Distribution Agreement

In presenting this thesis or dissertation as a partial fulfillment of the requirements for an advanced degree from Emory University, I hereby grant to Emory University and its agents the non-exclusive license to archive, make accessible, and display my thesis or dissertation in whole or in part in all forms of media, now or hereafter known, including display on the world wide web. I understand that I may select some access restrictions as part of the online submission of this thesis or dissertation. I retain all ownership rights to the copyright of the thesis or dissertation. I also retain the right to use in future works (such as articles or books) all or part of this thesis or dissertation.

Signature:	
Sarah Kanth Chelli	04/21/2022

The Big Push Narrative: A Qualitative Analysis of a COVID-19 Vaccine Hesitancy Narrative and its Influence on COVID-19 Vaccination Decision-Making

By

Sarah Kanth Chelli MPH

Hubert Department of Global Health

Dr. James V. Lavery, PhD, MSc Committee Chair Department of Global Health Rollins School of Public Health Emory University

The Big Push Narrative: A Qualitative Analysis of a COVID-19 Vaccine Hesitancy Narrative and its Influence on COVID-19 Vaccination Decision-Making

By

Sarah Kanth Chelli Bachelor of Science in Public Health Bachelor of Arts in Spanish Rutgers University New Brunswick 2020

Thesis Committee Chair: Dr. James V. Lavery, Ph.D., MSc

An abstract of
A thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health
in Global Health
2022

Abstract

The Big Push Narrative: A Qualitative Analysis of a COVID-19 Vaccine Hesitancy Narrative and its Influence on COVID-19 Vaccination Decision-Making

By Sarah Kanth Chelli

The COVID-19 vaccine has been met with levels of acceptance but also hesitancy. While vaccine hesitancy is not a new phenomenon, findings from a CDC-funded project has shown that common stories, or narratives, have risen that people use to justify their hesitancy towards the COVID-19 vaccines. One narrative in particular that was identified is the Big Push narrative: a narrative built on the basis that there is this "big push" for the COVID-19 vaccine that made people feel hesitant about deciding to get vaccinated. The purpose of this thesis was to describe the Big Push narrative about the development of COVID-19 vaccines to help us understand its influence on unvaccinated Americans' decision-making process regarding COVID-19 vaccination. A qualitative narrative analysis was conducted using secondary data from the original project. The data included insights and perspectives from the transcripts of design group conversations that took place in health centers across the country. From the data we learned that the Big Push narrative is comprised of themes consisting of information related to the COVID-19 vaccine, feelings about the COVID-19 vaccine, motivations for the COVID-19 vaccine push, and reasons for resisting the COVID-19 vaccine push. The break down of the Big Push narrative allowed us to better understand how this narrative influences COVID-19 vaccination decisionmaking. The analysis of the Big Push narrative helped us identify four needs that must be met in order for those who are COVID-19 vaccine hesitant to make an informed decision about the COVID-19 vaccine. Potential implementation strategies in how to meet these needs was also described. With more research about this narrative and other COVID-19 vaccine hesitancy narratives, we can better understand and address the concerns of vaccine hesitant people and work towards improving COVID-19 vaccination uptake efforts and vaccine promotion strategies.

The Big Push Narrative: A Qualitative Analysis of a COVID-19 Vaccine Hesitancy Narrative and its Influence on COVID-19 Vaccination Decision-Making

By

Sarah Kanth Chelli Bachelor of Science in Public Health Bachelor of Arts in Spanish Rutgers University New Brunswick 2020

Thesis Committee Chair: Dr. James V. Lavery, Ph.D., MSc

A thesis submitted to the Faculty of the Rollins School of Public Health of Emory University in partial fulfillment of the requirements for the degree of Master of Public Health in Global Health 2022

Acknowledgements

Words cannot express how thankful I am for the many people who have supported me during my time at Rollins. First and foremost, I thank God for leading and guiding me to be who and where I am today.

Thank you to my family for their love and support. Being the first one to go to graduate school, move out, and live on my own was very difficult and scary at times so thank you for being there for me as I figured it out and learned from my mistakes.

Thank you to my friends from home, for always checking in on me and encouraging me. Thank you for the group FaceTime calls, check ins, and care packages.

A special thank you to all my friends that I have made over the past two years at Rollins. Thank you for being by my side through my highs and lows, especially during our first year. I am grateful to have found a group of truly amazing friends that I can depend on and who I can call on whenever and wherever I am. I could not have gotten through the last two years without you.

Thank you to my Thesis Chair Dr. Jim Lavery and the Emory Human Engagement Learning Platform (HELP) for their continued support, feedback, and advice. I appreciated working with you for the past year and being involved with the COVIED project. My time at HELP has allowed me to learn new skills and foster a new interest and understanding in human-centered work and stakeholder engagement.

The COVID-19 pandemic has changed the way we approach and address health. This journey has been difficult and not without its challenges but I am grateful for the opportunity to learn in this unprecedented time in public health. I am excited to take this next step in my public health career and to continue to grow both personally and professionally along the way.

Table of Contents

Purpose	1
Introduction	1
History of Vaccines	1
Background and Significance	1
Vaccine Hesitancy	1
The COVID-19 Pandemic and Vaccines	3
The Big Push Narrative	4
Gap in Knowledge about the Big Push Narrative	5
Methods	6
Background of the Project	6
Data	8
Data Analysis	8
Results	9
Themes and Codes	10
Comparing the Preliminary Analysis to the Secondary Analysis	14
Discussion	16
Finding 1	16
Finding 2	18
Finding 3	21
Finding 4	24
Finding 5	27
Implications of the Findings	28
Limitations	30
Conclusions	31
References	33

PURPOSE

In this thesis, I will describe the "Big Push" narrative about the development of COVID-19 vaccines to help us understand its influence on unvaccinated Americans' decision-making process regarding COVID-19 vaccination.

INTRODUCTION

History of Vaccines

Vaccines were first created in the late 1700s by Edward Jenner in response to the smallpox outbreak that was spreading throughout the world. Since the development of the smallpox vaccine, there have been major developments in vaccines for other diseases such as diphtheria, pertussis, and tetanus (Offit, 2021). By the 1970s the smallpox vaccine was so successful that the disease was eradicated and the vaccine did not need to be administered anymore. Similarly in the 1980s, there was a worldwide effort to eradicate polio. Vaccines were developed and mass vaccination campaigns were used all over the world. According to the Global Polio Eradication Initiative (GPEI), polio is still circulating in two countries but the "global incidence of polio cases has decreased by 99%" (GPEI, n.d.). Based on this historical evidence, it has been proven that vaccinations are effective and can be considered an effective public health intervention; however, there are those who have concerns about vaccines.

