

Misattribution of Scientific Expertise during COVID-19

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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The COVID-19 pandemic has been truly unprecedented in terms of the effects it has had on all aspects of people's lives, such as financial, social, mental, etc. Globally, there have been more than 159 million cases to date with more than 3.3 million deaths (*COVID-19 Map*, n.d.). Due to its potential devastating effects on human life, countries around the world have had to implement policies and decision-making in order to curtail its spread and mitigate its most damaging effects. The policies have a wide range from mask mandates, massive vaccination campaigns, full or partial lockdowns, bills to stimulate the economy and provide support for those in need such as the CARES Act, social distancing efforts, and many more. Some of these policies, such as vaccines, have needed to rely on scientific expertise in order to be implemented. When the COVID-19 pandemic was getting underway in early 2020, information regarding the virus was very limited. The world looked to the scientific community and organizations for answers to their questions regarding COVID-19 because the virus involved their realm of expertise. Therefore, the scientific community rallied to determine critical information regarding COVID-19, such as how it spreads. Utilizing the expertise of scientists, a nationwide effort to promote social distancing came to be because science illustrated that the virus was able to transmit airborne.

This is just one example of how scientific expertise has been called upon and used to guide policy decision-making during the COVID-19 pandemic. It has proven to be crucial especially in such a time where there is a great deal of uncertainty involving our lives. The public has looked to leaders of the world and their respective nations, such as the President of the United States, Congress, leading scientists such as Dr. Anthony Fauci, and more for important guidance during this pandemic. Hence, their words and actions have had great weight in influencing the public's perceptions of COVID-19 and the course of the pandemic itself. That being said, many of the

public's perspectives regarding the pandemic have been varied. Politicization of the pandemic has played a significant role in causing different opinions amongst elected officials and their constituents. For instance, according to a survey conducted in February 2021, 41 percent of Republicans believed that public health officials, such as those at the CDC, were doing an "excellent/good" job responding to the COVID-19 pandemic. For Democrats, that number was 79 percent (NW et al., n.d.). This may be due to constituents of each party tending to agree more closely with the opinions of the elected officials of the same party. Former President Trump, who was widely popular in the Republican Party, spoke that "people are tired of hearing Fauci and all... these people... that have gotten it wrong" (CBC News: The National, 2020). Likewise, Senator Rand Paul (R-Ky) has frequently engaged in disputes with Dr. Fauci, recently claiming that "Dr. Fauci comes out with statements, 'Oh, even though you've been vaccinated you still need to stay in Joe Biden's basement.' That's kind of ridiculous" (*Rand Paul Says Fauci Acts "against the Science," Wants People to Stay in "Biden's Basement,"* 2021). These misleading statements of negative connotation by President Trump and Senator Paul as well as others by Republican elected officials, directed at Dr. Fauci, have played a significant part in the politically differing perception of public health officials. By associating Dr. Fauci with Joe Biden, Senator Paul implied that Dr. Fauci was more aligned with Democrats. Inevitably, this explains why public health officials, such as Dr. Fauci, are more favorably viewed by the Democratic Party than the Republican Party. This example highlights the importance of our elected officials' words and actions, especially during a crisis such as the COVID-19 pandemic, because they have further consequences on guiding the actions of the public.

Even though scientific expertise has been used, to a great extent, positively to mitigate the COVID-19 pandemic, there have been instances where it has been misattributed to suggest policies

that, while they appeared to be plausible in theory, would result in disastrous consequences if actually implemented. The misattribution of scientific expertise by politicians during the COVID-19 pandemic has weakened support for science-based interventions in mitigating the spread of the virus to reduce cases and deaths in the United States and the world. During 2020, the Trump administration sought to encourage reopening of the country and return to a state that resembled the pre-pandemic time. In a Congressional hearing that took place in May 2020, Senator Rand Paul spoke of how the mortality rate of children from COVID-19 “approached 0” and that for those “between 18 and 45”, the mortality rate was “10 out of 100,000”. Therefore, Senator Paul suggested that schools therefore should be reopened. In a response, Dr. Fauci mentioned that “we don’t know everything about this virus” and that the public should not think that children are “completely immune” to COVID-19 as suggested by Senator Paul’s mention of the extremely low mortality rate of COVID-19 in children (CNN, 2020). Furthermore, the statistics do not highlight the fact that children could certainly harbor the virus as carriers and spread it to other people who are more at risk to developing severe symptoms. This goes the same for healthy adults 18-45 who are at low-risk of dying from the disease. Policy decision-making derived from misattribution of the scientific evidence, gathered by data experts, represents how expertise has been misinterpreted by various politicians to create “bad ends” during the COVID-19 pandemic. Negative consequences have resulted due to various misattributions by leaders in the form of the public’s abidance to policies and recommendations enacted by local, state, and national governments as well as agencies, such as the CDC. Frequent misattributions of scientific data by Republican officials to lessen the perceived severity of the pandemic have resulted in Republican constituents tacking on similar beliefs. Data has illustrated that residents in Republican counties were less likely to follow a stay-at-home order compared to residents in Democratic counties (Painter & Qiu,

