they had been tested for a COVID-19 diagnosis at any point during the

pandemic, and another question asking if any of these tests were mandated by a place of

employment or an event. For these two questions, participants were once again asked to fill in

the text box with a numerical answer.

In describing the study-specific or non-demographic measures, we will focus on the

health-related questions alone due to the fact that this paper will only cover those variables and

not the others surveyed in other parts of the questionnaire (i.e., anxiety, depression, extraversion,

introversion, and others). The questions about healthcare and health-related issues including

trust, communication, and quality of healthcare were all measured on a Likert scale of 1-7 with 1

being "strongly disagree" and 7 being "strongly agree" when responding to questions. Answers

closer to 1 on the scale indicated that the participant did not think that the statement pertained to

themselves as strongly, while an answer closer to 7 meant that the participant felt more agreeable

toward the statement and that it did reflect their feelings. Some example questions included "I

trust my doctor/healthcare provider", "I feel like my community has been effective in controlling

the COVID-19 virus", and "I feel like I have a communicative and valid experience with my

healthcare provider when I go see them" among 22 other questions of the sort.

The survey also included another section of questions that had to do with health-related

behaviors that have been common and recommended throughout the pandemic, specifically

mask-wearing, social distancing, and avoiding social gatherings. In this section, participants

were asked about the difference in their behavior between the beginning of the pandemic and

their current behavior at the time that they took part in the survey. The participants were

instructed to answer the questions on a scale of 1 to 5 with 1 being "never" and 5 being "always"

when asked "how often" they participated in these specific protective behaviors. These questions were designed to assess how behavior has changed throughout the course of the pandemic, but also to understand how their choice to participate in these behaviors correlates with other variables, specifically in this study, how much trust they have in healthcare, their perception of quality of healthcare, and communication with professionals. These relationships will be assessed in the discussion of the data analysis and results.

Procedure

Each participant was given an informed consent agreement that they were told to read and electronically sign if they wanted to proceed with the study. The informed consent form gave information on confidentiality, risks, benefits, type of data collected from the study, purpose, contact information of the principal investigators (Dr. Natalie Dove and Alexander Karl), and compensation which was a payment of $3.25. They were given the option to exit the study if they were uncomfortable with the topic of the questionnaire or if they were for some reason ineligible to complete the survey.

To complete the study, each eligible participant was given one page of questions at a time through the online system, Prolific, and were given instructions on how to answer those questions. Each individual was expected to complete the survey in full to the best of their ability. They were told that once it was confirmed that they had completed the study, they would be compensated through their Prolific account. The answers from each survey were recorded into Qualtrics, a statistical database, and the researchers were able to access the data in order to discover more about the participants' demographics to get a better idea of the people who were surveyed, and to complete data analysis on the relationships between the variables of interest.

Results

To test the hypotheses stated in the introduction, we underwent the process of statistical analysis through looking at specific questions that encompassed the idea of each hypothesis. We tested the data for significance in each relationship and were able to conclude which data helped to answer the predicted hypotheses and show if they were accurate or not. As stated in the measures section, the participants were asked questions based on a Likert scale of 1-7, with 1 being "strongly disagree" and 7 being "strongly agree". For other questions that the Likert scale did not apply, meaning the demographic, open-ended questions, participants answered the questions with one of the options provided, or with their own answer if none applied. Using this information, we will discuss the data that applied to each hypothesis in this results section.

Hypothesis 1

The first hypothesis that we will discuss is that people's perceived quality of healthcare will impact their trust in general healthcare as well as their trust in their individual healthcare provider. In analyzing the data for this hypothesis, we looked at the significance of the relationship of the data between a few individual questions in the Present Study Questions (Appendix B). One relationship that we studied was between the questions, "I trust my doctor/healthcare provider", and "I feel like my interactions with healthcare professionals have been mostly positive", assuming that having a more positive interaction with a healthcare professional means that the perceived quality of the experience was better and positive. The data analysis showed that this correlation was positive and significant ($r = 0.662$, $p<0.001$), meaning that as participants' feelings that their interactions with their doctor were mostly positive increased, their trust in their healthcare provider/doctor increased as well.

Another relationship that was studied regarding this hypothesis was between two other questions found in the Present Study Questions section of the questionnaire (Appendix B). These questions were, "I trust my doctor/healthcare provider", and "I am satisfied with my healthcare experience on the whole", assuming that more satisfaction with healthcare service is encompassed within the idea of having better quality interactions with providers. In this relationship, the correlation was found to be significant and positive as well ($r = 0.651$, $p < 0.001$). In other words, as satisfaction with healthcare experience on the whole increases, trust in healthcare provider/doctor increases as well.

