

THESIS

POLITICAL PEERSUASION: AN INVESTIGATION OF THE IMPACT OF SOCIAL  
INFLUENCE ON FACEBOOK

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## ABSTRACT

### POLITICAL PEERSUASION: AN INVESTIGATION OF THE IMPACT OF SOCIAL INFLUENCE ON FACEBOOK

Since Facebook began in the mid-2000s, people have used the platform to present their own opinions, whether or not those opinions were popular. Thus, Facebook became a veritable marketplace of ideas, where opinions ranging on a variety of topics were shared, discussed and potentially persuaded their online friends. As politics have divided the nation across political spectrums to an extreme degree, Facebook has been a platform where opinions of a political nature have also been shared, discussed and argued. This study examined the persuasive power Facebook users have over their online friends in a political context, specifically about the topic of vaccines. Results showed that source credibility can exist in a horizontal fashion rather than just a vertical one, where people trust their peers' political opinions, especially when they seem to be politically active, aware and knowledgeable. Additionally, the frequency with which peers on Facebook interact and the level of influence they have was shown to be a statistically significant result. The more people interact with each other over the mediated Facebook platform, the more trust, credibility and level of persuasiveness is also increased. Due to the ability of Facebook to serve as a personal soap box of opinions, and people's willingness to state their opinions, the possibility of persuasion can exist on Facebook in some cases more than if they were talking face to face.

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## CHAPTER 1: INTRODUCTION

Since social media launched in the early 2000s, people have used it to voice their opinions on a platform that allows for the expression of more controversial stances and opinions that are in the minority among their friends and family. This kind of digital marketplace of ideas and opinions is encouraged and practiced by other users of these social media platforms, such as YouTube, Facebook, Twitter, Reddit, and even other graphics-heavy platforms such as Instagram, Snapchat and Pinterest. These platforms are viewed as places of potential political persuasion and digital debates and arguments, whereas those same opinions are largely discouraged and seen as taboo in more traditional face-to-face settings (Barnidge, 2018).

According to Auxier & Anderson (2021), about 72 percent of American adults are active on some social media, which includes platforms such as Facebook, Instagram, Pinterest, Twitter, and YouTube among others. According to the study, 69 percent of American adults are active on Facebook, which is the second largest percentage on social media, just behind YouTube, which shows 81 percent participation (Auxier & Anderson, 2021).

A lot of research has looked into political persuasion, as far back as the early 1900s with Paul Lazarsfeld (1948) and Carl Hovland's (1953) studies into attitude change and persuasion. Lazarsfeld used political opinion polls and experiments to see how people are persuaded in a political context, while Hovland's studies at Yale University a few years later established the Yale Persuasion Model, which found that the conditions under which people change their attitudes in response to persuasive messages are based on several factors – source credibility and attractiveness, the nature of the communication and the nature of the audience (Hovland, 1953).

More recently, plenty of research has looked into political persuasion in online formats, some even focusing on social media (Barnidge, 2018; Bene, 2017; Mor et al., 2015; Nahon, 2016, Zarouali et al., 2018). However, only a small percentage of the research has focused on how people are influenced by their friends and trusted network of acquaintances (Jeong et al., 2002). While Jeong et al.'s investigation delved into social media, Mutz's work looked at social situations and physical social networks rather than online. Instead, the majority of research has focused on persuasive tools from organizations as well as adapting traditional persuasive studies to an online format. The present study looked at how political debates among social networks of friends differ from simple news consumption. In particular, social media "friends" exert a different kind of intimate influence on people than a routine organization's news post and can emphasize the social influence tenets of compliance and identification.

Although YouTube is the largest social network by the percentage of American adults and other social networks use political persuasion, this study focused exclusively on Facebook and excluded the others for two primary reasons: (1) this study focused on persuasive attempts through text-only, while other social networks primarily use photos (Instagram, Pinterest) or video (YouTube) as a means to persuade; and (2) specifically focused on the persuasive power of "friends" in a social media platform, which is more conducive to Facebook than Twitter, whose platform is more set up for "following" rather than "friends," which is an important distinction.

The purpose of this research, then, was to investigate the factors that influence political persuasion on Facebook between networks of friends and peers in order to better predict the impact that the platform and its users can have on changing their friends' attitudes and opinions on political issues for large presidential elections, smaller political conversations as well as broader implications of persuasive tools and encounters.

## CHAPTER II: LITERATURE REVIEW

This literature review examined persuasion in an online context, as well as various factors that have been shown to significantly impact others' perceptions of issues and changes in attitude. It also examined the processes of attitude change, provided a deeper look into persuasion in a political atmosphere, specifically the issue of vaccines, and provided some in-depth discussion on several theoretical frameworks that are important to this study, such as social influence theory (Kelman, 1958), social judgment theory (Sherif et al., 1969), confirmation bias (Wason, 1960) and a few others.

In this literature, first, the concepts and strategies of persuasion online were discussed, including the separate online encounters used to impact persuasion. Next, the review examined political persuasion specifically, mainly in an online sense and looked at how other studies have used the vaccine discussion as a persuasive political tool. In the third section, friends' influence on their peers overall and in social media were presented, looking in depth at social influence theory and social judgment theory. In the final section of the literature review, an examination of the processes of attitude change and studies looking at attitude change on social media were completed. An in-depth look at the methods of this study was followed by the results and discussion of the study, and then finishes with the conclusion, limitations and suggestions for future research, as well as appendices of important documents to this study.

### **Studies on Online Persuasion**

As the Internet has evolved, people have used its platform to voice opinions, engage in debates, arguments and discussions and attempt to persuade others. There are dozens of ways people use to try to persuade their peers. Rather than simply list these, this literature review

shows previous scholarly research on some of the most effective strategies of online peer-to-peer persuasion.

Social media is a way for people to quickly and easily communicate with their friends, family and acquaintances without having to meet them in person. Although this was the original intent of the platforms, they have evolved to include many more features, including news consumption, entertainment, games, business and networking with peers and potential collaborators.

It has also evolved in the way people communicate with their network of friends and social connections, as people have begun to not only use social media as a conversational tool, but as a platform for their opinions and ideas in an attempt to establish their identities and persuade others to see issues the way they do. Many of these strategies people have taken to persuade others have been studied in recent research.

Nave, et al. (2018) listed three types of online encounters as being successful in inducing persuasion in an online environment. Those three are emotional encounters, cognitive encounters and behavioral encounters.

### **Positive Emotions**

In the emotional dimension, the researchers found that Facebook posts using emotions were more likely to increase engagement from their audience (Nave et al., 2018). However, Mor et al. (2015) also showed that the very idea of emotions and the potential for heated debates could discourage honest political views, because of their desire to be seen in a favorable light.

The primary objective of emotions is to guide behavior (Dillard et al., 2002), so the debate as to how emotions impact persuasion has been studied many times and in many ways, and there is still plenty of debate about the topic. Positive emotions were thought to generally

produce positive emotions (Griskevicius et al., 2010), which could lead to positive attitude change.

Nabi (2002) defined several discrete emotions when outlining emotion theory, which are the processes involved in evaluating emotions in a persuasion context. Discrete emotions are so named because of their motivational functions and unique application to behavior and evaluative judgments (Nabi, 2002). This means that these emotions have the ability to provide widely different responses from the people exposed to them. Some of these positive discrete emotions include joy, love, pride and hope. While positive emotions in a persuasion context will generally lead to positive evaluations, the concepts of pre-existing attitudes and social judgment theory also hold some weight (Jannusch, 2014).

Some of these discrete emotions have been studied in detail such as pride and happiness, which showed a correlation between these positive feelings and the amount of elaboration of the message that goes on within a person's cognitive processing (Aaker et al., 1998).

### **Negative Emotions**

Negative emotions can actually influence judgment and decision-making in quite different ways than positive emotions (Griskevicius et al., 2010). There are also discrete negative emotions such as fear, guilt, sadness and envy, and each has been shown to have significance in attitude change and persuasion (Nabi, 2002).

Fear, in particular, has been studied many times in the way it relates to persuasion. Although negative emotions generally invoke negative evaluations of the issue in people, the concept of fear in persuasion carries two principles: a threat to safety, health or well-being, and a coping mechanism to escape that threat (Mongeau, 2013). This means that fear appeals, while generally inducing a negative response, can actually result in a more positive change in attitude.

While it would make sense to think that the stronger the fear appeals, the stronger the attitude, intention and subsequent behavior change, most research has shown that the concept of medium fear appeals is the most effective tool in inducing stronger attitude change. This is because of the effect of extremes on people. When the threat is too strong, people generally tend to engage in fear control, and the message itself loses its effectiveness (Mongeau, 2013). On the other hand, when the threat is too weak, people generally are unmotivated to change (Mongeau, 2013). Other negative emotions have been similarly studied, such as guilt, which indicated that there's a significant correlation between the emotion of guilt and persuasion to a message (Hibbert, et al., 2007), but the right level of the appeal must be present, as perceived manipulation significantly decreased the persuasion effect on its subjects (Hibbert et al., 2007). The discrete negative emotion of empathy was also shown to increase the elaboration in the cognitive processes of subjects (Aaker et al., 1998).

The concept of humor as an emotion is a particularly odd one because humor itself can elicit several emotions and responses depending on how the reader interprets it. If taken as sarcasm, it could be seen as a negative emotion, whereas other instances could elicit more positive emotions (Samson et al., 2012).

### **Cognitive Encounters**

In terms of the cognitive dimension, Nave et al. (2018) hypothesized that audience engagement stemmed from two factors - novelty and digestibility. Novelty here refers to a post that sparks interest and a new way of thinking about the message; while digestibility refers to the ease of decoding and consuming a message. If a message is too convoluted or complex, the level of engagement falls off precipitously (Nave et al., 2018). However, the results of the study indicated that digestibility could have an inverse relationship with the engagement of the content,

meaning that the posts that are usually considered successful in other forms on Facebook may actually be the opposite in terms of political persuasion. (Nave et al., 2018). This means political posts could actually turn some people off when it is easily decoded, as ego-involved people could look at it as being elementary and amateur, whereas a more academic-sounding post could spark more interest and potential persuasion.