BACKGROUND AND SIGNIFICANCE

Vaccine Hesitancy

An article written by Hagood and Herlihy (2013) suggests that people who have concerns about vaccinations can be sorted into three categories: vaccine rejectors, vaccine resistant, and

vaccine hesitant. Vaccine rejectors are those that refuse vaccines typically believing in conspiracy theories and that vaccines "do more harm than good", while people who are vaccine resistant are more likely to get vaccinated with more information about the safety of vaccines and its side effects (Hagood & Herlihy, 2013). People who are vaccine hesitant have more general fears and anxieties about vaccines. Vaccine hesitancy, as defined by the SAGE Working Group on Vaccine Hesitancy, is a "delay in acceptance or refusal of vaccines despite availability of vaccination services" (MacDonald, 2015).

Vaccine hesitancy can also be influenced by a number of factors including "issues with confidence, complacency, and convenience" (ECDC, 2017). According to the European Centers for Disease Control, people who are vaccine hesitant are evaluating their trust in the effectiveness of the vaccine, their perceived risk of the disease compared to the benefits of the vaccine, and their access to and the availability of the vaccine (ECDC, 2017). While these established ways of explaining vaccine hesitancy have been helpful in the past, it does not account for shared beliefs and stories that influence people's vaccine decision and it does not explain how to address people's vaccine hesitancy. There are people who are vaccine hesitant that attribute their hesitancy to the idea that vaccines can be harmful. For example, many vaccine hesitant parents claim that vaccines are connected to the development of autism or other developmental disorders and because of this, they do not want to vaccinate their children. Some parents only vaccinate their children with the mandatory vaccinations they need for school while others will not vaccinate their children at all. The claim that vaccines are connected to autism has been disproven through multiple studies and reviews, but there are those that still claim that vaccines have harmful ingredients and refuse to get themselves or their family vaccinated. (Hussain et al, 2018).

The term "anti-vax" has been used to describe people who are opposed to vaccinations. There are a number of different reasons why people may be opposed to vaccinations. An article from 2016 outlines several different religious reasons for anti-vaccination such as that vaccinations are "an act of interfering with divine providence" or that they have ingredients that are *haram* or forbidden in Islamic tradition (Pelčić et al, 2016). Others have their own personal beliefs in the power of natural immunity and that contracting a disease can provide them with a stronger immune system than receiving a vaccination (Pelčić et al, 2016). Many people cite these religious or personal beliefs to receive exemptions from mandatory vaccinations needed for work or school. While it is within their right to exercise their religious freedom, vaccination refusals can lead to adverse public health implications.

The COVID-19 Pandemic and Vaccines

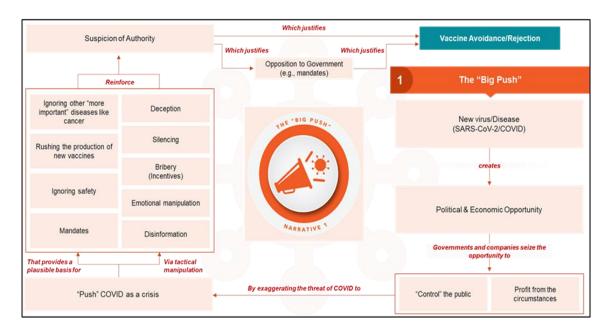
The COVID-19 pandemic has brought to light some of the public health implications that arise with vaccine hesitancy and anti-vaccination sentiment. The SARS COV-2 virus was first identified in Wuhan, China in December of 2019. Since then, the virus has spread all over the world with 486,761,597 confirmed cases and 6,142,735 deaths (WHO, 2022). In December of 2020, the first COVID-19 vaccine was developed and distributed in the United States. As of March 2022, "about 217.6 million people, or 65.5% of the total U.S. population", have been fully vaccinated against COVID-19 (CDC, 2022). This number however does not reflect current thinking that the third dose may be necessary for full protection. With the increased spread of the virus and the emergence of new variants, it is important for people to get their vaccine in order to decrease their risk of getting and spreading the virus. However, there are those who are very hesitant to receive the COVID-19 vaccine. Public health professionals around the world are trying to promote the COVID-19 vaccine and are looking for ways to increase vaccine uptake. In

order to increase vaccine uptake, we need to better understand why people are hesitant to get the COVID-19 vaccine. Historically, we know that there are many reasons for why people are vaccine hesitant but we do not know how resistance to this COVID-19 vaccine is different.

The Big Push Narrative

When discussing people's reasons for not getting the COVID-19 vaccine, there are many common and recurring stories or narratives that people used as their reasoning. Narratives are stories that are told for a specific purpose in order to make sense of, explain, or justify a set of events or actions (HELP, 2022). In this case, we are seeing different types of narratives from people as a means to justify their COVID-19 vaccine hesitancy. Narratives and narrative analysis have been used to understand vaccine hesitancy in the past as with the H1N1 vaccines which was helpful in understanding vaccine hesitancy at the time (Abeysinghe, 2015).

There are several different narratives that are being used to justify COVID-19 vaccine hesitancy. Some mention that there is too much information and that it is difficult to discern the truth, while others want even more information and are unsure where they can get correct information. Other narratives include elements of conspiracy, risk, and freedom. One specific narrative reported in a recent CDC-funded project is that there is a "big push" for the COVID-19 vaccine and that because of this push, people do not want to get vaccinated (HELP, 2022). The following figure (Figure 1) illustrates the structure of the Big Push narrative as developed within the final report of the project (HELP, 2022).



(Figure 1) Human Engagement Learning Platform (HELP) The "Big Push" narrative structure (2022)

As the figure above shows, there are elements of conspiracy, distrust, manipulation, and safety concerns within this Big Push narrative. From the different perspectives we are hearing from the public, it is clear that this Big Push narrative exists and that the COVID-19 vaccine push is a real concern; however, there is still a large gap in knowledge about the Big Push narrative.

Gap in Knowledge about the Big Push Narrative

Although we are hearing about this "big push" for the COVID-19 vaccine, we do not know much about this narrative. Figure 1 provides a foundation to understanding the structure of the Big Push narrative, but we want to further describe the Big Push narrative and how it influences people's decision-making regarding COVID-19 vaccination. It is important to fill this gap in knowledge in our understanding of the Big Push narrative because we want to increase COVID-19 vaccine uptake. If we can better describe the Big Push narrative, we can begin to

understand why people are hesitant of the COVID-19 vaccine and what influences their decision between rejecting and accepting the vaccine. Filling this gap in knowledge is significant because once we better understand the COVID-19 vaccine decision-making process, we can identify where our COVID-19 vaccination coverage efforts are lacking and learn how best to address it. The goal is that this information can then be used to improve COVID-19 vaccination uptake.