Hypothesis 2

The second relationship that was hypothesized was that having a higher trust in healthcare and healthcare providers will lead to better compliance with health-related behaviors that would prevent infection with COVID-19, including vaccination. This hypothesis aimed to look at how trust levels of patients with their doctors/healthcare providers affected their decisions to follow along with recommended preventative behaviors, including the choice to be vaccinated. The data for this hypothesis was analyzed by looking at certain data from the Present Study Questions (Appendix B) as well as certain Demographic Questions (Appendix A). One relationship that was specifically looked at was that between trust level and vaccination status, considering the following survey items, "I trust my doctor/healthcare provider", "Have you received the COVID-19 vaccine, and if so, how many doses?" as well as, "Have you received a COVID-19 vaccine booster dose?". The trust level question was measured on the Likert scale discussed in the methods section, and in the COVID-19 vaccination questions, participants were asked to answer yes or no with the number of doses that they had received. Through the data it was found that people who reported that they had more trust in their healthcare providers also

were more likely to have received the COVID-19 booster shot, and these results were significant.

The mean level of trust for those who were boosted was 5.55 on the Likert scale, and for those

who were not boosted, it was 5.05 (t (123) =2.095, p=0.019). This means that those who were

boosted did significantly have more trust in their healthcare providers than those who were not

boosted.

In this hypothesis, another correlation was studied between trust in healthcare and

tendency to follow recommended guidelines or behaviors. The questions from the survey used to

study these relationships were "I trust my doctor/healthcare provider" (Appendix A), and

"Throughout the COVID-19 pandemic, I have followed CDC guidelines" as well as "Throughout

the COVID-19 pandemic, I have followed state guidelines in regard to personal protection

(wearing a mask in businesses, social distancing, etc.)" (Appendix B). The key difference

between these two relationships was that the CDC guidelines were suggested nationwide, while

individual state recommendations varied among each state government. The correlation between

healthcare trust and following CDC guidelines was positive and significant (r =0.283, p =0.001),

meaning that having a higher trust in healthcare meant that individuals were more likely to

comply with CDC guidelines. The correlation between healthcare trust and following state

guidelines was also positive and significant (r =0.342, p<0.001). This meant that having a higher

trust in healthcare also meant that people were more likely to follow their state guidelines for

preventative behavior.

Hypothesis 3

The third hypothesis tested was that people who are a part of lower socioeconomic

statuses will have less trust in healthcare providers and therefore are less likely to follow

recommended health-related behaviors including being vaccinated. This was hypothesized

because the researchers wanted to look at if socioeconomic status had to do with trust in

healthcare, and how that would affect whether or not these individuals would follow

recommended guidelines. To test this hypothesis, multiple relationships among variables were

studied and the data analyzed. The first variables that were analyzed together were between the

demographic variable of socioeconomic status, tested with trust in general to answer the first part

of the hypothesis. The questions used were, "I trust my doctor/healthcare provider" (Appendix

B), and this was correlated with multiple questions that represented socioeconomic status

including the survey questions in Appendix A of employment status, highest schooling level

completed, total income gained or lost in the past year, and house/living space ownership. Each

of these variables were analyzed together to determine a participant's socioeconomic status.

Considering all of these variables and looking at them as compared to trust in healthcare, the

results were found to be not significant in their correlation (r =0.110, p =0.249). There was no

significance between trust in healthcare providers and the socioeconomic category of the

participants.

In addition to trust being analyzed with socioeconomic status, socioeconomic status was

also measured with likeliness of following both CDC and state guidelines in order to discover

more about the second part of the hypothesis. The questions used to measure socioeconomic

status mentioned in the previous correlation were used (Appendix A), as well as the questions

"Throughout the COVID-19 pandemic, I have followed CDC guidelines" and "Throughout the

COVID-19 pandemic, I have followed state guidelines in regard to personal protection (wearing

a mask in businesses, social distancing, etc.)" (Appendix B). First looking at the relationship

between socioeconomic status and following CDC guidelines, interestingly those with higher

incomes were less likely to follow CDC guidelines (r = -0.192, p= 0.043). This was a negative

and significant correlation showing that as income level increased, likelihood in following CDC

preventative behaviors was less likely. Also, in looking at state guidelines, people with higher

incomes were once again less likely to follow the guidelines (r = -0.232, p= 0.014). This was an

interesting and unexpected relationship from what was originally hypothesized.

To finish answering the second part of this hypothesis, we also needed to look at the data

regarding vaccination status and socioeconomic category. To do this, the questions regarding

socioeconomic status as mentioned in the first part of the hypothesis (Appendix A) were

analyzed against the vaccination questions of, "Have you received the COVID-19 vaccine, and if

so, how many doses?" as well as, "Have you received a COVID-19 vaccine booster dose?"

(Appendix A). In analyzing the relationships among these variables, it was found that there was

no significant difference in socioeconomic status among individuals who had been vaccinated or

boosted. This data shows us that vaccination or booster status was not significantly affected by

socioeconomic status.