The novelty factor of the cognitive dimension can also refer to statistics, logic, data analysis, claims based on evidence, justifications, historical examples and argumentation. These examples are included in Higgins et al.'s (2012) analysis of Aristotle's three appeals in a business and environmental context, where they stated that Logos (logic, cognition) refers to the clarity of the argument and stresses logic, an appeal to reason and rationality in persuasion attempts.

When faced with a cognitive type of encounter, the information located in the message must be processed by the receiver and the argument the message is making is naturally compared with pre-existing attitudes, thoughts, feelings and schemas formed around the issue (Greenwald, 1968). This is also why people tend to start thinking about how they would respond to the argument, formulating their own counterargument, before even finishing reading the statement (Greenwald, 1968).

According to Nave et al. (2018), the successful applications of novelty and digestibility are able to cut through some of these cognitive processes to allow for successful engagement with the message.

### **High vs. Low Involvement**

Involvement is a construct that is difficult to define because there is not a single agreed-upon definition. In principle, the basic elements of involvement include a person's perceived relevance of an object or attitude that is based on inherent needs, values and interests (Zaichkowsky, 1985).

Involvement manifests similarly in both emotional and cognitive encounters as the aforementioned degree of relevance and vested interest, and not necessarily a product of either an emotional or a cognitive encounter.

High involvement in emotional encounters is generally connected with strong emotions, as the level of involvement corresponds to the person's level of engagement and interest in the outcome of the issue or the attitude being presented (Weinberg, 1995). Low involvement, then, involves weaker emotions and less perceived vested interest in the outcome of the message.

In processing a particular message, high and low involvement is also important to the audience member. Regarding the level of involvement, most research points to the Elaboration Likelihood Model (ELM) (Petty et al., 1986), which outlines how people process a message. In high-involvement situations, the message is received through the *central route*, as the issue in question and the actual persuasive message is studied and generally leads to a better possibility of persuasion (Petty et al., 1986). Low involvement is generally received through *peripheral route* processing and is generally not as persuasive.

In cognitive encounters, many of the same principles of high and low involvement exist, as the level of involvement corresponds with strong opinions and attitudes in the opinion leader and central route processing in the opinion follower or end user (Weinberg, 1995).

In a study by Cyr et al., (2018) about examining online persuasion through website design using the ELM, the researchers focused on issue involvement to explore whether a change in the

level of involvement was a mediator between the central and peripheral processing route and led to a more significant level of attitude change.

The results indicated that both central and peripheral cues are positively related to the change in issue involvement and that the change in issue involvement is strongly related to the final variable of attitude change (Cyr et al., 2018). This shows high- and low-involvement levels among users are important predictors of persuasion. Additionally, the researchers studied social presence (active on social networks and engagement with social media) as a possible predictor. However, the results of the study did not show significance.

What the study did not focus on was the interaction between friends and members of a common social network, and what kind of persuasive power that could cause. The level of involvement between one person on social media could impact and change the level of involvement of a close peer, as evidenced by homophily, confirmation bias and assimilation, which are presented later in this literature review.

### **Comparing the Effect of Emotional vs. Cognitive Appeals**

As far as studies that have compared the two, Nave et al. showed that implied emotions as a characteristic of political posts were 16 times more likely to succeed than posts that did not feature emotional cues (Nave et al., 2018). Additionally, explicit emotions were also more likely to succeed in terms of message engagement as well as containing some sort of personal stance on an issue. Cognitive variables, especially those of digestibility and simplicity, actually had an inverse relationship with success. This was further complicated, however, in evidence showing that right-wing and left-wing respondents had different reactions to the types of encounters being presented, as humor was more successful among liberal-leaning people, while casual language rather than academic-sounding posts was more successful among conservatives.

Another study about emotional and cognitive encounters in regard to advertising similarly showed that emotional encounters were more successful, as consumers could more positively relate to an emotional appeal advertisement and would evaluate it more positively than they would a cognitively-based advertisement (Septianto, & Pratiwi, 2014). The stipulations for these results were based on high- and low-level construals and elaboration of the message, as low-level construals could generally be more impacted by emotional appeals, while high-level construals would spend more time on the elaboration of the cognitive encounter (Septianto & Pratiwi, 2014).

Both of these studies indicate that emotional appeals have had a more successful effect on persuasion than cognitive encounters.

The behavioral encounters are when the poster attempts to get the readers to do something about the message they have posted, including calling or writing a congressman, voting “yes” or “no” on a bill, etc. (Nave et al., 2018). The behavioral encounters were not tested in this study. Taking action is a result of the other two encounters and its inclusion as an independent variable may only skew the data. Nave et al (2018) indicated in their study that the behavioral encounters were the least effective of the three, and this conundrum of defining this variable could very well be the reason.

Higgins and Walker (2012), in addition to discussing pathos (emotional) and logos (cognitive), also mentioned ethos (credibility) as an important factor in persuasion. The ethos appeal is key to both the emotional and cognitive dimensions, as source credibility has been shown to be a key factor in persuasion across many studies (Kelman, 1958; Siero & Jan Doosje, 1993; Zarouali et al., 2018). Higgins & Walker (2012) found that ethos dominated in successful persuasion across their studies, showing the importance of establishing expertise and credibility

in a business and political environment with their customers and constituents. In a peer-to-peer environment such as social media, this credibility may be easier to obtain, but the expertise factor could be lacking. Credibility and identification are key principles of social influence theory.

### **The Influence of Friends on Persuasion**

People can be persuaded by any number of things, people or entities. They can change their minds on an issue because of something an organization says, because of experiences they have in their own lives or various other factors. The present research focused on the influence that friends have on each other in an online format.

On the Facebook platform, the concept of “friends” is defined differently than it would be in a traditional face-to-face situation or even among acquaintances. Rosen (2007) defined friendship on social media platforms as different than traditional because anyone is able to see who each person is friends with, which creates a more public sense of friendship than a more intimate face-to-face one.

Just because someone adds a friend on Facebook does not necessarily mean that he or she prefers mediated friendship to a traditional one. Nor does it mean that a real “friend” is even known outside of the platform. There is research to suggest that people accept friend requests from people they do not know and have had zero contact with previously, whether online or in person (Stern & Taylor, 2007).

The average number of friends a typical Facebook user has is said to be 338 (Branka, 2023). It is difficult to conceive that the normal person would have that many close friends in day-to-day life, so the concept of “Friends” on the Facebook platform is more of a fluid concept than a solid one.

## **Social Influence and Social Judgment Theories**

Social influence is a concept and working theory that describes the way that people change their behavior to meet the demands of a particular social environment (Deutsch & Gerard, 1955). The influence itself can take several forms including conformity, peer pressure, obedience and persuasion, among others (Deutsch & Gerard, 1955). Kelman (1958) developed three varieties of social influence, which have since become the three tenets of the theory: compliance, identification and internalization.

Compliance is when people appear to agree with others, particularly when it is a majority opinion, but keep their minority dissenting opinions private. Identification is when people are influenced by someone who is well-liked and respected. This is also commonly referred to as source credibility, an important factor in persuasion. Finally, internalization is when people accept a belief or behavior and agree with it both in public and in private. This can also refer to attitude change or persuasion (Kelman, 1958).

The theory has been applied to online environments for several studies. Zarouali et al (2018) studied online peer communication using social influence theory to measure persuasion. The researchers suggested that people learn the values, attitudes and skills they should acquire by interacting with their peers through various media, including social media sites. People tend to follow the attitude or behavior of their peers (compliance and identification) because it is what the majority do and it appears meaningful to them. The study's results indicated that engaging in online peer communication on a social network site generates a more positive attitude toward a social ad or message (Zarouali et al., 2018).

Social judgment theory states that people do not decide a message's value on the strengths or weaknesses of the argument, but evaluate their own stance on the issue and compare

it with the position the message advocates and then decide whether to accept or reject it (Sherif, & Sherif, 1969).

It has three core principles: 1) the latitudes of acceptance, non-commitment and rejection, which are ranges of attitudes that each person has on every issue; 2) the idea of assimilation and contrast, where people believe a message is closer to or further from their own values than it really is; and 3) ego-involvement, where an issue touches on a person's core values and concepts, and the person is generally tougher to persuade (Perloff, 2010).

Friends are able to cut through some of the barriers that people normally set up for strangers and third-party organizations when it comes to persuasion because of a sense of familiarity (Teng, et al., 2014), respect, trust and credibility (Kelman, 1958).

Teng et al. (2014) showed that source perception and an established interpersonal relationship strength is a significant dimension of persuasive communication. They defined this term as *tie strength*, referring to its power as the “level of intensity of the social relationships or degree of overlap of two (or more) individuals' friendship which varies greatly across a consumer's social network” (parentheses added). This tie strength manifests itself among close friends or family members, while weaker ties are among strangers or weak acquaintances (Teng et al., 2014).

Another important dimension of tie strength is the social perception of homophily or confirmation bias present in the minds of friends (see the section on attitude change). In short, homophily is when social networks apply algorithms to each person's page so they tend to see things consistent with their previous Facebook behavior and attitudes. Confirmation bias is more of the perceived homophily, where people naturally look for opinions or attitudes that conform to

their pre-existing biases or opinions, taking those stances as confirmation that they are correct (Spohr, 2017).

These two principles also are similarly linked with SJT's principle of assimilation, where people tend to believe that certain stances are more similar to their own values than they maybe really are. This occurs when the attitude is perceived to exist within their own latitude of acceptance and therefore is easy to accept and assimilate (Sherif & Sherif, 1969).

Friends with whom one interacts regularly will tend to believe they have more similar interests, opinions and stances on issues, meaning they will perceive more homophily and assimilate their friends' stances even when their friends' opinions are not quite as similar as they think (Teng et al., 2014). It can be argued, therefore, that the level of involvement of one friend could be assimilated by another when engaging with their persuasive message, leading to a greater possibility of persuasion.