We want to know why people are hesitant of the COVID-19 vaccine and what is influencing their decision-making, and the best way to do that is to listen to the stories that they are telling and hear their concerns. The CDC-funded project allowed for unvaccinated people to talk about their hesitation and confusion and the findings from those conversations led to the identification of the Big Push narrative we are seeing. We want to go further than identifying the narrative and actually describe the Big Push narrative so that we can know what is the Big Push narrative, where is it coming from, who influences it, and how we can address it. As previously mentioned, vaccine hesitancy is not a new phenomenon; however, we must take into account that vaccine hesitancy in the context of COVID-19 may be different and our previous methods of addressing vaccine hesitancy may not be enough. Having this description of the Big Push narrative and how it influences COVID-19 vaccine decision-making will enable us to have a stronger foundation in our understanding of COVID-19 vaccine hesitancy and establish the groundwork that needs to be conducted to eventually improve COVID-19 vaccine uptake.

METHODS

Background of the Project

The Human Engagement Learning Platform (HELP) at Emory University partnered with National Association of Community Health Centers (NACHC) to work on the SARS-COV-2

Vaccines Information Equity and Demand Creation Project (COVIED). The purpose of this grant-funded project was to better understand public health communication strategies and methods as it relates to COVID-19 vaccine uptake, specifically among African American, Latinx, and Native American populations. The project focused specifically on these populations because these groups are at the highest risk for COVID-19 and experiencing severe illness and death. The project was conducted from January to December of 2021 across 17 locations and 10 states. The partnership with NACHC allowed for the ability to recruit participants directly from health centers across the country.

The project team collected data from the insights and perspectives of the unvaccinated people within the three main demographic groups. 53 "design groups" were conducted in these health centers where participants were asked questions about their thoughts on the COVID-19 vaccines. The language of "design groups" was used to emphasize the principles of human-centered design and the insights each participant contributes to the overall understanding of public health communication. The data collection strategy was to use these design groups to learn more about the participants' reasons for being hesitant to receive their COVID-19 vaccination.

The original focus of the project's analysis was to develop personas that were representative of the different attitudes towards COVID-19 vaccination found throughout the interviews. As the HELP team conducted these interviews, it was found that many people across different groups had similar stories and attitudes towards COVID-19 vaccines. In order to create the personas, the team would have needed more individual-level insights which proved difficult through the design group format. The realization that these personas would be difficult to generate led to the shift towards creating narratives and understanding different narrative

elements across the design groups. The HELP team in its preliminary analysis coded the transcripts and developed six narratives, one of which is the "Big Push" narrative, which is the focus of this thesis.

Data

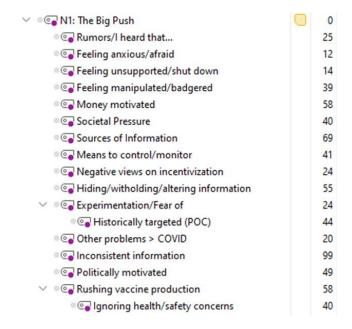
Secondary data was used to conduct the sub-analysis for this thesis. The data was already collected in the form of the verbatim transcripts from the design groups and individual interviews. In total, there were 49 de-identified transcripts from the COVIED project. Some of the design groups were conducted with patient groups while others were conducted with staff and/or community health workers. For the purposes of this analysis, all available transcripts were included in the analysis process.

Data Analysis

The purpose of this secondary analysis was to create new codes to better inform our understanding of the Big Push narrative and COVID-19 vaccine decision-making. A qualitative narrative analysis was conducted on the 49 design group transcripts using the qualitative analysis software MaxQDA. Each transcript was read and analyzed for common and important elements related to the Big Push narrative that were developed into codes. The codes were then grouped into overarching themes. A codebook with these codes and themes was generated which also included a description of each theme as seen in Figure 3. Words and phrase frequencies were informally used to generate the main themes that comprise this narrative. Once the new codes were organized into the overarching themes within the codebook, the new codes were compared side-by-side to the codes from the preliminary analysis to evaluate similarities and differences in coding and frequencies.

RESULTS

After analyzing the transcribed interviews for themes related to the Big Push narrative, 16 codes were created. The codes vary in consistency and frequency across the different transcripts, ranging from 15 coded segments to as many as 100. Figure 2 below displays the codes within the Big Push parent code after the secondary data analysis.



(Figure 2)

The codes seen in Figure 2 were all of the common themes found in the transcripts. These codes were then exported into a codebook where they were categorized into four overarching themes. The four main themes are as follows: Information related to the COVID-19 vaccine, Feelings surrounding COVID-19 vaccine push, Motivations behind this push, and Reasons for resisting the push. Figure 3 displays the finished codebook with the four themes, each with their own description and subsequent codes.

A	В	С
THEME	DESCRIPTION	CODES
	This is any mention of	Rumors/I heard that
Information related to vaccine	information, where it comes from, the kinds of information	Sources of Information
	they are hearing, the quality of	Hiding/witholding/altering information
	the information	Inconsistent information
	This is mentions of feelings	Feeling anxious/afraid
Feelings surrounding vaccine push	surrounding the vaccine push:	Feeling unsupported/shut down
	anxieties, fears, anger, guilt, helplessness, confusion	Feeling manipulated/badgered
	no.procontoso, comación	Experimentation/Fear of
	This is any mention of why this	Money motivated
Made of the blad days and	push may be happening:	Politically motivated
Motivations behind this push	mentions of money, politics, Big Pharma, controlling the public,	Societal Pressure
	social media pressure, pressure	Means to control/monitor
	This is any mention of resistance	Other problems > COVID
Reasons for resisting push co	to the vaccine for safety	They're rushing vaccine production
	concerns, for concerns about the production of the vaccine, and	They're ignoring health/safety concern
	incentives	Negative views on incentivization

(Figure 3)

Themes and Codes

Theme 1: Information related to the COVID-19 vaccine

This theme includes any mention of information including where information related to the COVID-19 vaccine comes from, what kind of information people are hearing, and the quality of the information. The focus of this theme is on the nature of the information rather than the validity. The following codes within this theme are: "rumors/I heard that", "sources of information", "hiding/withholding/altering information", and "inconsistent information".

"Rumors/I heard that" was a code that included what people were hearing about the vaccine. Many of these code segments were what people were hearing from their friends and family, social media, and on the news. This code includes all mentions of information that someone heard, read, or saw related to the COVID-19 vaccines, regardless of whether they are fact or not.

The "sources of information" code focuses more on where the information is coming from and where they are hearing this information. Source of information includes friends and family, social media, the government, work, etc. This includes both trustworthy and untrustworthy sources of information as some people identified there are sources of information they trust more than others and find to be more reliable.

"Hiding/withholding/altering information" is a code for when there is a suspicion that the information heard or given is not the whole truth. This includes times where information seems vague, hidden, and/or altered.

The "inconsistent information" code is used for when people are hearing and seeing different, conflicting messages. This includes hearing information but seeing something different done in practice. These inconsistencies are usually an interpretive problem where people are unsure how to make sense of conflicting reports that they are seeing in their personal lives and/or on the news and social media.

Theme 2: Feelings about the COVID-19 vaccine push

This theme includes any mention of feelings related to the COVID-19 vaccine push including anger, fear, confusion, guilt, anxiety, helplessness, and more. The following codes within this theme are: "feeling anxious/afraid", "feeling unsupported/shut down", "feeling manipulated/badgered", and "experimentation/fear of".