Hypothesis 4

The final hypothesis that we wanted to address was that people who believe that their

community has been more effective in controlling the spread of COVID-19 would be more likely

to follow recommended preventative behaviors including vaccination. In analyzing the first part

of this hypothesis, following guidelines, the questions, "I feel like my community has been

effective in controlling the COVID-19 virus" (Appendix B), "Throughout the COVID-19

pandemic, I have followed CDC guidelines" and "Throughout the COVID-19 pandemic, I have

followed state guidelines in regard to personal protection (wearing a mask in businesses, social

distancing, etc.)" (Appendix B), were all analyzed for significance and correlation. In looking at

following nationwide CDC guidelines with perception of effectiveness of community in

controlling the pandemic, there was found to be no significance (r = -0.028, p=0.759). In other

words, feeling like the community has controlled the virus well did not have anything to do with

likelihood of that individual to follow recommended CDC preventative behaviors. In looking at

likelihood to follow statewide recommendations analyzed with idea of community control of

COVID-19, there was also found to be no significance (r =0.068, p =0.450). In addition to

perception of community effectiveness in controlling the pandemic not relating to likelihood of

following CDC guidelines, participants answered that this perception also did not affect their

likelihood to follow state guidelines.

   In this hypothesis, we also wanted to look at vaccination and booster data to see if there

was a difference among those who trusted their community more and their likelihood to be

vaccinated or boosted. This analysis considered the vaccination questions, "Have you received

the COVID-19 vaccine, and if so, how many doses?" and, "Have you received a COVID-19

vaccine booster dose?" (Appendix A), with the Present Study Question, "I feel like my

community has been effective in controlling the COVID-19 virus" (Appendix B). The results of

this correlation were also not significant where those who were vaccinated and those who were

unvaccinated were likely to report similar data in their perception of if their community has

effectively controlled COVID-19. Vaccinated individuals reported a mean number of 4.19 on the

Likert scale for their perception of effectiveness of the community, and unvaccinated individuals

reported a mean of 3.93 (t (123) =0.856, p =0.197). The idea that people had of their

community's success in controlling the spread of the pandemic did not significantly differ among

those who were vaccinated and those who were unvaccinated.

Discussion

Through this study, we aimed to discover more about how people's trust in healthcare affected their choices throughout the ongoing COVID-19 pandemic, including through their following of recommended guidelines by both the CDC and their state governments, and their choice to get vaccinated and boosted. We also wanted to discover if there were any correlations to socioeconomic status, or the trust that people put into other members of their community. From the results, we can begin interpreting some of the originally posed hypotheses and understand where further research may need to be done.

The first hypothesis that people's perceived quality of healthcare would impact their trust in their healthcare provider was found to have some significant positive correlations between variables. We specifically looked at perceived positivity of healthcare experiences as well as satisfaction in healthcare interactions as measurements of quality of healthcare, meaning that the assumption was made that having a more positive experience and feeling more satisfied with the interaction were components of higher quality healthcare. In these results, it was found that people who reported feeling like their healthcare experiences had been positive were also likely to report that they had more trust in healthcare. In interpreting these results, we can see that a better, more communicative, and uplifting experience with a healthcare provider in which the doctor or professional respects the patient and helps them feel positively about the experience helps to foster trust in the professional. Also of significance in the results was the correlation between trust and satisfaction in a healthcare interaction, meaning that participants who answered that they had a more satisfying experience with healthcare and healthcare professionals were also more likely to respond as having more trust in their providers. The participants who reported having more satisfaction may have felt that their provider was respectful and helpful,

listening to their concerns and being supportive, helping the patient to grow their trust in the healthcare professional, making them more likely to listen to them and follow their advice. The fact that these correlations were significant can help us to understand that satisfaction and positive interpretation of interactions both contribute to perceiving a better quality of healthcare, and this affects trust level of a healthcare professional.

These results can also help us to understand the association between positive experiences and satisfaction with healthcare professionals. This was originally not part of the hypothesized relationships but could be as important to building trust between patients and healthcare professionals. It has been found through previous studies that satisfaction in healthcare is made up of either positive experiences that reaffirm expectations of a positive interaction, or positive experiences that go against previously expected negative interactions (Crow et al., 2002). This means that people experience satisfaction with their healthcare experiences when they are reinforced about a positive interaction with another positive interaction, or they go in with the expectation that the experience will be negative, but it is instead positive, helping to foster a sense of satisfaction. Having more positive experiences over each visit to the doctor or other healthcare professional increases satisfaction with this provider (Crow et al., 2002). This also means that satisfaction and positive interactions are inherently connected to one another, so through our data in this study, it makes sense that both would be positively correlated with a better sense of trust in healthcare. This is important to our current study and our findings that positive experience and satisfaction are both major contributors to sense of quality of healthcare and overall trust in a provider because it reinforces the idea that an overall better experience between patient and doctor will lead to continuous positive interactions and increasing trust in the healthcare system.