Although it is true that friends tend to actually share a lot of the same interests and many of the same biases because of similar backgrounds and experiences, Teng et al (2014) showed that perception is sometimes stronger than reality, and people assimilate their friends more into their own beliefs and attitudes. This may even be truer in an online sense, where eWOM (Electronic Word of Mouth) effectiveness comes from the three characteristics of source attractiveness: likeability, similarity and familiarity (Kiecker & Cowles, 2001). This shows the tie strength and influence that friends can have on each other in an online environment.

This also underlines the assumption that source credibility is already established among friends with whom one interacts regularly on Facebook. When the tie strength and source attractiveness is already high, the Social Influence tenet of identification is presumed to be present and valid.

## **Political Persuasion Among Friends**

### *Ego-Involvement*

One of the areas in which ego-involvement nearly always shows up is in political opinions (Perloff, 2010). Ego-involvement, sometimes referred to as vested interest (Johnson, 2015), is when people feel that an issue or opinion touches on their own self-values, so they are intricately tied up in the issue itself (Perloff, 2010).

Therefore, political issues are generally difficult to invoke persuasion, because a lot of people tend to have strong opinions on one side, usually declining to shift their attitude toward the issue in the opposite direction (Perloff, 2010). However, research shows that ego-involvement doesn't necessarily mean extreme opinions, and people could have strong feelings about being in the middle on a certain issue (O'Keefe, 2015). This shows that political persuasion doesn't necessarily mean moving people from one extreme to another, but that there are varying degrees of attitude shifts and attitude strengths to consider.

There is also the question of political interest and activity to consider. Some research claims that the more interest and engagement in political rhetoric there is, the more favorable people could be toward a persuasive message because of their willingness to consider different sides and their knowledge and exposure to different pieces of information (Pace, 2003).

However, other research suggests the opposite is true. The more engaged someone is in an issue is equated to that level of ego-involvement, and therefore the more difficult it is to persuade someone to believe contrary to their pre-existing opinions (Johnson, 2015).

This question of the relation of political knowledge and activity with the ability to be persuaded is an interesting one that this present study investigated. It also must be noted that there are many political issues about which a person can be informed, and just because someone

is very involved and active in one area of politics does not mean he or she is active or knowledgeable in all areas of politics.

### *Successful Political Persuasion*

According to Nave et al (2017), online political persuasion has been shown to be effective when a few of several factors are present in a persuasive attempt. These include the use of an emotional plea, new, cognitive information, humor, anger-evoking cues, and the use of first-person stories or opinions that reflect a personal stance on the issue (Nave et al., 2017).

Bene (2017) showed in his study about the influence of peers on social media that news sources were trusted more when the content was mediated by their friends rather than simply seen first-hand on their own Facebook feed. Additionally, the results of the study showed that the perceived credibility of the news source increased when the mediating Facebook friend was thought to be politically informed and honest about politics (Bene, 2017). The results showed the interesting effect that Facebook users will suspend their own partisan bias in the consumption of news if certain types of social cues (assimilation, perceived credibility, etc.) turn up during their Facebook scrolling.

Nahon (2016) also showed that politics is omnipresent on Facebook. As much as people may try to avoid political discussion on Facebook, one or more of their friends is bound to discuss a political issue or stance to which they will be exposed during a scroll. One simple exposure does not mean engagement, but certain friends prompt investigation into a stance more than others, which returns to the definition of Facebook friends referred to at the beginning of this chapter.

As people are seeing more news and politics on social media, Pew Research (2018) showed that social media is now being used as a news source more often than traditional

newspapers. The research showed that one-in-five U.S. adults are getting their news via social media. Although TV news broadcasts are still the leading source of news in the U.S., when combining social media and other online sources, news consumption online as a source now makes up nearly half of how Americans are receiving their news. This can also include links from social media to a news organization's website (Shearer, 2018).

Looking at individual social media platforms, Facebook dominates the social media sites that act as pathways to news, with 43 percent of adults who use social media as a news source are using Facebook as their pathway (Shearer & Matsa, 2018). YouTube and Twitter are a distant second and third place respectively, with 21 percent and 12 percent.

### *Vaccines and Persuasion*

The issue in focus of this study is vaccines, made much more prevalent and thrust into the center of much political debate because of the COVID-19 pandemic of 2020-2022. This is a recent example, which people may still be developing their own opinions and own latitudes of acceptance and ego involvement. More research into vaccines as an issue among political discussions is presented in this section.

Due to the recent COVID-19 pandemic, the issue of vaccines is a very prominent one, spurred forward by the development and use of three different brands of vaccines: Pfizer, Johnson & Johnson and Moderna. While the COVID-19 vaccine is at the top of mind during the debate of whether to vaccinate or not, this issue existed long before the pandemic, and will likely continue forward long after. There are several reasons why people choose to not vaccinate.

In 1998, British physician Andrew Wakefield and 12 others published a research paper that linked the MMR vaccine (Measles, Mumps and Rubella) to autism (BMJ, 2011). While this research has since been retracted and corrected, the effects on the anti-vaxers zeitgeist continues

to be felt. According to a study by Liza Gross (2009), “despite overwhelming evidence that vaccines don’t cause autism, one in four Americans still think they do.” People who hold strong opinions on this topic seem to regard the 1998 research as law and bend all data to their preconceived attitudes, a symptom of assimilation and contrast.

Other significant reasons, among other lesser-known ones, people tend to not vaccinate their children is the belief that vaccines are a tool of “Big Pharma,” meaning that vaccine manufacturers are profiting off of vaccines administered to their children, and not wanting to contribute to it (Isidore, 2021); the belief that natural immunity is better than manufactured immunity, and that children will be stronger if they build up their natural immunity to the diseases (Irvine et al., 2013); and the simple statement that people should have the option to choose what happens with their own body, and should not be shunned for it.

A 2020 study by Nicolas Duquette looked at effective persuasion for a future COVID-19 vaccine and used a 2x2 experimental study where four positive messages about the vaccine were put forward, ostensibly by doctors, about the importance of getting a vaccine. The stimuli were framed in a way of protecting ourselves vs. protecting others, and included an element of involvement – the protection against death and serious disease vs. the protection against contagion and spreading the disease (Duquette, 2020).

The results of the study showed that a little over half of the people surveyed (N=2,334) were 100 percent sure they wanted to get vaccinated, while only 4 percent said there was no chance of them being vaccinated (Duquette, 2020).

The study also showed that the most powerful message of the four was in safely protecting others from severe disease or death (Duquette, 2020).

Because the field of COVID-19 is still very young in research, there has not been a ton of research about it as it relates to persuasion. There are plenty of other studies that have looked at the relationship between persuasion and vaccines, but most of them deal with messages from health professionals rather than on social media or from a friend's perspective (Kupferschmidt, 2017).

This study incorporated some of Duquette's questions, but was framed from an online persuasion point of view – that of coming from someone's Facebook friends. Rather than invoke an experiment, this was presented as a survey to study people's responses to their friends and the perceptions of messages and tones that their friends post on Facebook. This is an important step to understanding social media persuasion, especially among friends, and could also lead to important steps forward in vaccine persuasion and political persuasion in general.

### **Attitudes**

Attitudes have been defined in various ways across many studies and researchers. Some refer to it as the amount of affect for or against an object (Spears & Singh, 2004), while others refer to it as the predisposition to respond in a generally favorable or unfavorable manner toward an object (Robinson et al., 1991). The first definition seemed too targeted toward emotion, while the second one seemed too focused on pre-existing judgments. In the context of this paper, the definition used by The Handbook of Social Psychology (2010) as a favorable or unfavorable evaluative reaction toward something or someone was used because it is focused on the judgment or reaction toward a stimulus or a message and can include both affect and cognition in the judgment.

According to the Handbook of Social Psychology, attitude includes three components: cognitive (thoughts, beliefs and ideas), affective (feelings or emotions) and behavioral (tendency to act in a certain way), also making this definition appropriate for the purposes of this study.

Attitudes are formed throughout one's life from experiences, the gaining of knowledge and social learning (Doob, 1947). Repeated exposures to the experiences or attitudes of influential others can also form and strengthen one's own attitudes (Zajonc, 1968), while hereditary values and attitudes passed on from parents to children can provide attitude bases for people (Tesser, 1993).

### **Attitude Change**

Ultimately, attitude change is a difficult concept to quantify, especially when research is relying upon measures of self-reporting, in addition to the various concepts and theoretical backgrounds that influence a change in attitude.

Full attitude change (changing one's stance from one clear attitude to a different one) only takes place after multiple attempts and primes (Jannusch, 2014). While there are examples of this full-scale attitude change being studied (Kato et al., 2009; Zimbardo & Leippe, 1991), a lot of these studies rely on physiological measures and ethnographies.

However, research shows that small adjustments in attitudes can take place over a single exposure to a different attitude or opinion aimed at persuasion (Barnidge, 2018; Jannusch, 2014; Perloff, 2010). Although these studies are not aiming completely at a full-scale attitude change, the results of many studies and research show that these small adjustments in attitude have significance with just a single exposure to a message or a persuasive speaker (Miller, 1976).

Another difficulty in measuring attitude change is the sheer number of theoretical concepts and frameworks that claim to impact persuasion. Although none of the theories are

inherently better or necessarily more effective than another, each offers important factors that influence persuasion and small-scale attitude change.

These factors include the social influence tenets of source credibility, message credibility and reasonableness (Kelman, 1958), affect (Barnidge, 2018; Higgins, 2012), cognitive processing and message elaboration (Greenwald, 1968; Booth-Butterfield & Welbourne, 2002; Siero & Jan Doosje, 1993), message quality, pre-existing attitudes and opinions (Kuhnen & Hannover, 2000), ego-involvement, also referred by some as vested interests (Johnson, 2015) and argument quality (Xu & Yao, 2015).