The code "feeling anxious/afraid" includes any mention of feeling anxious or having anxiety regarding the COVID-19 vaccine push. This code also includes language such as nervous and fearful. This code excludes mentions of fear as it relates to experimentation.

"Feeling unsupported/shutdown" is a code that includes mentions of opinions not being heard, being made fun of, and/or made to feel guilty for having a different opinion or lack of understanding. This also includes any undertones of confusion, helplessness, or hopelessness.

The code "feeling manipulated/badgered" includes segments that mention and/or allude to being bombarded by COVID-19 vaccine promotion, the COVID-19 vaccine push existing in other aspects of life (ex. at work or school), and the need for a COVID-19 vaccine to return to normalcy. This code includes an overarching sense of inability to escape the push and being left with no choice.

The "experimentation/fear of" code was used to code segments specifically mentioning experimentations and the fears associated with it. Many people were afraid that they were being used to test out the vaccine and were therefore afraid to get vaccinated. This code also includes mentions of historical experimentation specifically on people of color (POCs). Other inclusions in this code were any references to being treated as guinea pigs, mentions of the Tuskegee Syphilis Study, and any mention of the targeting and medical mistreatment of POCs.

Theme 3: Motivations behind the push

This theme includes any mention or speculation of why the vaccine push may be happening. This theme includes any mention of money, control, politics, or pressure as a motivation for the COVID-19 vaccine push. The following codes are included within this theme: "money motivated", "politically motivated", "societal pressure", "means to control/monitor".

The "money motivated" code includes any mention of money, Big Pharma, making a profit, or financial gain. Some of the coded segments also include mentions of and/or alluding to greed and selfishness.

The "politically motivated" code was used to code segments that refer to the government, politicians, or people in positions of authority using the vaccine to further a specific political agenda. While most codes did not mention the specific agenda in itself, most people assumed that the COVID-19 vaccines would be used to advance the political standing of individuals and/or the United States as a whole. This code also includes mentions of Former President Donald Trump, President Joe Biden, and Dr. Anthony Fauci in the context of political advancement.

"Societal pressure" is a code that includes any mentions of the vaccine push being felt from the media, family and friends, or work. For the purposes of this code, references about news media were excluded if they mentioned politics. This code mainly focused on references to conformity, the greater good, and sacrificing individual choice.

The "means to control/monitor" code includes any mentions of controlling the general public, using the vaccine to microchip people, tracking, and loss of privacy. This code also includes some undercurrents of skepticism and even conspiracy.

Theme 4: Reasons for resisting push

This theme includes any mention of why people may be resisting the COVID-19 vaccine.

This theme can include mentions of vaccine side effects, diseases that are more important than COVID-19, health concerns, and incentives. The codes included within this theme are as

follows: "other problems are greater than COVID", "they are rushing vaccine production", "they are ignoring health/safety concerns", and "negative views on incentivization".

The code "other problems are greater than COVID" includes any mention of other diseases and/or issues in the world that are more important and deserve the same time and attention that COVID-19 is receiving. One specific recurring disease that was used as an example is cancer.

"They are rushing COVID-19 vaccine production" is a code that includes segments about the timeline and pace of the vaccine creation and distribution. This includes any mention of vaccine manufacturing, the time between discovering COVID-19 and the vaccine coming out, and the lack of FDA approval.

The code "they are ignoring health/safety concerns" includes any mention of side effects from the vaccine, major allergic reactions to the vaccine, and death as a result of receiving the vaccine. This code also includes mentions of the Johnson and Johnson one-dose COVID-19 vaccine.

"Negative views on incentivization" is a code that mentions any compensation for receiving the vaccine. This includes mentions of money, lottery tickets, free admission, or free food as a result of being COVID-19 vaccinated.

Comparing the Preliminary Analysis to the Secondary Analysis

Figure 4 below is a side-by-side comparison of the preliminary codes and the secondary codes including their coded segment frequencies.

FREQUENCY	PRELIMINARY CODES	SECONDARY CODES	THEME	FREQUENCY
		Rumors/I heard that	Information about the COVID-19 Vaccine	25
		Sources of Information		69
42 Deception / withholding information	Deception / withholding information	Hiding/witholding/altering information		55
		Inconsistent information		99
		Feeling anxious/afraid	Feelings Surrounding the COVID-19 Vaccine	12
20	Dismissiveness/disregard/condescensionSilencing/censorship	Feeling unsupported/shut down		14
39	Emotional manipulation/pandering/relentlessness	Feeling manipulated/badgered		39
47	Guinea pig/Targeted Against POC	Experimentation/Fear of		68
7	Control of public to make a fortune	Money motivated	Motivations Behind the COVID-19 Vaccine Push	58
19	Collusion between govt and medical industrial complex	Politically motivated		49
48	Political/social control Big Brother	Societal Pressure		40
47	Distrust of pharma/govt as profit driven	Means to control/monitor		41
19	Ignoring "more important" diseases/priorities	Other problems > COVID	Reasons for Resisting the COVID-19 Vaccine Push	20
58	Rushing the production of new vaccines	They're rushing vaccine production		58
37	Ignoring safety/Results > well-being	They're ignoring health/safety concerns		40
24	Bribe	Negative views on incentivization		24

(Figure 4)

After comparing the codes from the preliminary analysis to the codes from the secondary analysis, it was found that both analyses produced fairly similar codes with elements about control, profit, safety concerns, etc. The preliminary codes were sorted to match with the secondary codes. There was some overlap with the codes and some of the codes were combined for the purpose of this comparison such as the "Guinea Pig" and "Targeted Against POC" codes. One difference is that the secondary analysis had more codes for information related to the COVID-19 vaccine. The preliminary analysis codes had more of an emphasis on how unvaccinated people were being treated and political control but few codes specifically about the information. One major difference between the two analyses was that the preliminary analysis did not categorize the codes into themes. The four overarching themes created in the secondary analysis helps to summarize and describe the major elements that we are seeing within the Big Push narrative, which led to some findings about how the Big Push narrative influences people's decision-making about COVID-19 vaccination.

DISCUSSION

Finding 1

From these four overarching themes, there were a few particularly interesting findings. The first finding was found from Theme 1: Information related to the COVID-19 vaccine. In each of the interviews and design groups, participants were asked where their information related to the COVID-19 vaccine was coming from and they mentioned family and friends, social media, and the government as just a few examples. Interestingly, participants would distinguish between sources they know of and sources they actually trust. For example, participants would list a number of sources where information may come from but when asked which are trusted sources, they would have much fewer. Generally, family and friends were seen as the most trusted source and the government/news as the least trusted source for COVID-19 vaccine information as seen in the following quote: *The government's been telling us to take it, I'm not going to listen to them either, because you don't know what they're doing or what they're trying to do* (HELP, 2022).