The results from the first hypothesis were important on their own, but the aim of discovering more about the relationship between perceived quality of healthcare and trust was to understand if this then affected how people reacted to COVID-19 and if they were more likely to follow the recommended behaviors from the CDC and the state governments. From the results of this second hypothesis, that having a higher trust in healthcare providers would lead to more compliance with preventative health-related behaviors, including vaccination, there were some results of significance and some of no significance that contributed to answering this hypothesis. As stated before, one result of significance was that of the mean differences between boosted and non-boosted participants in their answers of their trust in healthcare. People who were boosted reported having more trust in healthcare than those who were not boosted. This was an interesting result because in either case, this means that the person was already fully vaccinated with the first round of vaccine, whether it was one or two doses depending on the type of vaccine received (i.e., two doses of Pfizer or Moderna, one dose of Johnson & Johnson). The fact that those who chose not to be boosted reported having less trust in healthcare relates to the hypothesis that less trust would mean a lower likelihood to comply with vaccination and other health-related behaviors, but it was interesting that this data was found within those who were boosted versus non-boosted rather than those who were vaccinated versus non-vaccinated. This would be a result to study more in future research.

Continuing with this thought, it was equally as important that the significance in trust differences was not found among those who were vaccinated versus unvaccinated. As opposed to the data from boosted versus non-boosted participants, the mean data for trust in healthcare from vaccinated versus unvaccinated people in general was not significant. In this case, unvaccinated would mean not receiving any vaccination at all, while vaccinated would mean having received

the full first round of vaccine (i.e., two doses of Pfizer or Moderna, one dose of Johnson &

Johnson). This is an important discovery because prior to the study, we would likely assume that

trust in healthcare would affect initial vaccination more than the choice to receive a booster shot

due to the fact that there was, and continues to be, a debate surrounding the safety and

effectiveness of the vaccination that was more heavily considered in the beginning stages of

COVID-19 and in the creation of the vaccines.

The hypothesis that people with more trust would be more likely to comply with

behaviors including vaccination is not necessarily refuted through this data because there were

no trust differences in initial vaccination choice, but the booster data showed different results. In

speculating why this would happen, we can consider that there may have been more fear

surrounding the pandemic in its earlier stages, so people would be more likely to have gotten the

initial vaccine right away and then may have been less concerned about receiving the booster

shot after the pandemic had been going on for many months by the time the booster shot had

become available. It also may have been likely that people who received their initial vaccine

believe that they are protected enough from the first dose(s) and do not need to get a booster

shot. Many factors worth future discussion may contribute to the choice to be boosted or not.

Also, in choosing which healthcare provider that someone would pick, patients may

consider things outside of medical practice including personality, gender, political ideation, and

many other characteristics. If a patient picks a provider who is more like themselves in terms of

ideation and values, they would be likely to report having trust in that provider due to their

similarities. For example, if a patient chose to see a healthcare provider who did not believe in

the effectiveness of the COVID-19 vaccine based solely on that fact, the patient would still be

likely to report having trust in that provider. This means that in answering the current study's

survey, this person who is likely not vaccinated would report both being unvaccinated as well as having trust in their provider. At the same time, another participant who is vaccinated may report the same level of trust in their own healthcare provider based on other factors, possibly including their doctor's trust of the COVID-19 vaccination. Taking these things into consideration and understanding that people choose their healthcare provider based on a variety of things can help us to interpret the results of this study further by noticing that initial vaccination status and trust level of healthcare provider may be affected by one another.

From this second hypothesis, there were other significant results in the data for trust level being positively correlated with following both CDC and state guidelines for preventative behavior. The data showed us that having a higher level of trust in healthcare providers meant that respondents were also likely to report that they were more likely to follow recommended behaviors. This goes along with what was hypothesized, but it is still interesting to look at these results in comparison to the vaccination data, being that there was no significant difference in trust level of healthcare between initially vaccinated versus unvaccinated people. It may be true that there being significance in the preventative behaviors rather than vaccination is because perhaps recommended behaviors are easier to follow or have less of a stigma against them than vaccination does. People may be more likely to wear a mask or avoid gatherings for example rather than get a vaccination due to many reasons like fear of needles, mistrust of the vaccine, or having health problems that make vaccination a riskier thing. It could be interesting to study in the future whether more people were likely to follow CDC or state behaviors rather than get vaccinated.

The third hypothesis was that being a part of a lower socioeconomic status would mean that these people would be less likely to follow recommended guidelines, including getting

vaccinated. These results were surprising in what was significant and also in what was not

significant. Firstly, it was found that there were no significant differences in trust level among

people of socioeconomic statuses, meaning that socioeconomic status did not affect people's

trust level in healthcare. This was surprising because it was hypothesized and assumed that

people of lower socioeconomic status would have less access to quality healthcare, possibly

making them have less trust in their provider. Through the results, this relationship was not

shown however, and further research would need to be done to discover why. In speculation of

why this data occurred, it could be possible that even though people of lower socioeconomic

status do not have as much money or access to more expensive healthcare institutions, there are

still reliable and trustworthy doctors who serve lower economic communities. It is also possible

that these participants who were a part of lower socioeconomic statuses may not have ever had

an experience with a doctor who serves higher economic communities, so they may not know the

difference between their own doctor and another who likely charges more for their visits.