Since the expansion of social media as a public forum for the expression of opinions, it has increasingly been used as a place of discussion, debate and persuasion (Bene, 2017). In the digital age, the Internet and social media have been used as persuasive tools by both organizations disseminating content and political stances, as well as peers, attempting to persuade their own friends and social connections to think a certain way about an issue. All of the same factors listed as impacting persuasion have also been applied in an online sense. Although all social media has the potential to persuade, for the purposes of narrowness and specificity, this study exclusively focused on Facebook.

### **Persuasion on Facebook and Social Media**

Facebook was founded in 2004 in Cambridge, Massachusetts and was at first only available to students at Harvard University, but soon expanded to other Ivy League schools, and in 2005, moved its base operations to California and became a public domain with more than 1 million users (Facebook Timeline). Today, Facebook has about 3.03 billion users throughout the world, which equates to more than one-third of the people on earth (Shewale, 2023). This means that if Facebook itself were a country, it would be the largest country in the world by population.

Facebook is a platform that is receiving significant attention from researchers, especially in the context of online persuasion. Studies have investigated how people persuade others on the platform as compared to other social networks (Fogg & Iizawa, 2008) as well as how people react to the exposure to opinions that are different from their own (Jeong et al., 2019). Although other social media platforms such as YouTube and Twitter are powerful and persuasive, their content is either based on a video or their social connections are less based on friendships and actual connections than on establishing a following. Therefore, Facebook is the best platform for this study to investigate the impact of friends' persuasive attempts to other friends online. Facebook communication has also evolved over the years, as political discussions have become more commonplace on Facebook. Additionally, the current political climate which is now more vocally divisive than any era in recent memory is only bound to increase across social media, so more research into how people are persuaded in a social media context is valuable to further researchers and political companies alike.

All social media platforms follow a somewhat similar algorithm wherein users are generally exposed to opinions, advertisements and organizations that are mathematically linked to them by cookies, previous searches and similar accounts to ones the users already follow. This means that the posts a user sees are not necessarily sorted by recency, but by relevance (Barnhart, 2019). This relevance is determined by each user's behavior on the platform in an effort to personalize the content to each individual. Facebook does this by putting posts from close friends and family, as determined by individual settings and social interaction (Barnhart, 2019).

This lends a great opportunity for this survey to be of impact because people see posts from their friends on Facebook every single day, or at least every time that they scroll through

their Facebook feeds. They do not even need to specifically search their friends to see a post from someone they have “friended” which allows people to organically respond to questions and prompts regarding their own perceptions on how they feel about a friend’s post, political or not.

### **Homophily and Confirmation Bias**

This filtering of posts based on relevance and social interactions is also called homophily, which means that users are generally only exposed to opinions and posts with which they already agree or are consistent with their previous behaviors. People generally feel more comfortable in a homophily situation because there is more similar opinions and less cognitive dissonance (Nahon, 2016).

This phenomenon is also referred to as confirmation bias, which is the desire to look for or interpret content in ways that are already consistent with existing beliefs and attitudes (Spohr, 2017). Confirmation bias is a psychological process that people often engage in without their own conscious input, as the human brain works on it as a result of its innate need for consistency and the defense of its own beliefs (Spohr, 2017).

While social media algorithms attempt to present these consistent views, other research shows that the nature of Facebook as a public forum for debate and a marketplace of ideas actually presents plenty of differing views. Mor et al. (2015) points out that social media is composed of a heterogeneous audience with people from all walks of life and messages are bound to reach those whose opinions differ from their own. These social networks, and Facebook, in particular, is designed to give its users the opportunity to express their individuality, which results in more social difference rather than social similarity (Barnidge, 2018).

In particular, social media promotes the exposure to opposing ideas as one of the foundations of their platforms, which encourages the expression of opposing viewpoints as an online public forum, whereas face-to-face conversations generally discourage such contention (Barnidge, 2018). Therefore, social media has become a world of its own, where its users can exhibit bolder behaviors and more outgoing characteristics than they would be capable of in a traditional face-to-face setting. Schulz and Roessler (2012) posited that due to homophily, social media users tend to believe they are surrounded by more like-minded people online than in a real-world context, and that effect decreases a fear of isolation, allowing them to open up more online and be more likely to express their opinions, effectively minimizing the spiral of silence effect on the internet.

Additionally, when two people make each other friends on Facebook, the algorithm takes a back seat to seeing posts from confirmed friends. This means that if a friend has a contrasting view that would normally be filtered out by the algorithm, it will still be present on someone's feed because being friends trumps any content elimination. This also allows the greater possibility for people in this study to have seen contrasting political messages from their friends.

### **Facebook as Self-Presentation**

The act of publicly displaying one's identity had traditionally taken place in private settings and non-mediated platforms, but it now has become institutionalized through social media (Mor et al., 2015). Goffman's (1959) "presentation of self" claims that it is people's natural tendency to pursue social acceptance, which then motivates them to match their behaviors with their perceptions of their audience's expectations. As a primary facet of today's self-presentation, social media also participates in shaping a person's image. It becomes a dialectic platform where people can accept or oppose another's self-presentation and mold

themselves to fit the perceived attitudes and behaviors of their friends who are setting precedents for how to behave and how to think (Mor et al., 2015).

It can then be argued that the political behavior of the majority on social media is informed and shaped by a minority that voices their opinions about it (Bene, 2017). This is an adaptation of the two-step theory (Lazarsfeld et al., 1948), where the top-down approach has been modified to act in a horizontal way, from one peer or peer group to the other. However, the first group is the one in power because they are the ones interested in politics and voicing their opinions, influencing and persuading others who follow along (Bene, 2017).

This dynamic of friends influencing their peers through opinions is what sets this issue apart, as trusted friends and family with whom people interact regularly on Facebook are generally trusted and seen as credible (Zarouali et al., 2018) and the possibility of deception and false information could possibly be reduced.

Research suggests people learn the values, attitudes and skills they should acquire by interacting with their peers through various media, including social media sites (Zarouali et al., 2018). That study's results indicated that engaging in online peer communication on a social network site generates a more positive attitude toward a social ad or message, which leads to a greater possibility of persuasion.

In fact, Pew Research data showed that almost 30 percent of men aged 18-29 had changed their views on an issue because of something they saw on social media. Eighteen percent of Women in the same age group also indicated they had changed their mind on an issue because of something on social media. Overall statistics showed that 14 percent of American adults had changed their mind based on an opinion written or voiced on a social media platform (Bialik, 2018).

There were a few differences based on other demographics such as race and political ideology. In particular, Bialik (2018) showed that social media changed views among Democrats and Democratic-leaning independents (17 percent) more often than among Republicans and Republican leaners (9 percent), but regardless, statistics are showing a significant amount of persuasion is taking place on social media platforms.

### **Synthesis of Literature and Hypotheses**

This literature review looked at the concepts and strategies of online persuasion including the separate online encounters used to impact persuasion. This included emotional encounters, which include both positive and negative emotions, and cognitive encounters, which present new and digestible information.

Next, social influence theory and social judgment theory were reviewed, which showed the impact that friends can have on each other in an online environment. The ideas of assimilation, homophily and confirmation bias were discussed and studies showed that source credibility and the perceptions that friends' attitudes are closer to their own than they sometimes really are. It also reviewed specific political persuasion and the social judgment theory principle of Ego-Involvement, which shows that people with strong opinions on an issue are difficult to persuade. It also showed that previous studies on vaccines and persuasion are limited, especially in relation to the COVID-19 vaccine, as well as in regard to online peer-to-peer persuasion, with most of the studies focused on health care persuasion. However, the most current study showed that people were most persuaded in a high-involvement state when concerned for others' safety. It also showed that the issue of vaccines covers several facets of the political spectrum and concerns, from the belief they cause autism to a concern for big pharma and a "my body, my choice" mentality.

Finally, the literature review examined the processes of attitude change, including on social media, which showed that people are seeing more content that is not consistent with their pre-existing attitudes than they had seen before, because of people's propensity to post their opinions in a measure of self-expression. It also showed several studies which indicate the number of people that have changed their minds because of something they saw on social media, as well as research showing that social media has displaced newspapers as a more popular pathway to consume news, with Facebook being the predominant gateway to that news. Based on this research, the following hypotheses and research questions are presented:

H1: The degree of source credibility will have a positive relationship on the likelihood of persuasion in a Facebook post.

H2: The degree of closeness of relationships will have a positive relationship to the persuasiveness of a Facebook post.

H3: The degree of the frequency of online interactions with Facebook friends will have a positive relationship to the persuasiveness of a Facebook post.

H4: The degree of political involvement, political knowledge and level of political orientation will have a negative relationship to the persuasiveness of a Facebook post.

RQ1: How does one's use of Facebook as their primary news source contribute to the likelihood of being persuaded by a Facebook message from their friends?

## CHAPTER III: METHODS

### **Brief Summary**

In order to explore how the various degrees of closeness of relationships, source credibility levels, frequency of interactions and degree of political involvement have effects on potential persuasion online, a survey was used to ask these and other questions which could serve as moderating variables. This survey was offered through the lens of the issue of the COVID-19 vaccine, and of vaccines in general. In addition to these dependent variable questions, respondents were also asked to identify how frequently they use Facebook, how often they “like,” “share” or comment on others’ posts, how often they search political news on Facebook and what their feelings are toward their friends on Facebook who have political opinions contrary to their own.

They also completed several questions to measure the dependent variables of the social influence scale (adapted from Barnidge, 2018), which includes message credibility, argument quality, perceived persuasiveness and the likelihood of adoption of the attitude (Kelman, 1958), as well as measures of the likelihood of Facebook engagement with messages. They answered several other moderating questions such as demographics, political knowledge, vaccine knowledge and percentage of news consumption being completed on Facebook.

### **Instruments and Variables**

#### *Dependent Variables*

The main dependent variable that was measured in this study is the level of social influence that a Facebook friend’s purported Facebook post could exert upon each subject. The level of social influence includes the likelihood of attitude adoption, perceived message

credibility and argument quality, as well as the measures of engagement with the Facebook post and the level of perceived degree of persuasion of the post.