This difference in trusted versus distrusted sources could be attributed to a number of reasons. People may trust their family and friends more because they know them and can actually hear about their personal experiences straight from the source. People already have an established relationship and rapport with their family and friends and are usually more inclined to believe them over other sources. Many participants mentioned that they did not trust the government and news because of inconsistencies they are seeing in messaging and communication. One participant stated that the inconsistent messages made them skeptical because *you said this yesterday, now today you saying this right here. Tomorrow you're going to*

say this right here (HELP, 2022). They were hearing something from their family and friends but then hearing or reading something different from the government and news.

Social media is important to mention here because most people did not trust social media at all for COVID-19 vaccine information; however, when they talked about reasons for not trusting the COVID-19 vaccine, many would mention very specific stories that they heard about on Facebook, Twitter, or TikTok. An example of these specific stories would be reading that someone had a heart attack and died after receiving the COVID-19 vaccine. Many of these stories that people are hearing come from a source that they do not fully trust which are unverifiable and likely false; yet these rare stories bear some weight in their decision to receive a COVID-19 vaccine.

There is a disconnect between not trusting social media and social media stories' ability to sway COVID-19 vaccination decisions. If people do not trust social media, why would they believe these stories that are very specific, unverifiable, and likely false? A potential reason could be that these stories instill more fear into people who are already hesitant about the COVID-19 vaccine and its effects. The potential of these stories actually happening can make receiving the COVID-19 vaccine even scarier. On the other hand, there are those who do not believe these stories shared over social media are true. They believe that these stories are exaggerated to create doubt and instill more fear and distrust in the COVID-19 vaccines.

The finding that people are distinguishing between sources they get information from and sources they trust helps provide better context to the overall 'Big Push" narrative. Information plays a large role in this narrative and now we better understand how information works within the "Big Push" narrative. The information source and the nature of the information can

vaccine. The overload of information in addition to the stress of having to screen information for truth about the COVID-19 vaccines, contributes to the narrative that there is this "Big Push" for the COVID-19 vaccines. People are feeling overwhelmed by the amount of information they are receiving. They feel that the COVID-19 vaccine is being pushed from all sources, from family and friends to social media and the government. At every usual source of information, the main information they are hearing and seeing is about the COVID-19 vaccines. Due to this "Big Push" of the COVID-19 vaccine information, people feel they do not have enough or correct information to make an informed decision about receiving the COVID-19 vaccine.

Finding 2

The second finding is from Theme 2: Feelings about the COVID-19 vaccine push. This theme included a range of different emotions from anger to fear to confusion. Two main codes that revealed some interesting insights were the "feeling unsupported/shut down" code and the "experimentation/fear of" code. The experiences people had that helped to inform these codes were unique in that these are feelings and perspectives about COVID-19 that are not often shared openly on the news and social media.

Specifically related to the "feeling unsupported/shutdown" code, design group participants expressed that they felt unheard when expressing their confusion or when asking questions about the COVID-19 vaccine. Instead of receiving answers and useful information, they were often looked down upon or made to feel bad about their concerns. The rise of social media campaigns promoting COVID-19 vaccination has led to an increase in public shaming and "cancel culture" when faced with people who are questioning and hesitant of the COVID-19

vaccine. People are using these tactics to force more people to get vaccinated which makes those who are not COVID-19 vaccinated feel pressured and guilty. Those who are not COVID-19 vaccinated are left with the choice to either face public shaming and ridicule or get the COVID-19 vaccine even when they are not 100% sure of it. This choice can make people feel very helpless and that their concerns do not matter.

There were design group participants who stated that these design groups were the first setting in which they felt heard and that they could express their concerns in a safe space. What mattered most to these participants was not just receiving answers to their questions, but being able to express how they were feeling without judgment. One staff member during a staff design group session spoke about their experience working with patients who are hesitant of the COVID-19 vaccine and offered some advice to other staff and practitioners: *I think you have to be mindful in how you address their feelings about a certain thing because perception is reality.*And if they believe that and you come at them in a way to undermine or to make what they think sound silly, you're going to shut them off, from the beginning. Like you won't get past that initial conversation, they've totally tuned out what you've said (HELP, 2022). Validation and acknowledgement of people's feelings and concerns are two important aspects that need to be considered when addressing the Big Push narrative and understanding COVID-19 vaccine decision-making factors.

The "experimentation/fear of" code focuses specifically on mentions of fear as it relates to vaccine experimentation and medical experimentation on POCs. Many participants expressed that a major factor in their hesitation of the COVID-19 vaccine is their fear of being used as a guinea pig and that they will be used to test out the vaccine. The foundation of this fear is the historical experimentation that POCs have experienced in the United States. One example that

was mentioned frequently was the Tuskegee Syphilis study. People cited this human rights violation as an example of what Black and Brown people have experienced in the past and what could happen again with the COVID-19 vaccine. This fear of being experimented on is a very real risk for people who have an established distrust of the healthcare system and the medical treatment of POC. When POCs have been mistreated, abused, and abandoned by the medical community time and time again, it is difficult to change this perspective. People who are COVID-19 vaccine hesitant due to a fear of experimentation need more than just information in order to be more comfortable getting the vaccine. They want to see more representation in the news, media, and hospitals and hear about the experiences of people who look like them. They want to know that other people share their fears and that, despite this fear, these are people who do trust the COVID-19 vaccine who can share their first-hand experience. It is one thing to hear the facts from a news source but the ability to hear someone's personal story can make a difference.

Through these two codes, it was very interesting to learn what people were feeling in regards to the COVID-19 vaccine, why they are feeling this, and how they would want their concerns to be addressed. For the code "feeling unsupported/shut down", people felt that with this Big Push for the COVID-19 vaccine, their voices were getting lost and their concerns were not getting heard. They were being shamed for not getting the COVID-19 vaccine and not having the opportunity to explain their reasons. People who felt this way wanted to have the space and opportunity to talk about their concerns and hesitation without feeling ashamed or guilty.

While the intention of the COVID-19 vaccine push was to increase overall COVID-19 vaccine uptake, it also pushed people away from getting vaccinated, especially those who have an established distrust of healthcare as reflected in the "experimentation/fear of" code. The way

POC, specifically Black and Brown Americans, were historically treated in the United States has negatively impacted their faith in the healthcare system and medical treatment. Participants stated they would want more representation where they could hear first-hand stories from people who look like them. This finding helps us to better understand that one way to begin addressing the Big Push narrative is to acknowledge these feelings and concerns people have about the COVID-19 vaccine, and instead of ignoring them, we should work towards accounting for them in vaccine uptake campaigns.

Finding 3

The third finding comes from Theme 3: Motivations behind this push. A majority of design group participants speculated that there were a number of different motivations behind this push for the COVID-19 vaccine such as political or economic motives, societal pressure, as well as using the COVID-19 vaccine push as a means to control or monitor. Specifically related to the political and economic motives, participants were particularly passionate that the COVID-19 vaccine push was orchestrated by the government or Big Pharma in order to further an agenda that was not mutually beneficial to the American public.