2020). According to certain metrics, conservatives have been found to place less importance on COVID-19 compared to Democrats and Independents (Iii et al., 2020). This phenomenon illustrates how scientific expertise can be undermined through misattribution by stakeholders whose messaging carries weight, which, in the context of the COVID-19 pandemic, has led to politicization of many aspects of policies directed at mitigating the virus, such as mask mandates. Even Dr. Fauci himself admitted that “if there wasn’t such divisiveness, that we would have a more coordinated approach” to tackling the COVID-19 pandemic (Santucci, n.d.)

The issue of misattribution of scientific expertise in politics raises the question of whether science can become less politicized. According to Sarewitz, that simply cannot be the case. Sarewitz, through his study of various scientific problems of society, such as climate change, explains that scientific inquiry cannot avoid becoming politicized (Sarewitz, 2004). Hence, I will collect evidence and analyze how and why science cannot actually solve scientific problems that society is faced with. This literature review and analysis will be followed by what this means for the issue of herd immunity in the context of the COVID-19 pandemic. More specifically, by exploring the issue of misattribution of science in politics, the question arises, how does society then exactly mitigate the issue? Because social media has become widely prevalent in its use in the United States and the world by citizens and leaders, I will investigate how Twitter has made attempts to reduce misattribution of scientific expertise with regards to the COVID-19 pandemic and properly inform citizens in a useful fashion on crucial information, such as vaccines, which are important in the world’s goal of achieving COVID-19 herd immunity and exiting the pandemic. My thesis is that misattribution of scientific expertise through politics has undermined science-based interventions during the COVID-19 pandemic, such as herd immunity, due to science’s inherent qualities. As a result, social media, such as Twitter, has attempted to reduce the issue at

hand and promote “good science”. Some of its methods serve as a template for how science, as an institution, and the broader media can reduce scientific expertise misattribution in order to improve conveying of scientific messaging to the public, which will better support science’s role in helping to solve scientific problems in society.

Science Cannot Be the End-All-Be-All in Solving Problems in Society

There are many aspects of reasoning for why science cannot solve our problems in society. With regards to other scientific issues that are ongoing, such as climate change, scientific knowledge was supposed to actually resolve the dispute in politics and lead to more effective decision-making on how to tackle the issue at hand. Instead, the opposite has occurred. Science has caused increasing political controversy and less productive problem solving (Sarewitz, 2004). One main reason is that when there are two stances to a scientific controversy, each side will back their opinion with scientific justification that supports it (Sarewitz, 2004). Ideally, science is viewed as being separate from politics. In reality, that is certainly not the case. In fact, science is politics in a manner of speaking. When scientists perform scientific research, they produce scientific facts. However, these facts require interpretation by scientists in order to have meaning. This is where science creates its own controversies and politics over which interpretation is “more accurate.” Because the subject, as a whole, is always constantly evolving by creating new facts, new analyses arise and this leaves room for interpretation. Hence, due to competing answers, many of which are supported by assembled facts that have been legitimately interpreted, that exist for many scientific questions, a consensus is difficult to reach (Sarewitz, 2004).

It is important to also understand that scientific expertise cannot be objective (Saini, 2020). According to Saini, living in the world today means that all humans, including scientists, have a varying set of assumptions, beliefs, prejudices, etc. that influence our thoughts and actions. In other

words, science cannot fully explain human action and thought as they are influenced in a unique manner in each scientist, leading to varying answers to the topic. Most, if not all scientists, are viewed as experts that are well versed in a specific area of science. For instance, a climate scientist is assumed to be an expert in the field of climate science. That being said, if a particular climate scientist held a certain set of beliefs regarding climate change, this may lead them to investigate and discover facts that support those beliefs (Sarewitz, 2004). Furthermore, these interpretations have the potential to be utilized by non-scientific stakeholders, such as politicians and citizens, to justify their beliefs and decision-making. Even if there is a scientific consensus on a scientific issue, such as the health effects of GM crops, citizens, for instance, may not have accurate views of the scientific consensus regarding the issue or hold beliefs inconsistent with the consensus, which may promote misattribution of expertise to support their flawed knowledge (Scheufele & Krause, 2019).