Social influence is more of a construct than an individual variable, and as such, is difficult to measure by itself. This is why researchers in the past have broken this construct down into simpler and easier-to-measure variables that could be combined into a single social influence variable. The present study continues that practice.

Barnidge (2018) used this same approach in his study, breaking down the parts of social influence by the three major principles of the theory and then computing the results into a single variable for easier measurement.

These three major principles are: source credibility (identification), perceived persuasiveness of the message (compliance) and likelihood of adopting the attitude as their own (internalization) (Kelman, 1958). When the subjects are including close friends of theirs, or people with whom they interact regularly on Facebook, source credibility is already established.

These principles are, in and of themselves, interesting enough to study individually, as well as a combined variable. One- and two-way ANOVAs were performed to explore both the combined variable as well as which individual factor from the group explains the largest impact. Other variables were measured as part of this scale which was similarly used by Barnidge (2018). These include argument quality (logic), message attractiveness (compelling) and message credibility (plausibility), which were both studied individually and as part of the scale to measure social influence.

The results of these items were also rolled into a singular Facebook behavior variable, whose result was strong (see results below) to study it by itself as well as the study of each variable individually.

These types of attitude measures are not unique to this study, as they have been studied many times before in several of the literature mentioned in the literature review (Barnidge, 2018; Zarouali et al., 2018).

### *Independent Variables*

The independent variables that were measured in this study were mainly the perceived closeness of relationships of Facebook friends. This includes how close they feel to them and if they feel they have a significant relationship with the person. In addition, the frequency of online interaction with their Facebook friends is also an independent variable.

For the purposes of this research, friends were defined a little narrower than the Facebook definition. For purposes of measuring persuasion, subjects were asked to respond to prompts regarding their interactions with friends on Facebook surrounding the political issue of vaccines and indicate how they perceive messages from their friends as credible, persuasive, plausible and rational, both for friends who share the same political lens on an issue or have contrasting political opinions. The interactions they have with these online friends were also studied, based on their perceptions of how close they feel they are to their friends, how much they trust what their friends post, and the frequency of online interaction.

The literature review talked about involvement, described as a construct whose basic elements include a person's perceived relevance of an attitude based on needs, values and interests. High involvement is generally connected with strong emotions and more vested interest, while low involvement generally involves weaker emotions and less vested interest.

Previous study results show that both high- and low-involvement levels could be significant predictors of persuasion and that social presence could be a possible predictor of attitude change (Weinberg, 1995). Higher involvement levels generally corresponded to more

engagement with a message, and thus more positive change. This study focused on the interaction between friends and members of a common social network, and the previous literature review hypothesized that the level of involvement between one person on Facebook could impact and change the level of involvement of a close peer.

Emotional and cognitive online encounters are two ways that people can engage with friends on their social networks online. Emotional encounters can be either positive or negative and are shown in the previous literature review to generally be more significant on attitude change than cognitive encounters (Nave et al., 2018; Septianto & Pratiwi, 2014). Cognitive encounters are represented by the principles of novelty and digestibility, and generally use statistics or logic in an attempt to persuade. This study has evolved over a few years, where experiments to provide stimuli of positive or negative political messages did not produce any sort of significance. These experiments can produce results at a later date once the factors that lead to persuasion in a social media context are better understood. Therefore, this study started more at the ground level with a survey that did not present specific messages, but rather went straight to the foundation of online interactions between friends and how strong these ties can be in political persuasion.

#### *Moderating Variables*

Additional moderating variables based on some of the research include the percentage of news consumption completed on Facebook. Another moderator will be the level of political knowledge that was completed on a 4-item quiz adapted from a previous study completed by Pew Research (News IQ, 2019). This quiz asks national political questions, but not on the issue at hand. Thus, another 4-item quiz was completed that was focused exclusively on vaccines to test the knowledge of the issue being discussed.

Other variables that were studied as part of this study include demographics and social media behavior, particularly focusing on Facebook, such as frequency of posting any status, frequency of posting political messages, how frequently they like, share or comment on friends' statuses, both political and non-political in nature. Table 1 shows each of the variables that were measured in this study.

*Table 1: Variables*

<p><b>Dependent Variables</b></p> <ul style="list-style-type: none"> <li>● Social influence (4-item scale including persuasiveness, compelling, logical and plausible)</li> </ul>	<p><b>Independent Variables</b></p> <ul style="list-style-type: none"> <li>● Relationship with Friends on Facebook</li> <li>● Perceived closeness with friends on Facebook</li> <li>● Frequency of online interaction</li> </ul> <p><b>Moderating Variables</b></p> <ul style="list-style-type: none"> <li>● Percentage of news consumption on Facebook</li> <li>● Political Knowledge</li> <li>● Vaccine Knowledge</li> <li>● Facebook use</li> <li>● Gender</li> <li>● Age</li> <li>● Rural vs. Urban</li> <li>● Political Orientation</li> <li>● Level of Income</li> <li>● Level of Education</li> </ul>
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**Data Collection**

*Sample*

100 participants were recruited from SONA, the data research group at Colorado State University, which, while a small number of people, showed enough validity to reach reliability.

SONA is a convenience sample, tapping into the database of Colorado State undergraduates who are enrolled in the required course of Professional & Technical Writing. Because it is a required course, the students are not confined to one area of study, but come from all over the campus and in every field of study.

To participate in the study, subjects had to be over 18 years in age. This criterion is to control for both informed consent as well as those of age to vote on political issues such as vaccines. Additionally, every respondent needed to have an active Facebook account. Because this study examined political persuasion on Facebook, it is important that subjects are not only familiar with the platform and its use as a forum for opinions, but interact with certain friends on Facebook and are familiar with the algorithms.

As for compensation, each participant was granted extra credit for their participation in the survey, a format that is set up by the professional & technical writing teachers.

While the sample was low, this was never meant to be a study that finds an absolute truth on persuasion techniques on social media. Rather, this was an exploratory study, whose data will potentially help other researchers gather more data in the relatively new field of social media and political persuasion.

Once the 100 subjects were sampled, the responses were analyzed carefully to remove subjects with missing data to make the results of this study more significant. The 100 respondents of the experiment was eventually whittled down to 88 through eliminating that missing data and those who clearly did not have any clear desire to take the study beyond the extra credit proffered.

### *Procedures*

The survey was posted to SONA's survey page and was available to all kinds of survey takers. A brief description of the purpose of the study and a few of the procedures and the benefits to research this study can accomplish were also listed. This was done over the course of two semesters at Colorado State, due to the slowness of data collection.

The data was collected using Qualtrics, because of its user-friendly approach, customization capabilities and the relative ease in exporting the data to SPSS for data analysis.

Because SONA data collection traditionally depends on class enrollment and need for extra credit, the survey spent both the semesters in 2022-23 collecting data from two different groups of students enrolled in the course.

The basic format of the study went as follows:

First, participants read an informed consent page which let them know the purpose of the study, basic procedures they will go through, including the importance of reading instructions and messages carefully, and any potential risks (in this case, the only relevant risk was the disagreement with a political message).

Next, respondents answered questions about their behavior and frequency on Facebook, their news consumption patterns, political ideology and other related Facebook use in regard to political activity.

They then were instructed to carefully respond to questions about their Facebook behavior regarding frequency of posting, posting about vaccines, how they “like,” “share” and comment on others’ posts and how often they use Facebook as their primary news source.

They were then presented with the independent and dependent variables of this study, namely, how close they feel to their Facebook friends, their perceived relationships with them and the frequency of online interactions with them. They were presented with a Likert scale response style to whether they believe messages from friends who hold opinions on vaccines contrary to their own are persuasive, compelling, logical and plausible.

After that, they answered a 4-question quiz of political knowledge adapted from a Pew Research study and an additional 4-question quiz about simple vaccine knowledge. Finally, they

answered demographic questions such as age, gender, level of income, rural vs. urban living and level of education, as well as others that could provide an important moderating effect.

## **Validity and Reliability**

### *Reliability*

Each participant in the study answered identical questions across the board. This is an experimental design that is looking at the variables of online persuasion on a social media platform, so the same questions were important in evaluating the data.

Additionally, many of the scales and questions were adapted from the literature of previously valid and tested scales and series of questions.

### *Internal Validity*

Because SONA was used as the data collection tool, the sample was comprised of a varied group with different genders, interests and political orientations. Additionally, each participant had an active Facebook account, so they were familiar with the way the platform operates as a forum for debate and have seen it used as a political forum.

The data analysis measured moderators and mediators such as demographics, political knowledge and social media use and frequency to further make the data valid.

Several statistical checks were performed in the preliminary stages of data analysis to check this internal validity. These include the use of Cronbach's Alpha for the dependent variables of identification, internalization, persuasiveness, reasonableness and other related measures of social influence theory, in order to show the reliability of the scale and create a singular variable.

### *External Validity*

Because this study came from a convenience sample on SONA, and was geographically limited to Colorado State University, and only had a total of 100 participants, this study has limited generalizability. However, this study was never meant to be completely generalizable, as much of this study is an exploratory study to find factors and results that can be applied in future studies for a more empirical approach to this data.

However, the sample was composed of people from varying walks of life and fields of study throughout the university, so it was a relatively typical representation of those living within Colorado, helping increase its external validity. Further research should expand this to the entire United States.

### *Ecological Validity*

Facebook messages are known by the participants, since they need to have active Facebook accounts to be part of the study. They also understand the algorithms from a basic level as well as how one becomes friends with others on Facebook, and the difference between a friend in real life and one that may only exist within the paradigm of Facebook.

### **Analytical Approach**

After the data is collected, it was analyzed over a period of several weeks using SPSS to search for correlations and statistical significance between factors to study which of the four areas of persuasion and social influence tend to lead to better possibilities of persuasion on Facebook, as well as which factors of feeling emotionally close to Facebook friends and how frequently they interact with them, have a degree of influence on persuasion. Other variables also came into play, such as demographics, Facebook use and frequency, Facebook as a primary news source, political orientation, political knowledge and political interest.