In addition to this finding, it was also found through the results that a higher income was

negatively correlated with compliance with recommended CDC and state behaviors. This means

that people who were higher socioeconomic status and who made more money were less likely

to follow guidelines. This was very interesting and not compatible with the hypothesis that

predicted that people with a higher income would follow behaviors more strictly. There are many

possibilities of why this would occur, including perhaps that people of higher socioeconomic

statuses may have had more access to healthcare that would help them recover from COVID-19.

People with more income may have been less likely to comply with preventative behaviors

because they knew that they had the money to receive more advanced healthcare that would help

them recover from COVID-19, disregarding vaccination. These people with a higher income

would be more likely to financially recover from the hospital bills that would be present if they went into a hospital for COVID-19 treatment, so this may have contributed to their choice not to comply as much with behaviors as they believed there would be a treatment for them if they paid enough money. Also, people of higher income may have been more likely to receive experimental treatments if they had been infected with COVID-19 because they were able to pay the money to become a participant in the trials, so they may not have been as concerned with the initial prevention of catching the virus in the first place.

Also, people of higher socioeconomic statuses were more likely to be able to work from home during the beginning stages of the pandemic. If they had more advanced jobs that could afford the switch to all of the technology that we have come to regularly use, including things like video chat or computerized databases, they would have been able to keep their jobs and continued getting paid. This would mean that they would not have to have been participating in preventative behaviors such as mask-wearing or social distancing because they were only around family or friends who they had been quarantining with or were by themselves. People who were part of lower socioeconomic statuses may have not been able to work from home and continue getting paid, so they may have had to keep working in public places or searching for jobs if they had lost theirs in the beginning of the pandemic. They may have avoided staying home because that would mean not receiving pay for a job and therefore losing income (Nivette et al., 2021). This means that they would have been in public more, and they may have been more likely to comply with mask-wearing or avoiding large social gatherings than those who did not have to just because they were not around many other people anyways.

The data from the correlations in this hypothesis also showed us that there were no significant differences among socioeconomic statuses in terms of vaccination or booster shots.

This means that there were no major differences in vaccination status based on socioeconomic

status alone. Much of this may have to do with the fact that the COVID-19 vaccine was widely

available and free of cost. Because of this, there was not a financial barrier to receiving the

vaccine directly, and there were many places and opportunities to receive the vaccine, so that

made access to transportation less of a variable in why people would not get the vaccine. This

also means that trust in healthcare was not a significant contributor to whether or not people of

different socioeconomic statuses would get vaccinated as there were no significant correlations

between trust and vaccination status among different income levels. Once again, this may be

because people of lower socioeconomic statuses trust their healthcare providers just as much as

those with higher socioeconomic status would trust their own provider, and they may be satisfied

with the care that they receive without knowing what other, more expensive healthcare would

look like.

The final hypothesis was that people who believe that their community had been more

effective in controlling the COVID-19 pandemic were more likely to follow recommended

behaviors including being vaccinated. The results for the correlation between perception of

effectiveness in controlling the virus and following recommended state and CDC preventative

behavior was not significant. This showed that people's sense of how their community has

controlled the spread of the pandemic did not affect their decisions regarding recommended

behaviors for avoiding infection with COVID-19. This may have been because the community

that people live in is usually one that they have made the choice to be a part of, meaning that

when people move to different areas, they may look at the demographics of the community

including things like political ideology, overall income level, or educational or employment

opportunities in the area. There is a likelihood that people would live in communities that they

believe they are going to be comfortable in and that represent their own beliefs and morals, so

they may inherently trust other individuals in the same community due to their similarities. This

would mean that these participants would report that their community has been effective in

controlling the pandemic due to the biases of similarity in opinions, and this would have no

effect on their individual behaviors. It would be helpful to study more about this relationship

between community trust and compliance with certain behaviors in future research.

In addition to these findings, the results also showed that there was no significant

difference in perception of community control in vaccinated and unvaccinated people. This

finding may also go along with the idea that people look for communities that they will be

accepted in and that have similar opinions, so it may have been true that for unvaccinated

individuals, the majority of their community was also unvaccinated, and for vaccinated

participants, their community was likely more vaccinated than not. This inherent trust and bias

toward these peoples' own communities may have made them answer more positively toward

their perception of community control of the virus, regardless of whether the individual was

vaccinated or not. This hypothesis aimed to discover more about what was found through the

literature review, that a lot of people trust their majority community and follow what they think

the normal behavior is, and the survey questions that were interpreted for results did not fully

answer this question. More research would need to be done to re-think about this hypothesis and

how it would better be measured in future studies.