When breaking down these motives, there were more mentions of economic motives and profit rather than political motives and political gains. From the codebook there were a total of 58 coded segments related to economic motivations in comparison to the 49 politically motivated coded segments. When participants would mention economic motives, they would most often mention Big Pharma in general or a specific pharmaceutical company such as Pfizer or Johnson and Johnson (J&J). Many of their concerns were rooted in the number and variety of COVID-19 vaccines being offered between Pfizer, Moderna, and J&J. There were doubts that the COVID-

19 vaccines were given for free and that there may be hidden costs. There were some speculations about why these COVID-19 vaccines were being offered for free. One participant said they just want you to get the shot and forget about the after effects because this is not even FDA approved. I mean, come on. Why? It's just like Bill Gates said, "We need to depopulate." This is one great way to depopulate. Right? (HELP, 2022). There were also doubts about the sincerity of the pharmaceutical companies and if they had the public's best interests at heart or if they were just trying to make as much money as possible.

The political motivations code, although not coded as often, was still significant in that participants mentioned political authority figures, such as President Joe Biden, Former President Donald Trump, or specific governors, by name. Many participants speculated about how pushing the COVID-19 vaccines could improve these political authorities' political and/or social standing. Undertones of anger, blame, and frustration were found within this context. The difference between the economic motivations and the political motivations is that within the political motivations theme, people were mostly focusing on specific political authority figures and using these figures as a way to place blame. In comparison with the economic motivations code, participants had more general distrust and suspicion of the pharmaceutical companies but it was not as focused on a specific person.

This idea of having someone to blame and hold accountable is interesting because throughout the design groups, people specified a person or multiple people rather than an organization or company. This could be because of how information is presented on the news and social media. Usually when watching or reading about the news, there will be an image, for example, of Dr. Fauci or a clip of President Biden speaking at a press conference. The inundation of information and seeing so many images and clips of these prominent figures may have

contributed to the way people are viewing the COVID-19 vaccine push. Another interesting point here is that participants only mention a political figure by name and attribute the COVID-19 vaccine push to them but they do not explain exactly how these figures would use the COVID-19 vaccine to increase their political standing.

Many of the concerns people had related to the economic and political motivations tied in with some of the codes within Theme 4: Reasons for resisting the COVID-19 vaccine push. The "they are ignoring health/safety concerns" code relates to the economic motivations because many people felt that the medical standards of the COVID-19 vaccines were not sufficient.

Mentions of having an allergic reaction or significant side effect to the COVID-19 vaccine often led to the conclusion that pharmaceutical companies were increasing their profit by getting the COVID-19 vaccine to the public quickly but not safely. Similarly, with the "they are rushing COVID-19 vaccine production" code, this code relates to the political motivations because people would equate the COVID-19 vaccine timeline to government officials rushing production.

One issue that people had was the lack of FDA approval and that if the COVID-19 vaccine was not pushed so much, there would have been more time to receive FDA approval rather than only having Emergency Use Authorization (EUA). Participants would cite the Johnson and Johnson (J&J) COVID-19 vaccine as an example of how FDA approval could have prevented unnecessary health issues since the J&J one-dose COVID-19 vaccine was temporarily paused in light of some rare side effects (FDA, 2021). The temporary pause on top of the previous recall of talcum powder greatly diminished participants' trust in J&J as a company. The reliability of J&J was questioned by participants, one even wondering how could you trust them [J&J] to provide you with a vaccination to save your life if you can't even be honest about baby powder? (HELP, 2022).

Connecting this finding back to the Big Push narrative, it is clear that the perceived political and economic motivations behind the COVID-19 vaccine push are influential in people's decision to receive the COVID-19 vaccine. Not only do people care about what is in the COVID-19 vaccine and how it is being distributed amongst the public, but they also place great emphasis on the "who" and "why". There are motivations that we hear on the news and social media that would be considered "good motivations" for the COVID-19 vaccine push such as a return to normalcy and increased herd immunity. However, these "good motivations" were rarely mentioned and most participants associated their vaccine hesitancy with the "bad motivations" behind the COVID-19 vaccine push. Despite the positive aspects of the COVID-19 vaccine, the negative context of these previously mentioned motivations made people feel reluctant to receive the vaccine. The logic here may be that "X person/organization is promoting the COVID-19 vaccine, X person/organization has bad intentions and I do not trust them, therefore, I cannot trust X person/organization's promotion of the COVID-19 vaccine". This push for the COVID-19 vaccine coming from people or organizations that the public already has an established distrust of creates further distrust and resistance to the COVID-19 vaccine.

Finding 4

The fourth finding is from Theme 4: Reasons for resisting the COVID-19 vaccine push. There were many segments of the design group transcripts that fell under the "negative views on incentivization" code. Throughout the design groups, participants mentioned many of the incentives people are receiving for getting the COVID-19 vaccine. These incentives range from free food to cash to free admission to sporting events and activities. An interesting aspect of this finding is that there were two different negative views of this incentivization. The first was a negative view because it seemed like people were getting bribed to get the COVID-19 vaccine.

The second was a negative view because it seemed unfair that some people are getting these benefits while others who already got their COVID-19 vaccine are not eligible.

This perspective that bribery was being used as a tactic to increase the COVID-19 vaccine uptake made people feel angry and also uncomfortable. They did not understand why people were receiving these incentives and felt that there were better ways to help people get vaccinated. One participant described this common sentiment best by saying why is it so important that you have to pay somebody to take a vaccine? That just doesn't make sense to me that you're so desperate for everybody to take this next thing. You have to pay somebody. And that should just give a question to me because people had like... You have to put out money to get somebody to take the vaccine (HELP, 2022). Participants also felt uncomfortable that people were getting free things just for getting the COVID-19 vaccine. They felt that there was some hidden cost or fee behind these incentives and that people were essentially getting something temporary like food but losing their freedom in exchange. There were concerns that people were willing to risk their health for a free meal or a free ticket to a game when they should be more concerned about the purpose of the incentives. The beliefs about the purpose of incentives connect back to Theme 2: Motivations behind the COVID-19 vaccine push in that people felt that there were political and economic motivations for these incentives. There was some speculation that these incentives were being used by President Biden and governors to garner more political support post-election.

On the other hand, there was the belief that these incentives were being used as a reward for those who are getting the COVID-19 vaccine. People felt this was unfair because there are those who already got the COVID-19 vaccine weeks or months ago and they were unable to receive the same benefits. Not only was there this idea that incentives were unfair for those who

were already COVID-19 vaccinated, but this idea was shared among those who remained unvaccinated. They felt that they were being denied certain privileges and benefits for making the choice to remain unvaccinated, while others were being rewarded for choosing to get the COVID-19 vaccine. Some of these privileges people felt they were denied access to was the ability to go to different restaurants or other social settings. After the COVID-19 vaccine was developed, many public establishments started requiring proof of COVID-19 vaccination with entry. Many felt it was unfair that they were given this ultimatum in order to gain entry to different establishments. Some felt that this was a punishment of sorts and others went as far as to say this was discrimination against people who are not COVID-19 vaccinated.