This analysis was conducted primarily using one- and two-way ANOVAs to look at the variance between the variables. However, the analysis also included Cronbach's Alpha for the internal validity of several different scales to create a single variable to help simplify the analysis. Additionally, correlations, regressions and other similar statistical tests were run for further data exploration and expansion.

## CHAPTER IV: RESULTS AND DISCUSSION

To measure potential persuasion and attitude change, Cronbach's Alpha was used to determine the internal validity of the Social Influence scale. These four items asked the subjects to state whether a political opinion about vaccines from a Facebook friend who held an opinion contrary to their own was 1.) persuasive, 2.) compelling, 3.) logical and 4.) plausible.

Cronbach's Alpha was strong, with a .884 significance level, showing that this scale can be used as a single combined variable as well as tested on each element of the scale by itself.

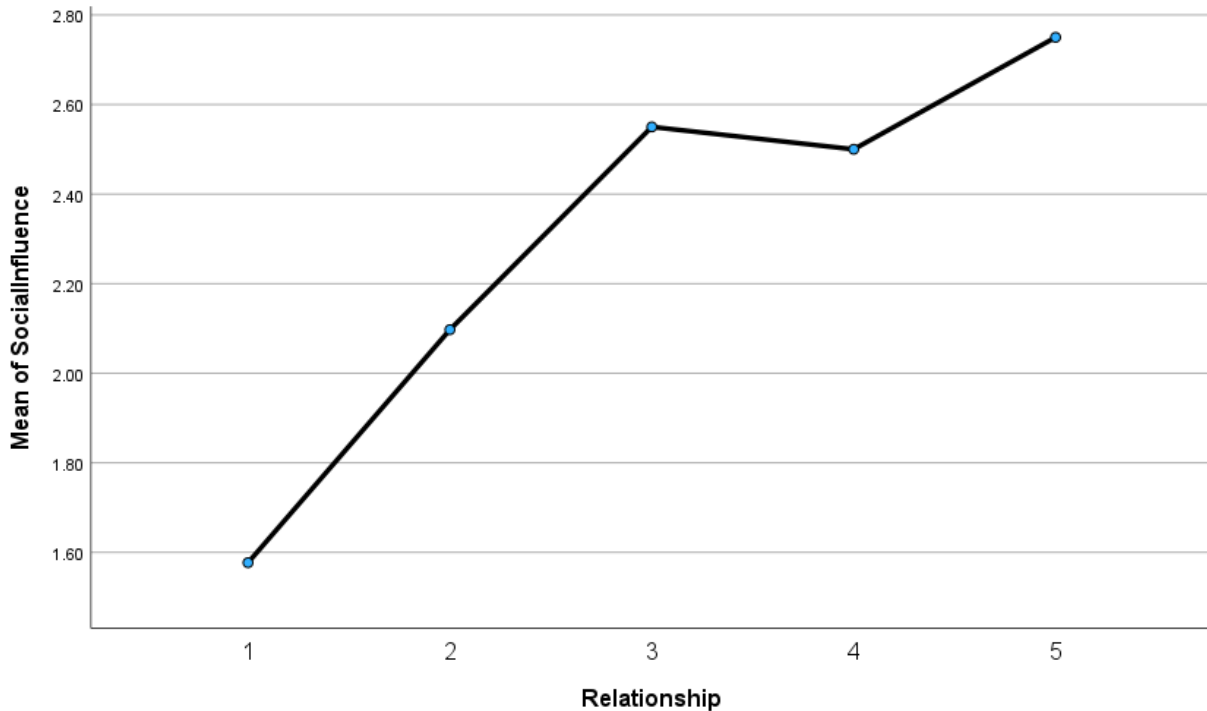
### **Hypotheses Testing and the Results**

Hypothesis 1 posited that the degree of source credibility would have a positive relationship on the likelihood of persuasion in a Facebook post.

Source credibility was measured by the relationships subjects had with their Facebook friends. The closer their relationships were, the higher source credibility they were determined to have, as is shown by the literature review earlier in this paper.

A one-way ANOVA revealed that there was a statistically significant relationship in source credibility ( $F(4, 83) = 3.177, p < .05$ ). This shows that personal relationships with friends on Facebook could have a significant impact on being persuaded by them or having a persuasive influence over them. This rings true with overall source credibility in a news sense, as people who trust their news sources tend to have a much stronger possibility of being persuaded by their messages. The results of this study have only taken the concept of source credibility and shown that it has the same significant effect among interpersonal relationships as well, particularly in an online environment. Looking at each individual component of the Social Influence scale, both persuasive and plausible were significant with  $p < .05$ , but compelling was not significant.

The table below shows the arc of how likely someone would be persuaded based on the closeness of their relationship with the person whose message they saw. The Y axis is the combined variable of Social Influence, while the X is the closeness of their relationship. This was measured in a Likert scale, increasing in the closeness of relationship. Hypothesis 1 was supported.



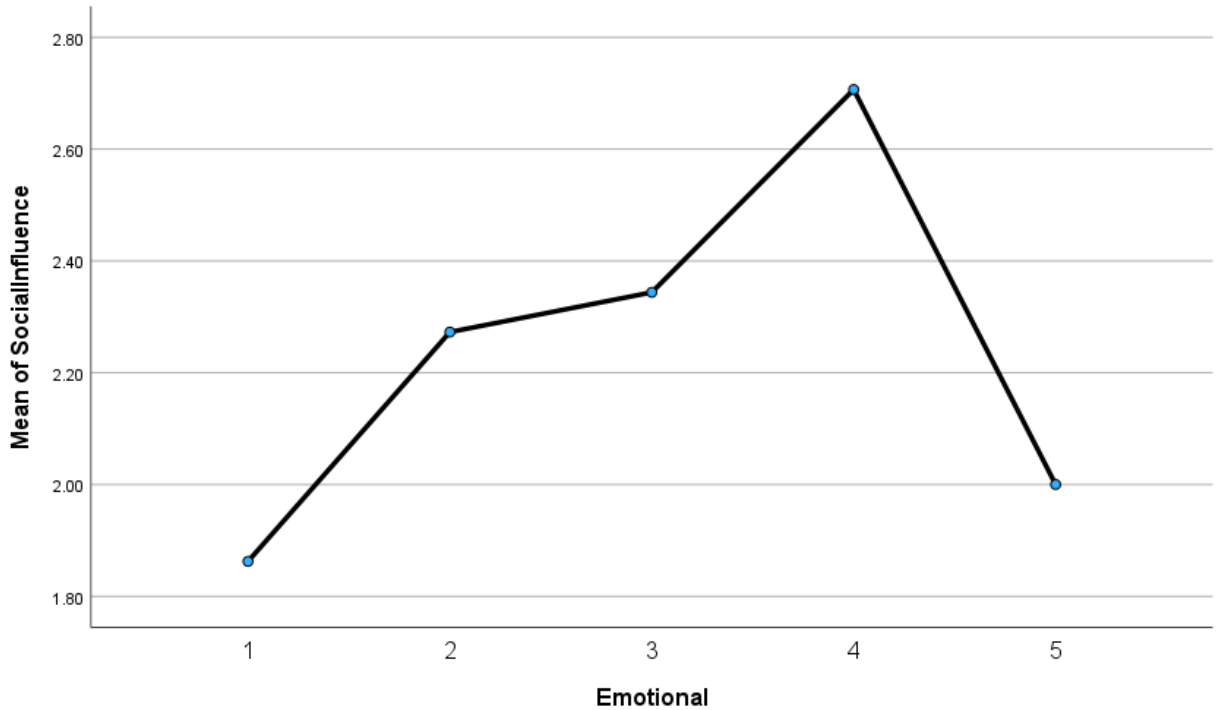
*Figure 1: Social Influence determined by Source Credibility (Relationship with friend)*

Hypotheses 2 looked at the degree of closeness of relationships and posited that the closer a subject feels to his or her Facebook friends, the more likely they will be able to be persuaded by a Facebook post from that person.

Hypothesis 2 was not supported, as the results did not reach the minimum significance level, ( $F(4, 83) = 2.125, p > .05$ ).

This result was somewhat surprising, as the first and second hypotheses were thought to be similar in nature, so the level of significance of one hypothesis was originally thought to apply evenly to both variables. However, after deeper analysis, feeling emotionally close to someone doesn't mean that one will find that person's arguments compelling, especially if their arguments are contrary to his or her own opinions. A relationship may exist with the person, and trust and credibility may even be present within the relationship. Individual factors of persuasiveness and plausibility touch on an entirely different emotion than if the message is compelling: that of being rapt with attention. Plausibility, persuasiveness and logic all touch on a message's factual appeals, while compelling touches on a more emotional level than the other three because it requires a person to internalize and apply a person's message. From a deeper analysis, it would make sense that this variable could be tougher to move the needle.

The figure below shows the level of social influence on the Y axis and the feeling of being emotionally close with the subject on the X axis.



*Figure 2: Social Influence Determined by Closeness of Relationship*

Hypotheses 3 looked at the frequency of online interactions and posited that the more frequently a person interacts with their Facebook friends, the more likely they will be persuaded by a political post from that person.

Hypotheses 3 was supported, as the results showed significance across the board ( $F(4, 83) = 8.373, p = <.001$ ). All significance showed less than 0.01 significance, showing that the more a person interacts with people on Facebook, the more they find their posts persuasive, logical, plausible and compelling. It is important to highlight that this variable was about online interaction and not about interacting in person, or even via telephone or text messages.

The frequency of Facebook interaction can be accomplished through personal messages, sharing content frequently, tagging each other in posts, posting messages to the other person's Facebook page or even using the Facebook Messenger app to send quick chats and messages.

Frequency of Facebook interaction has the strong possibility of also increasing the feelings of source credibility and emotional closeness with the other person.