Questions Remaining

Though this study helped us to understand more about COVID-19 and its impact on

healthcare perceptions and compliant behaviors as posed by the hypotheses of the researcher,

there are still more questions to be answered. The data and what was found to be significant and

what was found to be not significant were both important to answering the current research question, but also can spark ideas for other questions for future research on the topic. Data from each hypothesis of the current study raises its own questions based on the various interpretations of the results, and we will pose some possible future questions here.

One thing that would be interesting to further study would be why individuals would be vaccinated and not boosted, and what affects this choice. From this study we found that there were no differences in trust of healthcare level between those who were vaccinated and those who were unvaccinated, but there were significant differences between participants who were boosted and those who were not boosted. To study why individuals would choose to get vaccinated and then choose to not get boosted would further help healthcare professionals to understand how to improve booster shot rates among the community. Specifically looking at if this choice has to do with trust in healthcare and healthcare professionals would improve upon this study by possibly exploring how trust may have changed throughout the course of the pandemic.

Another implication of this study is that there may be a separate variable encompassed in healthcare trust being that people choose their provider based on a multitude of reasons. As speculated in the discussion, patients may pick their primary healthcare provider based on their own beliefs and values that are both health-related and non-health-related. Health-related beliefs would include idea of effectiveness of vaccination, treatment plans, and qualifications of the provider, and non-health-related beliefs would include gender, political ideology, or culture. To expand on this speculation, we may pose the further question: how and why do people choose their healthcare provider? This would contribute to a better understanding of trust in healthcare

being based upon similar beliefs among patient and doctor, both having to do with health, and also to do with other topics outside of healthcare.

From the results we were also able to interpret that people who were more likely to respond that they had a higher level of trust in their healthcare provider were also more likely to comply with recommended behaviors by both the CDC and the state, but there was no significant difference in vaccination status based on trust level. There were differences in booster data, but in initial vaccination, no significance was present for level of trust among vaccinated and unvaccinated participants. To expand on this study in that regard, it would be important to study why individuals may choose to wear a mask or participate in another preventative behavior rather than get vaccinated, and if this has anything to do with trust level of the healthcare provider. It was interesting that trust and compliance with behaviors were positively correlated, but this was not the case in the choice to be vaccinated. Understanding why people may believe that following behavior is more acceptable or easier to do than getting vaccinated would help to expand on this research and could help people to understand that each preventative behavior, including vaccination, is equally important and effective.

Another question that would be important to study in the future would be how people's experiences with healthcare providers varies based on their socioeconomic status. From the results in the current study, it seems as if participants from both low and high socioeconomic statuses had the same sense of trust in their own healthcare provider based on insignificant differences in vaccination data among these communities. Studying how patients and doctors interact differently in higher versus lower socioeconomic areas and clinics would develop the interpretations of this data more, helping us to understand if the same level of trust can be fostered among healthcare providers who serve all economic communities.

The final result that should be studied further would be that people of higher income tended to not follow CDC and state recommended behaviors as much as their lower socioeconomic counterparts. This was surprising as the opposite result was expected from the hypotheses, so future consideration of why income and compliant behavior are negatively correlated with one another would be important to understand. Possibilities of why this happened were stated, being that people of higher income were more likely to have the finances to receive treatment for COVID-19 in a hospital, and they were also more likely to not have to comply due to the fact that they were more likely to be able to work at home than people with lower income jobs that may have had to go out into the public during the height of the pandemic to get paid. There may be other reasons for this negative correlation however, so using the current study to then discover more would be necessary to understand this relationship better.

Conclusion

Throughout this research study, we aimed to answer the question, "How have people's perceptions of healthcare impacted their decisions to follow preventative health-related behaviors throughout the COVID-19 pandemic?". The research aimed to discover more about the relations between trust and quality of healthcare, socioeconomic status and trust in healthcare, trust in other communities and perceptions of their effectiveness in controlling the COVID-19 virus, and how all of this relates to people's compliance with preventative behaviors including mask-wearing, social distancing, and other behaviors, including vaccination. Through the study we found that quality of healthcare and trust in healthcare are positively correlated with one another, and trust was positively correlated with following preventative guidelines from both the CDC and state governments. It was also found to be significant that people who were boosted also reported having more trust in healthcare, but trust was not found to have a significant correlation

with initial vaccination. Socioeconomic status and trust did not have a significant correlation, and socioeconomic status also did not seem to correlate with initial vaccination or choice to receive a booster. Interestingly, there was a negative correlation between income and compliance with preventative behaviors, meaning that people with more money were less likely to follow guidelines. There were also no significant results between perceived effectiveness of the community in following recommended guidelines and personally following guidelines of the CDC or the state, and no significant difference in perception of community control between those who were vaccinated and those who were unvaccinated.