This finding gives us a better insight into how tactics used to increase COVID-19 vaccine uptake can have negative effects. The purpose of offering incentives was to increase overall COVID-19 vaccination which would eventually lead to higher vaccination coverage and a decrease in the spread of COVID-19. However, it was seen through these design groups that participants did not react well to this incentive. In fact, some were even more hesitant to receive the COVID-19 vaccine because they felt these incentives were being used as a factor in the Big Push for COVID-19 vaccination. A participant even said *my life is worth more than \$100, and all these little minor incentives that they're trying to give out* (HELP, 2022). People saw the incentives as a reward and were getting the COVID-19 vaccine in order to get these bigger "rewards" such as lottery tickets and cash prizes, rather than fully understanding the importance of receiving the COVID-19 vaccine. The use of incentives seemed to target people who were undecided about the COVID-19 vaccine to motivate them in getting vaccinated; however, this had an opposite effect on those who were COVID-19 vaccine hesitant. These incentives created more doubt and suspicion which was not the intended effect. Based on the reactions of the

participants, we can now better understand how incentives contribute to the Big Push narrative and how they can negatively impact COVID-19 vaccine decision-making.

Finding 5

The last finding is how the Big Push narrative influences people's decision-making process for COVID-19 vaccination. The first way is information. As we saw in Finding 1, it is difficult for people to sort through all the different information that is being pushed for the COVID-19 vaccine. People want to make an informed decision but cannot with the overload of information. The second is acknowledgement. In Finding 2, we saw that the big push for the COVID-19 vaccine has left many people who are COVID-19 vaccine hesitant feel shutdown and unable to express their concerns and feelings without judgment. Many feel guilty for having questions and concerns and cannot make a decision until their concerns are addressed. The third way is trusted sources. Because of the belief that there are political and economic motivations behind the big push for the COVID-19 vaccine, people are less likely to listen to sources that they already distrust such as government officials. They want to make sure that they are making a decision for the right reasons and not because they were pressured from a political or social standpoint. The fourth way in which the Big Push narrative influences people's COVID-19 vaccine decision-making process is vaccine promotion tactics. From Finding 4, it was clear that incentives were not received well and were only increasing the big push for the COVID-19 vaccine. Alternative COVID-19 vaccine promotion tactics could help sway those who are unsure of their COVID-19 vaccine decision.

Implications of the Findings

This secondary analysis and subsequent findings have helped us learn 1) how to further describe the Big Push narrative and 2) how the Big Push narrative influences people's decision-making process for COVID-19 vaccination.

As we saw in the Background and Significance section of this thesis, the original project broke down the Big Push narrative structure which consists of elements of conspiracy, distrust, manipulation, etc. This secondary analysis further analyzed the design group interviews to capture elements that were not as emphasized and provide even richer findings and results. As a result of the secondary analysis, we know that the Big Push narrative consists of four themes: Information related to the COVID-19 vaccine, Feelings about the COVID-19 vaccine, Motivations behind the COVID-19 vaccine push, and Reasons for resisting the COVID-19 vaccine push. By categorizing the Big Push narrative into themes, it helps to break down the structure created by the original project and makes addressing vaccine hesitancy a little easier. The Big Push narrative is relatively new and it is a large undertaking when trying to assess where to start in addressing it. We want to eventually improve COVID-19 vaccine uptake but that cannot be done without having a plan. These themes help us create a plan to address the Big Push narrative and mobilize efforts to incorporate these four themes in the overall goal to improve COVID-19 vaccine uptake.

The Big Push narrative clearly influences people's COVID-19 vaccine decision. The best way to address this influence is to determine what people who are COVID-19 vaccine hesitant need in order to make a decision. The following four needs were developed based on the four main findings of this thesis. Each need also includes suggestions for how best to meet these needs through implementation strategies.

Need 1: COVID-19 vaccine hesitant people need access to correct and factual COVID-19 vaccine information that is easily and readily available. People have a hard time navigating the different websites and social media pages for COVID-19 vaccine resources. By promoting factual websites, such as the CDC website for example, people can know exactly where to look for accurate and trustworthy information.

Need 2: COVID-19 vaccine hesitant people need their fears and concerns to be acknowledged with respect and understanding. People have genuine fears and concerns about the COVID-19 vaccine and should have the space and opportunity to share their concerns in a judgment-free environment. One of the first steps in making a decision about their COVID-19 vaccine is to acknowledge and address any barriers to their decision such as fears, confusion, or anxiety.

Need 3: COVID-19 vaccine hesitant people need trusted sources to promote COVID-19 vaccine information and uptake. People would rather hear about COVID-19 information and promotion from people they know and respect rather than sources they distrust. Sources such as community members or religious leaders can promote COVID-19 vaccine information at a more community-based level which can help promote vaccine uptake at the local level.

Need 4: COVID-19 vaccine hesitant people need alternative vaccine promotion tactics. People are suspicious and distrusting of monetary incentives to encourage COVID-19 vaccine uptake. Alternative vaccine promotion tactics such as increased social media campaigns or door-to-door canvassing could be better received by the public.

These needs are important to recognize and incorporate in any COVID-19 vaccine uptake efforts because we cannot address COVID-19 vaccine hesitancy if we do not recognize what is

preventing people from getting vaccinated. There are a number of barriers that we have addressed in the past to promote vaccine uptake such as ensuring vaccination communication is available in multiple languages and that vaccinations are of no cost to ensure maximum vaccine coverage. These COVID-19-specific barriers must be addressed in the same manner. We know that there are barriers to people's COVID-19 vaccine decision and we know that these are the needs that need to be filled in order to address these barriers. The next step is determining how best to meet the needs of people who are in the process of making a decision about the COVID-19 vaccine. Once an appropriate strategy based on these needs is created and implemented, we can begin to break down the Big Push narrative's influence on vaccine decision-making and work towards improving COVID-19 vaccine uptake.

LIMITATIONS

While I was able to gain interesting and beneficial findings from this analysis, there were some limitations to the project that were outside of my control. The first shortcoming is related to the project's demographics. The team was unable to have definite numbers for the demographics because there were many people who were unwilling and/or uncomfortable sharing their age, gender, COVID-19 vaccination status, etc. The second shortcoming was within the methods in that the project was only able to conduct 53 total design groups in 10 different states. Although there were 360 design group participants, if there was more diversity in the number of states and locations that participants were recruited from, the data would have been more equally representative of the target BIPOC population. If, for example, there were five design groups conducted in 25 states each, this could help increase not only the demographic diversity but also the diversity of opinions. Instead of having the design groups concentrated in

the Southeast area of the country, the design groups could have been evenly recruited from health centers in each region of the country.