If people are communicating often, the likelihood of political subjects coming up is also increased, meaning these people likely have had experience with online persuasion already, especially considering that these people may have differing political opinions.

Interestingly enough, however, results showed that the interactions between friends who post things similar to their own stance were not significant. Results were only significant with people who have opinions contrary to their own stance. These results showed that the more people liked or commented on things that they find contrary to their own opinions, the more compelling and logical they felt those arguments were. This shows that when people share stances similar to their own, they do not feel a need to tag along with it or add another voice to the cacophony of similar voices. It seems to stand on its own and they move on with only a cursory scroll through Facebook, without even taking the action of “liking” the post.

However, when the post is contrary, their blood begins to boil and they will comment as a rebuttal, especially when they find the post logical or compelling, which likely encourages them to want to defend their own positions or engage in a debate or a conversation, which can lead to possibilities of persuasion, or at least moving a latitude of acceptance closer to the middle. Thus Facebook is turning into a political soapbox or debate hall of sorts.

The table below shows each of the four individual factors of persuasion (persuasive, compelling, logical and plausible) regarding the independent variable of frequency of interaction, and shows how each of them reached a significant level.

Table 2: Significance of Individual Factors of Persuasion from Frequency of Interaction

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Persuasive	Between Groups	29.948	4	7.487	6.206	<.001
	Within Groups	100.131	83	1.206		
	Total	130.080	87			
Compelling	Between Groups	22.311	4	5.578	6.135	<.001
	Within Groups	75.462	83	.909		
	Total	97.773	87			
Logical	Between Groups	24.470	4	6.117	5.160	<.001
	Within Groups	98.394	83	1.185		
	Total	122.864	87			
Plausible	Between Groups	21.516	4	5.379	5.279	<.001
	Within Groups	84.564	83	1.019		
	Total	106.080	87			

Hypotheses 4 spoke about political involvement, political knowledge and the level of political orientation, and posited that the greater political involvement in these areas would result in a lower degree of persuasiveness relative to the Facebook post.

The result of this hypotheses was partially supported. Two of the political areas were not shown to have any significance. Involvement and knowledge were tested through a political quiz, and no significance was shown through that ( $F(4, 83) = .624, p > .05$ ). However, political orientation was shown to be significant in the level of persuasion ( $F(4, 83) = 6.314, p < .001$ ) The results showed that the people who lean more liberal tend to find posts about vaccines persuasive and compelling, while the people who tend to lean more conservative find posts about vaccines less persuasive and compelling.

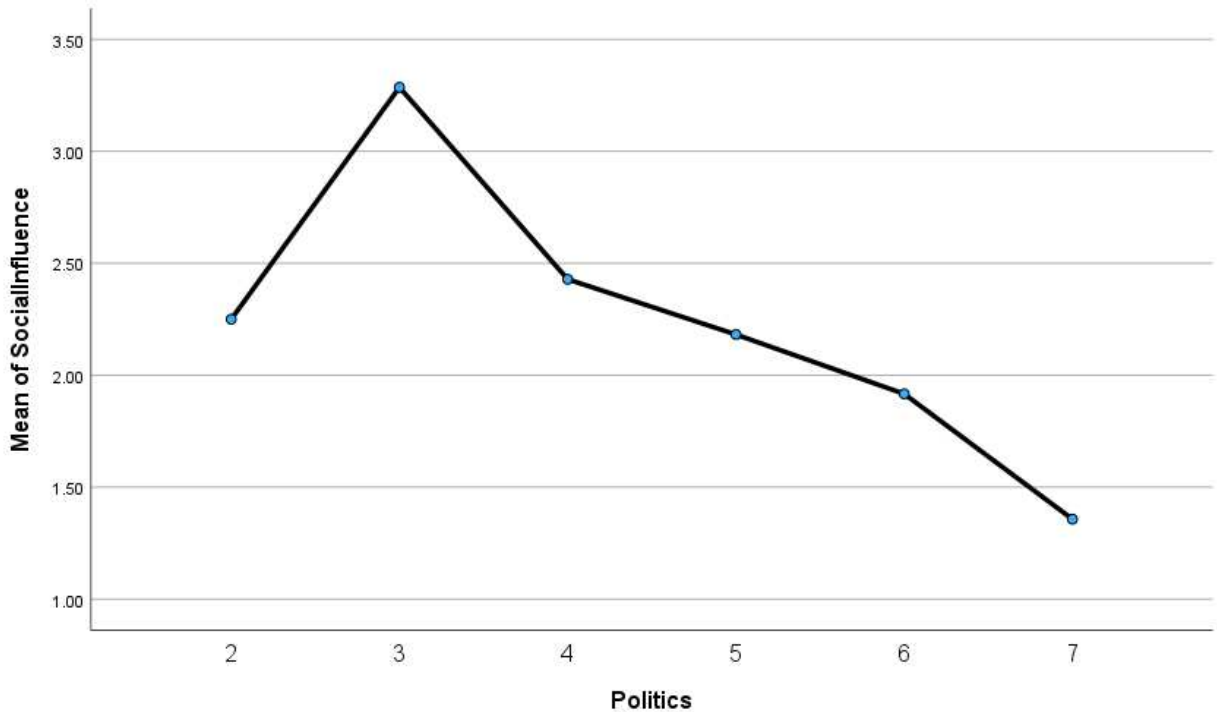
In addition, the stronger their ties were to their political orientation, the stronger they felt about the posts being more or less persuasive and compelling. This ties straight into the idea of ego involvement in Social Judgement Theory, as the stronger people feel about a particular issue, the more difficult it is to move them from their stances. (Johnson, 2015).

With the recent COVID-19 pandemic being politicized greatly on both sides, the idea that political orientations would react this way to these questions was a fairly predictable outcome.

As Donald Trump and the extreme conservatives rebuked vaccine findings from Anthony Fauci and called the science of vaccines into question, those who lean more conservative and are more involved politically may assimilate those feelings into their own lives, resulting in these findings.

As this may be true, it could also cause those who lean more liberally to swing harder the other way as well, subconsciously compensating for the extreme movement of the other side.

The table below shows the partially supported part of this study, with the Social Influence variable on the Y axis and the political orientation along the X axis. The responses were set up to have liberal on the left and conservative on the right consistent with the nomenclature in society. This means that a “1” would be extremely liberal while a “7” would be extremely conservative, with the needle moving that way.



*Figure 3: Social Influence Determined by Political Orientation*

Research Question 1 asked about how people are persuaded on Facebook if they use Facebook as a primary news source. The results didn't show many answers to this question, as almost everything had no significance ( $p > .05$ ). The only area that provided any insight was about people searching for political news on Facebook ( $p < .05$ ). Finding arguments persuasive and compelling fell under the 0.05 significance level when people searched their news through Facebook's database.

This shows source credibility from Facebook as a platform. When people are taking the step to search Facebook for their news, the results that pop up tend to be seen with more credibility than if they just appeared on their Facebook scroll. This shows that the key variable is intentional action. If people simply see a post while completing their scroll, it doesn't hit any credibility or persuasive factors because they are not in the mindset to be persuaded. But when they are actively looking for particular news items, the results they find are seen with much more persuasiveness and compelling factors. This again shows the impact of the platform as a persuasive tool in and of itself.

The table below shows each of the four individual factors of persuasion relative to the independent variable of searching for political news on Facebook.

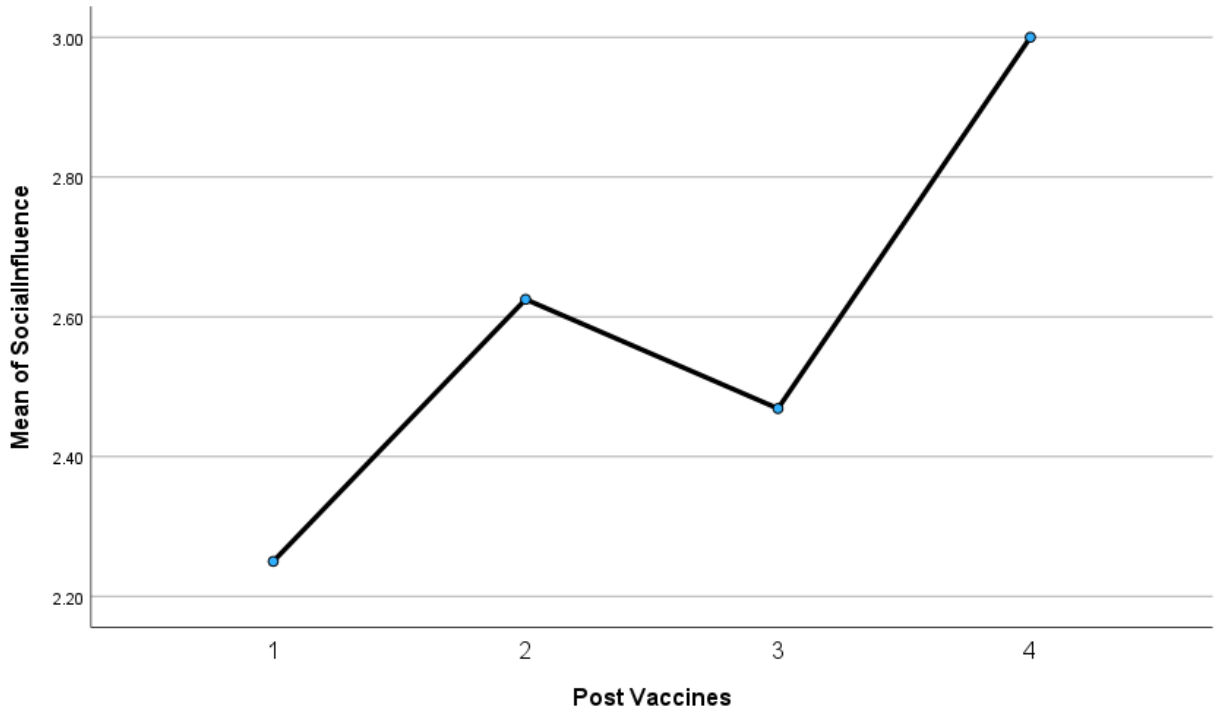
*Table 3: Significance of Individual Factors of Persuasion from Searching for Political News on Facebook*

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Persuasive	Between Groups	16.828	4	4.207	3.083	.020
	Within Groups	113.252	83	1.364		
	Total	130.080	87			
Compelling	Between Groups	11.690	4	2.923	2.818	.030
	Within Groups	86.083	83	1.037		
	Total	97.773	87			
Logical	Between Groups	8.128	4	2.032	1.470	.219
	Within Groups	114.735	83	1.382		
	Total	122.864	87			
Plausible	Between Groups	9.240	4	2.310	1.980	.105
	Within Groups	96.840	83	1.167		
	Total	106.080	87			

Other Facebook use variables were studied, such as the frequency with which they use Facebook, the frequency they post statuses, how often they read their friends' statuses, how often they like, share or comment on posts, both those of opinions similar to and contrary to their own. None of these Facebook use variables showed any significance.