In conclusion, this study aimed to understand more about perceptions of healthcare and how things have changed throughout the COVID-19 pandemic. We also wanted to study why people choose to follow recommended behaviors including getting vaccinated. Further research needs to be done in order to fully discover each of these relationships in depth, but this study did help us to understand more about COVID-19 behaviors and why people may choose or not choose to follow them. This information can help professionals to gain more insight into how to reinforce the importance of people having a positive, trustworthy relationship with healthcare so that their patients follow their recommendations, and the patient-doctor interaction is communicative, satisfactory, and helpful to each individual.

Appendix A: Demographic Survey Questions

Q1.1 What is your current age?

_____

Q1.2 Which categories describe you: Select all that apply to you:

☐ American Indian or Alaska Native (for example: Navajo Nation, Blackfeet Tribe, Mayan, Aztec, Native Village of Barrow Inupiat Traditional Government, Nome Eskimo Community) (1)

☐ Asian (for example: Chinese, Filipino, Asian Indian, Vietnamese, Korean, Japanese) (2)

☐ Black or African American (for example: Jamaican, Haitian, Nigerian, Ethiopian, Somalian) (3)

☐ Hispanic, Latino or Spanish Origin (for example: Mexican or Mexican American, Puerto Rican, Cuban, salvadoran, Dominican, Columbian) (4)

☐ Middle Eastern or North African (for example: Lebanese, Iranian, Egyptian, Syrian, Moroccan, Algerian) (5)

☐ Native Hawaiian or Other Pacific Islander (for example: Samoan, Chamorro, Tongan, Fijian, Marshallese) (6)

☐ White (for example: German, Irish, English, Italian, Polish, French) (7)

☐ I prefer not to answer (8)

☐ Some other race, ethnicity, or origin, please specify: (9)

_____

Q1.3 What is your current gender identity?

○ Female/Woman (1)

○ Male/Man (2)

○ Trans Female/Trans Woman (3)

○ Trans Male/Trans Man (4)

○ Genderqueer/Gender non-conforming (5)

○ I prefer not to answer (6)

○ Different identity, please specify: (7)

_____

Q1.4 Do you consider yourself to be:

○ Heterosexual or straight (1)

○ Gay or lesbian (2)

○ Bisexual (3)

○ Fluid (4)

○ Pansexual (5)

○ Queer (6)

○ Demisexual (7)

○ Questioning (8)

○ Asexual (9)

○ I prefer not to answer (10)

Q1.5 Which of the following options best describes your current employment?

○ Employed full-time (40 hours per week) (1)

○ Employed part-time (Less than 40 hours per week) (2)

○ Self-employed (3)

○ Full time student (4)

○ Part time student (5)

○ Unemployed (6)

○ Stay at home parent (7)

○ Other, please specify: (8) _____

Q1.6 What is the highest degree or level of school you have COMPLETED? If you are currently enrolled, mark the previous grade or highest degree received.

○ No schooling completed (1)

○ Nursery school (2)

○ Kindergarten (3)

○ Grade 1 through 11 -- Specify grade 1-11 (4)

_____

○ 12th grade (No Diploma) (5)

○ Regular high school diploma (6)

○ GED or alternative credential college OR some college (7)

○ Some college credit, but less than 1 year of college credit (8)

○ 1 or more years of college credit, no degree (9)

○ Associate's degree (for example: AA, AS) (10)

○ Bachelor's degree (for example: BA, BS) (11)

○ Master's degree (for example: MA, MS, MEng, MEd, MSW, MBA) (12)

○ Professional degree beyond a bachelor's degree (for example: MD, DDS, DVM, LLB, JD) (13)

○ Doctorate degree (for example: PhD, EdD) (14)

Q1.7 What was your total income during the PAST 12 MONTHS? Please check the box that applies, whether you have had an income in the past 12 months, have had no income, or have had a loss of income. If you have gained income or lost income, please write the approximate amount on the corresponding line.

○ Income of $ _____.00 (TOTAL AMOUNT for the past 12 MONTHS) (1)

_____

○ Loss of $ _____.00 (2)

_____

○ None (3)

Q1.8 Is your house, apartment, or mobile home:

○ Owned by you or someone in your household with a mortgage or loan/home equity loan? (1)

○ Owned by you or someone in your household free and clear (without a mortgage or loan)? (2)

○ Rented? (3)

○ Occupied without payment of rent? (4)

Q1.9 Have you been diagnosed with depression?

○ Yes (1)

○ No (2)

Q1.10 Do you take any medication for depression?

○ Yes (1)

○ No (2)

○ N/A (3)

Q1.11 Have you been diagnosed with anxiety?

○ Yes (1)

○ No (2)

Q1.12 Do you take any medication for anxiety?

○ Yes (1)

○ No (2)

○ N/A (3)

Q69 Have you received the COVID-19 vaccine, and if so, how many doses?