Another limitation was that the design groups were conducted over Zoom and audio and video was not available for every design group. The audio and video would have been helpful in providing context to different statements and reactions. Body language, tone, and nonverbals are three very rich aspects that could have further aided in the development of the findings, rather than having just the transcripts of spoken conversation.

CONCLUSION

Despite these limitations, I have been able to conclude that the Big Push narrative consists of four major themes: Information related to the COVID-19 vaccine, Feelings surrounding the COVID-19 vaccine, Motivations behind the COVID-19 vaccine push, and Reasons for resisting the COVID-19 vaccine push. Additionally, based on these four themes, I was able to identify how the Big Push narrative influences people's decision-making regarding the COVID-19 vaccine. I have four recommendations to address the concerns of people who use the 'Big Push" narrative as a reason for not getting the COVID-19 vaccine: 1) make correct and factual COVID-19 vaccine information easily and readily available to the general public, 2) acknowledge the fears and concerns people have about the COVID-19 vaccine, 3) use trusted sources to promote COVID-19 vaccine information and uptake rather than sources that people have an established distrust of, and 4) consider using alternative methods to increase vaccine uptake besides incentives. These four recommendations are not the only way to address vaccine concerns, but they are a start in the process of understanding the Big Push narrative and its influence on people's decision-making regarding COVID-19 vaccination. With more research,

we can learn to address people's vaccination concerns and work towards increasing COVID-19 vaccine uptake and improving vaccine promotion efforts.

References

- Abeysinghe, S. (2015). Vaccine Narratives and Public Health: Investigating Criticisms of H1N1

 Pandemic Vaccination. *PLoS Currents*, 7,

 ecurrents.outbreaks.17b6007099e92486483872ff39ede178.

 https://doi.org/10.1371/currents.outbreaks.17b6007099e92486483872ff39ede178
- Benoit, S. L., & Mauldin, R. F. (2021). The "anti-vax" movement: A quantitative report on vaccine beliefs and knowledge across social media. *BMC Public Health*, 21(1), 2106. https://doi.org/10.1186/s12889-021-12114-8
- Centers for Disease Control and Prevention. (2022, April 1). *COVID Data Tracker Weekly Review*. Centers for Disease Control and Prevention.

 https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview/index.html
- Centers for Disease Control and Prevention (2021). *Autism and Vaccines*. https://www.cdc.gov/vaccinesafety/concerns/autism.html
- European Centre for Disease Prevention and Control. (2017). *Catalogue of interventions addressing vaccine hesitancy*. Publications Office. https://data.europa.eu/doi/10.2900/654210
- Food and Drug Administration (2021). FDA and CDC Lift Recommended Pause on Johnson & Johnson (Janssen) COVID-19 Vaccine Use Following Thorough Safety Review. FDA. https://www.fda.gov/news-events/press-announcements/fda-and-cdc-lift-recommended-pause-johnson-johnson-janssen-covid-19-vaccine-use-following-thorough

- Global Polio Eradication Initiative (n.d.). *History of Polio GPEI*.. Retrieved April 3, 2022, from https://polioeradication.org/polio-today/history-of-polio/
- Hagood, E. A., & Herlihy, S. M. (2013). Addressing heterogeneous parental concerns about vaccination with a multiple-source model. *Human Vaccines & Immunotherapeutics*, *9*(8), 1790–1794. https://doi.org/10.4161/hv.24888
- Human Engagement Learning Platform (2022). *All Transcripts- complete data set*. Retrieved from MaxQDA
- Human Engagement Learning Platform (2022). SARS-COV2 Vaccines Information Equity And

 Demand Creation Project (Covied) Rapid Formative Ethnography. Unpublished final report.
- Hussain, A., Ali, S., Ahmed, M., & Hussain, S. (n.d.). The Anti-vaccination Movement: ARegression in Modern Medicine. *Cureus*, 10(7), e2919.https://doi.org/10.7759/cureus.2919
- Kata, A. (2010). A postmodern Pandora's box: Anti-vaccination misinformation on the Internet. *Vaccine*, 28(7), 1709–1716. https://doi.org/10.1016/j.vaccine.2009.12.022
- Kuru, O., Stecula, D., Lu, H., Ophir, Y., Chan, MpS., et al. (2021) The effects of scientific messages and narratives about vaccination. PLOS ONE 16(3): e0248328. https://doi.org/10.1371/journal.pone.0248328
- MacDonald, N. E. (2015). Vaccine hesitancy: Definition, scope and determinants. *Vaccine*, 33(34), 4161–4164. https://doi.org/10.1016/j.vaccine.2015.04.036

- McKee, C., & Bohannon, K. (2016). Exploring the Reasons Behind Parental Refusal of Vaccines. The journal of pediatric pharmacology and therapeutics: JPPT: the official journal of PPAG, 21(2), 104–109. https://doi.org/10.5863/1551-6776-21.2.104
- Mitchell, A. & Liedke, J. (2021). *About four-in-ten Americans say social media is an important way of following COVID-19 vaccine news*. Pew Research Center.

 https://www.pewresearch.org/fact-tank/2021/08/24/about-four-in-ten-americans-say-social-media-is-an-important-way-of-following-covid-19-vaccine-news/
- Mukarram, M (2020). *Social Media Shaming and COVID-19*.

 https://scholarblogs.emory.edu/bioethics116-4/2020/11/19/social-media-shaming-and-covid-19/
- Murphy, T. (2020). *Social media and COVID shaming: Fighting a toxic combination*. The Washington Post. https://www.washingtonpost.com/health/social-media-and-covid-shaming-fighting-a-toxic-combination/2020/09/26/83278f96-fff7-11ea-b0e4-350e4e60cc91_story.html
- Offit, P. (2021). Vaccine History: Developments by Year. Children's Hospital of Philadelphia. https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-history/developments-by-year
- Pelčić, G., Karačić, S., Mikirtichan, G. L., Kubar, O. I., Leavitt, F. J., Cheng-tek Tai, M., Morishita, N., Vuletić, S., & Tomašević, L. (2016). Religious exception for vaccination or religious excuses for avoiding vaccination. *Croatian Medical Journal*, 57(5), 516–521. https://doi.org/10.3325/cmj.2016.57.516

- The Ohio State University (n.d.). What is Narrative Theory? | Project Narrative. https://projectnarrative.osu.edu/about/what-is-narrative-theory
- World Health Organization (n.d.). *Vaccine efficacy, effectiveness and protection*.

 https://www.who.int/news-room/feature-stories/detail/vaccine-efficacy-effectiveness-and-protection
- World Health Organization (n.d.). *How do vaccines work?* Retrieved April 3, 2022, from https://www.who.int/news-room/feature-stories/detail/how-do-vaccines-work
- World Health Organization (2022). WHO Coronavirus (COVID-19) Dashboard / WHO

 Coronavirus (COVID-19) Dashboard With Vaccination Data. https://covid19.who.int/