Perhaps, the notion that science is politics and is influenced by stakeholders' interests and beliefs has been best exemplified during a time of crisis that is the COVID-19 pandemic, which has significantly affected the world and its inhabitants (Sarewitz, 2004). Throughout 2020 and 2021, new information has arisen constantly regarding the COVID-19 virus from the scientific community. As a result, guidelines and recommendations for the public have evolved during the course of the pandemic. In March, the CDC updated its guidelines for K-12 Schools to reflect new scientific evidence that had been discovered since the original guidelines were released. For example, the CDC relaxed its social distancing requirement between student desks from six feet to three feet (CDC, 2020). This was based on a study that was conducted to examine if a reduction in social distancing from six to three feet resulted in safety being reduced for students and teachers. As the pandemic progressed, there has been increasing pressure on schools to reopen by parents

and lawmakers (*Pressure Grows to Reopen Schools, But Fears Persist*, n.d.). A main inhibitor of the reopening of schools was the six feet social distancing requirement as that meant fewer students could fit into classes (CDC, 2020). With the CDC changing that requirement to grant more flexibility to schools, pace has been picking up with regards to the return to in-person instruction. This example case study showcases the political role that science plays in society and how science cannot solve our problems. If it were not for the push to reopen schools by the public, there may not have been new evidence gathered through research on the specific issue of social distancing in schools. However, it does illustrate the need for scientific expertise in justifying policies and decision-making that attempt to solve our problems, which in this case involve children being out of school.

Misattribution of Scientific Expertise with Herd Immunity

At the beginning of the pandemic in early 2020, scientists and lawmakers around the world began to think about how the pandemic would come to an end. Based on past pandemics and diseases that had the ability to spread widely in society, scientists suggested that the world would be able to exit the COVID-19 pandemic by reaching so-called “herd immunity” (Medley, 2020). The broader scientific consensus was that a widespread use of vaccines created for COVID-19 would allow the population to reach this point. However, some scientific experts have characterized the concept in a different way. Sir Patrick Vallance, England’s chief scientific advisor, said in March 2020 that England’s goal was to “...build up some kind of herd immunity” because most people get a “mild illness” (*Coronavirus*, 2020). It is reasonable to suggest that the Prime Minister of England, Boris Johnson, utilized Vallance’s expertise to guide his decision-making for tackling the COVID-19 pandemic in his country. Hence, initial policies to mitigate COVID-19 in England had not included some of the stringent guidelines that other nations were

utilizing, such as closing down schools and discontinuing large sporting events (*Coronavirus*, 2020). The plan was heavily criticized by many scientists, including Akiko Iwaski, a virologist, who mentioned that “a very deadly infectious agent” should not be relied upon to create herd immunity (Yong, 2020). Eventually, in combination with scientific advice and the heavy criticism, the England government chose to impose stringent policies similar to other nations in the European Union. This case study illustrates one example of how science has not been able to solve the problems of COVID-19. This is because the science did not actually solve the problem but rather supported policies that attempted to resolve the issue of COVID-19. If a scientific research study concluded that social distancing is effective at mitigating the spread of communicable diseases but there were no policies implemented to direct and/or encourage the behavior, the problem of the virus spreading has not been solved. Due to misattributing expertise to justify a course of action, England may have faced much more devastating consequences of the pandemic if the original plan had not been changed. In addition, this example demonstrates how the science has constantly evolved as evidenced by Prime Minister Johnson’s change in policy due to new scientific knowledge.

I want to point out here that I believe that “experts” on scientific topics, such as herd immunity, do not have to come from a scientific background to have a profound impact on a group of people. Conservative television host Laura Ingraham mentioned during mid 2020 that herd immunity was the “only practical way forward” as lockdowns were “purely political” (Wan, n.d.). Her tweet received thousands of likes and she is popular on the television network, Fox News, especially to Republicans. Through her popularity and supposed credibility amongst her viewers, she is able to influence their beliefs so that they more closely align with hers. On a related note, a letter signed by many experts, many of whom were fake, calling for the COVID-19 strategy of

herd immunity, demonstrates the key point that expertise, especially from people who are professors, doctors, etc., carries significant weight in influencing decision-making (*Herd Immunity Letter Signed by Fake Experts Including 'Dr Johnny Bananas' - BelfastTelegraph.Co.Uk*, n.d.).