The above research question also looked at Facebook use as a factor. The only element that had any significance there was about the frequency of posting about vaccines on Facebook. The more often they post about this political issue, the more likely they are to be persuaded or find messages compelling relating to that political topic. It continues the argument that the more people are using Facebook as their own place to share information, the more likely they are to view posts from other people as persuasive and compelling, especially as they relate to the topic they are interested in.

The figure below shows the relationship between the Social Influence variable and the frequency with which the subjects posted about vaccines.



*Figure 4: Social Influence Determined by Frequency of Posting About Vaccines*

Other moderating factors were considered and analyzed, such as COVID-19 vaccine knowledge, all demographics and Facebook use. The knowledge about COVID-19 and vaccines did not show any significance, so that, combined with the knowledge quiz about politics, didn't yield any significant data.

Gender did not play a part in the way people view vaccines, but the literature review did not indicate that one gender or another would have a significantly higher possibility of being persuaded on Facebook. In fact, only one piece of the demographics had any significance beyond political orientation, and that was religion ( $F(4, 83) = 5.350, p = <.001$ ). Religion was not initially considered as being a critical piece of being pro or anti in regard to vaccines, but the data showed there could be a significant link. Results showed that those who are agnostic or defined as having "other" religious views had the lowest numbers of persuasiveness, while those

with defined religions had the highest degree of persuasiveness. In particular, those identifying as belonging to Buddhism or Islamic religions had the highest degree of persuasiveness.

As a result of this finding, more literature was found that showed a possible link between religion and vaccine acceptance or refusal. A 2011 study investigating the link of religion in vaccine decision-making and acceptance showed that parents within the Catholic religion were more likely than nonaffiliated parents to have already taken the step to vaccinate their children and that parents with frequent attendance at religious services were more likely than those who do not attend services to have already made decisions regarding vaccinations (Shelton et al., 2011). This shows that those with defined religions may be more willing to be persuaded by vaccine-related material than those who have no definable religion or are agnostic.

## CHAPTER V: CONCLUSION

With the extensive literature review on several relevant theories such as social influence theory, social judgment theory and the elaboration likelihood model, as well as the pinpoint of a gap in the literature that exists but not being thoroughly studied by previous researchers, this was a first step into a better understanding on the influence that friends have over their peers on Facebook in matters of political persuasion.

Results showed a significant relationship between multiple factors that are important in furthering the research in these areas. Specifically, setting up source credibility in an online platform between peers is an important foundation to build from for future research.

Results confirmed pieces of the literature review that source credibility can exist in a horizontal fashion rather than just a vertical one. Prior to social media, people trusted authority figures, news groups or news sources with disseminating accurate information to them. But with the advent of social media, people are beginning to trust their peers with this same sort of information, especially when their peers seem to be politically active, aware and knowledgeable. This just happens to coincide with the era of citizen journalism, where anyone who publishes an opinion or purported “fact” can be viewed as legitimate.

Additionally, the frequency with which peers on Facebook interact on the online platform and the level of influence they have over each other in matters of persuasion was shown to be a statistically significant result. The more people interact with each other over the mediated Facebook platform, the more trust, credibility and, as the results showed, level of persuasiveness is also increased.

The interesting piece of this that exists only in social media as opposed to the real world is that the interaction does not need to happen in real life. In fact, friends on Facebook do not

even need to have ever met their friend face to face to be considered a “friend.” While this may not be particularly common, the more likely scenario is that people became friends at one time in their life, and both physically went their separate ways, but continue to be friends and connect regularly over Facebook. So while they may not have had physical interaction in several years, they stay in touch frequently over the mediated platform. And due to the ability of Facebook to serve as a personal soap box of opinions, the possibility of persuasion exists over Facebook more than it would if they were talking face to face.

People appear more comfortable to voice their opinions, even if they are in the minority, when they have a computer screen or a telephone screen to hide behind. This makes Facebook a unique platform for the marketplace of ideas, because political debates, opinions and conversations can happen in real time, while the discomfort of facing a person or multiple people is completely removed, allowing for more freedom of expression.

Political orientation also yielded results in this study, showing that the more liberal one leans, the better possibility there is of being open to persuasion in the political context of vaccines. With the COVID-19 pandemic of 2020-2022, the entire topic of vaccines was politicized to an extent never seen before. While opposition to vaccines has always existed by a certain percentage of people, the Donald Trump presidency and the outright attack on science and the medical field regarding vaccines separated the topic of vaccines into political parties rather than on lines of medical questions or “my body, my choice” mentalities.

The inclusion of Facebook as a political forum only increased the level of political statements, opinions and the gap between parties regarding vaccines. People often went on Facebook to either post their stance or opinions regarding COVID-19 and the vaccines available or in progress, or to search for conversations or debates to enter into.

The discussion of vaccines was so prevalent that one did not even need to actively search for conversations about vaccines to be exposed to them. A simple Facebook scroll could yield one or more political statements or conversations from a Facebook friend regarding the COVID pandemic or a stance on a COVID vaccine.

It makes sense due to the political climate that those who hold more conservative ideals and values would be less likely to be persuaded about vaccines because the political figures and news sources they listened to most usually painted vaccines in a negative context, or at least spoke about the possible negative effects of a brand new vaccine. Then when they were presented with more liberal-leaning opinions, they would have fallen outside of their latitudes of acceptance (Social Judgment Theory – Kelman, 1958).

Meanwhile, those who lean more liberal would already be presented with positive messages about the COVID-19 vaccine and would therefore be more likely to be persuaded on any message that slants positive about vaccines.

Finally, the results of this study also looked at Facebook as a credible news source itself, measuring people's likelihood to use it as their primary news source. There is a difference between simply being presented with an opinion while scrolling through Facebook and actually taking the intentional step of searching Facebook for their news. When people are taking this step to actively search Facebook for news, the results that pop up tend to be seen with more credibility than if they just appeared on their Facebook scroll. If people see a post while completing their scroll, it does not touch on credibility or persuasive factors because they are not in the mindset to be persuaded. But when they are actively looking for particular news items, the results they find are seen with much more persuasiveness and compelling factors. This again shows the impact of the platform as a persuasive tool in and of itself.

With these results and some of the groundwork laid for future researchers, this study can be an impactful and encouraging step into online persuasion studies.

### **Limitations and Suggestions for Future Research**

This research into political persuasion on Facebook has a few limitations that need to be acknowledged, while still showing how the present research was still impactful and significant.

The first limitation is the concept of self-report measures. Like all self-report studies, there was no monitoring of people taking the study, so there is no direct way of knowing if they understood the question in the intended way, or if there is any degree of satisficing going on with the participants. There could also be a degree of social acceptance with this study, especially if they feel their opinion on vaccines is in the general minority. Because there was no one monitoring the study, their answers to the questions may not always be completely accurate.

The way to overcome this limitation was the same as all other self-report studies, of which there are many. A pilot test was completed in November 2019 to test the internal validity and reliability of the questions and a few changes and improvements were made to the question order and general improvement of the question wording. In the end, a self-report study just needs to be acknowledged as a limitation.

Another limitation would be the fact that this study focused on just one political issue (vaccines). This issue could have varying degrees of persuasiveness and degrees of ego-involvement among the subjects, and there was not a reliable way to test if the persuasiveness of this topic is just as significant as other political topics.

This study could not possibly cover all types of issues, however, and significant research and testing were done to look at which issue would have enough controversy to make sure that the majority of people are not apathetic to it, but also that the topic was not too divisive and

extreme. If the issue were too extreme, such as abortion or gun control, the likelihood of any subject being persuaded from their pre-existing attitude would be significantly reduced. This study began with the issue of hydraulic fracturing, but preliminary studies showed that the majority of people did not feel strong enough one way or another about the issue. The issue of abortion was broached, but preliminary qualitative research showed this issue to be too divisive and controversial to have much potential of persuasion. However, future research should look at how other political issues are affected by these same persuasion techniques.

The fact that the sample for this study was a convenience sample is a limitation itself as discussed in the samples section in the Methods chapter. Because the sample is not likely to be representative of the United States, there is not a lot of external validity where the data can be generalized.

However, with only 100 subjects being recruited to this study, which is itself a somewhat exploratory study, the analysis is not necessarily meant to be generalized. Instead, this study was intended to find certain variables and trends that are reliable and valid enough to apply to future research to eventually find a more generalizable result, and the results of this study are significant enough to apply to future studies.

A limitation on the study design is with the concept of subjects being able to self-report their own feelings and attitudes. Although this is one of the best ways to personalize the study to the subjects, it also has the potential for certain friends they are thinking of and the opinions presented in the study to be cognitively dissonant. If the friend that they think of would never post such an opinion, the credibility and persuasiveness of the message could lose some significance, rather than gain significance as intended.

Future research should try to further clarify the social connections aspect of this study. With more monetary and time resources at a researcher's disposal, a more qualitative and ethnographic approach to this study could be accomplished, which would further nail down some variables for future quantitative research that would be more reliable and generalizable.

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