○ Yes, 1 dose (Pfizer-BioNTech or Moderna) (1)

○ Yes, 1 dose (Johnson & Johnson) (2)

○ Yes, 2 doses (Pfizer-BioNTech or Moderna) (3)

○ No (4)

Q1.13 Have you received a COVID-19 vaccine booster dose?

○ Yes (1)

○ No (2)

Q1.14 Have you been diagnosed with a long-term or chronic illness that affected your decision of whether or not to get the COVID-19 vaccine?

○ Yes (1)

○ No (2)

○ N/A (3)

Q1.15 Approximately how many COVID-19 screening tests (to see if you have the virus) have you taken since the start of the pandemic?

_____

Q1.16 Approximately what percentage of your COVID-19 tests were for mandatory reasons like workplace or event attendance? (Please only enter the number within the text box)

_____

Appendix B: Present Study Survey Questions

Q44 Answer the following statements on a scale of 1-7 with 1 being "Strongly disagree" and 7 being "Strongly agree".

	Strongly disagree (1) (1)	Disagree (2) (2)	Somewhat disagree (3) (3)	Neither agree nor disagree (4) (4)	Somewhat agree (5) (5)	Agree (6) (6)	Strongly agree (7) (7)
1. I am satisfied with my healthcare experience on the whole. (1)	○	○	○	○	○	○	○
2. My doctors listen to my concerns. (2)	○	○	○	○	○	○	○
3. Going to the doctor is a financial burden. (3)	○	○	○	○	○	○	○
4. My doctor/healthcare provider gave me adequate information about the COVID-19 virus and its effects. (4)	○	○	○	○	○	○	○
5. My doctor/healthcare provider gave me adequate information about the COVID-19 vaccine. (5)	○	○	○	○	○	○	○
6. I have been to the doctor regularly throughout my	○	○	○	○	○	○	○

life. (6)

7. I trust my doctor/healthcare provider. (7)

○   ○   ○   ○   ○   ○   ○

8. I feel like I have a communicative and valid experience with my healthcare provider when I go see them. (8)

○   ○   ○   ○   ○   ○   ○

9. I spend a lot of money on healthcare visits and procedures. (9)

○   ○   ○   ○   ○   ○   ○

10. I feel like my socioeconomic status is underrepresented in healthcare. (10)

○   ○   ○   ○   ○   ○   ○

11. I feel like I have been miseducated or undereducated about COVID-19. (11)

○   ○   ○   ○   ○   ○   ○

12. My doctor impacted my decision to get or not to get the COVID-19 vaccine. (12)

○   ○   ○   ○   ○   ○   ○

13. I have been diagnosed with COVID-19 in the past and received help from a doctor or a healthcare

○   ○   ○   ○   ○   ○   ○

professional. (13)							
14. I have been diagnosed with another long-term or chronic illness that I feel like my healthcare provider has been supportive and informative about. (14)	○	○	○	○	○	○	○
15. After the pandemic, I have felt more trustworthy of my healthcare professionals. (15)	○	○	○	○	○	○	○
16. I feel like my healthcare provider is educated about COVID-19. (16)	○	○	○	○	○	○	○
17. I feel as if other people in my community have impacted my education of COVID-19. (17)	○	○	○	○	○	○	○
18. I believe that healthcare institutions are trustworthy in general. (18)	○	○	○	○	○	○	○
19. I feel like my community has been effective in controlling the COVID-19 virus. (19)	○	○	○	○	○	○	○

20. After COVID-19, I feel like I have less trust in healthcare professionals and institutions. (20)

   ◯   ◯   ◯   ◯   ◯   ◯   ◯

21. I believe that if I was more financially well-off, I would receive better healthcare. (21)

   ◯   ◯   ◯   ◯   ◯   ◯   ◯

22. I have needed to change healthcare providers in the past due to a poor relationship with my previous provider. (22)

   ◯   ◯   ◯   ◯   ◯   ◯   ◯

23. The information that I have received about COVID-19 has been effective in the choices that I have made to protect myself and others. (23)

   ◯   ◯   ◯   ◯   ◯   ◯   ◯

24. I have made changes to my lifestyle based on what a healthcare professional has told me. (24)

   ◯   ◯   ◯   ◯   ◯   ◯   ◯

25. I feel like my interactions with healthcare

   ◯   ◯   ◯   ◯   ◯   ◯   ◯

professionals have been mostly positive. (25)

Q43 Answer the following statements on a scale of 1-5 with 1 being "Strongly disagree" and 5 being "Strongly agree".

	Strongly disagree (1) (1)	Disagree (2) (2)	Undecided (3) (3)	Agree (4) (4)	Strongly agree (5) (5)
3. Throughout the COVID-19 pandemic, I have followed CDC guidelines. (3)	○	○	○	○	○
4. Throughout the COVID-19 pandemic, I have followed state guidelines in regards to personal protection (wearing a mask in businesses, social distancing, etc.) (4)	○	○	○	○	○

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