It is clear that the misattribution of scientific expertise has weakened science-based interventions created to mitigate the COVID-19 pandemic. The question that arises is, how do we exactly intervene in this issue so that we can reduce misattributions as well as properly inform citizens in a useful fashion?

Social Media Interventions to Reduce Misattribution of Scientific Expertise

Today, social media is a platform that is utilized by billions of people in the world. Leading platforms include Facebook, Twitter, TikTok, Snapchat, etc. Because it is so pervasive in society, it may prove to be a useful tool in reducing the misattribution of scientific expertise and properly informing citizens in a useful manner regarding important scientific information. We will specifically investigate how Twitter has intervened with regards to COVID-19 information.

Twitter has set out several goals in its interventions. The first and foremost goal has been to help people find reliable information. They have implemented a COVID-19 tab in the web and phone apps that allow users to see “curated” pages highlighting news, tweets from public health experts, and more. From my usage of the Twitter app recently, I have seen more information regarding vaccines, which makes sense given that the United States is on a campaign to vaccinate the country against COVID-19 and achieve herd immunity. Second, Twitter has an approach of limiting the spread of potentially harmful and misleading content regarding COVID-19. It tags labels and warning messages that aim to provide “additional context” and information on some of the Tweets that contain disputed or misleading COVID-19 information. They classify information to be misleading or false if the claim-at-hand has been “confirmed to be false” by experts of the

subject, such as public health authorities (*Coronavirus*, n.d.). These types of information can even be removed by Twitter. As an example, Dr. Scott Atlas, who was a White House coronavirus task force member during the Trump administration, tweeted “Masks work? NO” (CNN, n.d.). Through this tweet, Atlas could have reduced mask wearing in the public, especially among people who politically aligned more with the Trump administration. Twitter removed the tweet and a company spokesperson justified the action by saying that Atlas violated one of their policies, which “prohibits sharing false or misleading content related to COVID-19 that could lead to harm” (CNN, n.d.). Indeed, these actions align with the company’s overall goal of these interventions to tackle COVID-19 misinformation, which, according to Twitter’s Vice President of Product, is for people to “come away from Twitter better informed” (*Twitter’s “Birdwatch” Aims to Crowdfund Fight Against Misinformation*, n.d.). Twitter’s decisions are interesting because they utilize the expertise of public health officials to determine which content will be labeled as false or misleading. How do we exactly know that Twitter itself is not misattributing scientific expertise? My personal observations indicate that the experts that they refer to have expertise that aligns with the broader scientific consensus. If the user would like to learn more information regarding any aspect of COVID-19, Twitter directs them to the CDC website, which is an official scientific agency of the United States, and therefore, broadly accepted as being credible.

Twitter’s efforts are crucial especially in such a widely used platform. There have been reports of blood clots caused by the AstraZeneca vaccine. A misleading article may “misattribute” the scientific data as claim that the vaccines are unsafe. This could have far-reaching consequences. If the misinformation is left unchecked and allowed to be absorbed by the public, it could have negative effects on vaccinating the population due to fears. Twitter’s attempts to reduce misattribution of expertise and properly inform citizens could be adapted into science, as an

institution, to improve its messaging to the public, which will allow it to better assist in the effort to solve societal problems. Twitter's interventions involve non-scientific stakeholders, which may help address the perspective of the public with regards to how it processes information. The same could be proposed for scientific organizations, such as the CDC, so that it is able to better communicate its expertise to the public. Furthermore, because scientific consensus is almost never absolute, governmental agencies could form committees that determine what "credible" information is and promote it, similar to how Twitter elevates credible information, or "good science", on COVID-19 so that it is viewed by as many as people as possible. This also causes people to view less of the misleading information. Overall, Twitter's decisions represent a good starting point to addressing the issue of misattribution of scientific expertise and misinformation in general.

Conclusion

Through this paper, I have explored the issue of the misattribution of scientific expertise by stakeholders, such as politicians, in the context of the COVID-19 pandemic and how politics has amplified the issue. I demonstrate through literature review how science cannot solve our problems in society but its expertise is required to devise decision-making that can solve some of those problems. I explore the issue of misattribution of scientific expertise through the concept of herd immunity in the COVID-19 pandemic. Lastly, I investigate the attempts by social media, Twitter in this case, to reduce misattribution of scientific expertise and properly inform citizens of COVID-19 information in a useful fashion. Limitations of this micro study include the limited scope of analyses. Therefore, future studies may include further exploration of the issue with regards to other case studies in and outside of the pandemic and solutions to mitigate the issue.

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