

# #antivaccers on Instagram: A Deductive Content Analysis

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## Introduction

- Vaccination hesitancy influences a huge portion of the American population, with 8% identifying as anti-vax, and 14% identifying as vaccine hesitant.
- These anti-vaccine sentiments have a huge impact on public health, affecting both individual and herd immunity across the country.

### Gap:

- I am attempting to address the gap in literature related to the prevalence of various reasons that people express vaccine hesitancy, because the reasons are known but the prevalence with which they are discussed is not.
- I hope to deduce the prevalence of each reason from a sample of Instagram posts that share anti-vaccine sentiments.

**The purpose of this study was to determine the prevalence of various reasons for vaccine hesitancy expressed on Instagram. This is done to better understand the reasons why people choose to oppose vaccination.**

## Methods

**Design:** Content analysis was used to identify the prevalence of reasons for anti-vaccine sentiments.

**Subjects:** This study analyzed the top 50 Instagram posts clearly expressing vaccine hesitancy under the hashtag #antivaccers. All parts of these posts, including the caption, visual content and audio were analyzed. Posts unrelated to anti-vaccine sentiments were not included in data collection.

**Data Collection:** Data collection was conducted via a codebook developed for this study.

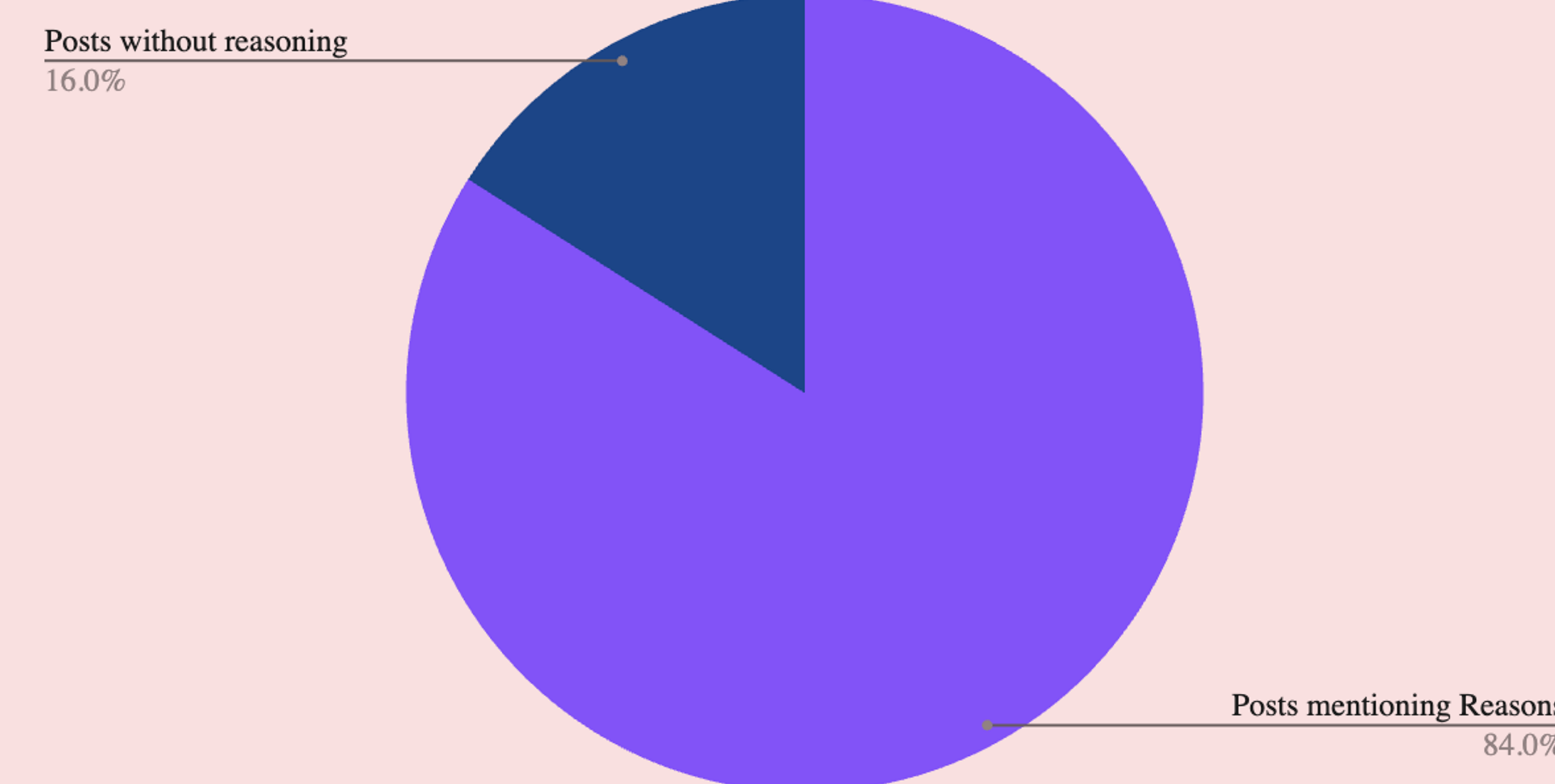
1. Reasons for vaccine hesitancy used in the codebook were deduced from Pubmed articles referencing vaccine hesitancy.
2. The codebook was then used to categorize reasons present in the top 50 posts expressing vaccine hesitancy under #antivaccers.
3. The number of times each reason was mentioned in a post was divided by the total number of reasons referenced.
4. Multiplying these values by 100 deduced the percentage prevalence of each reason.

### The Codebook:

Variable/Category	Coding Criteria
Risk related reasoning	referencing side effects, harmful compounds,
Vaccines not being always effective	referencing people who got vaccines and still got sick, referencing people who didn't get vaccines and are healthy,
Groups using vaccines as a Monetary incentive or for control	referencing them being a money making scheme, a farce to make money, government conspiracies, trackers, forced obedience,
Religious reasoning	referencing God's intentions, unnatural, hell,
Requesting more information about vaccines or expressing no/insufficient knowledge	referencing wanting more information, being kept in the dark, doctors not explaining,
Referencing natural immunity/inoculation	referencing natural immunity/inoculation, leaving it to nature, referencing pre vaccination times when people still found immunity through natural ways,
Other	reasoning that doesn't align with other categories

## Results

Number of Posts With Reasons for Vaccine Hesitancy

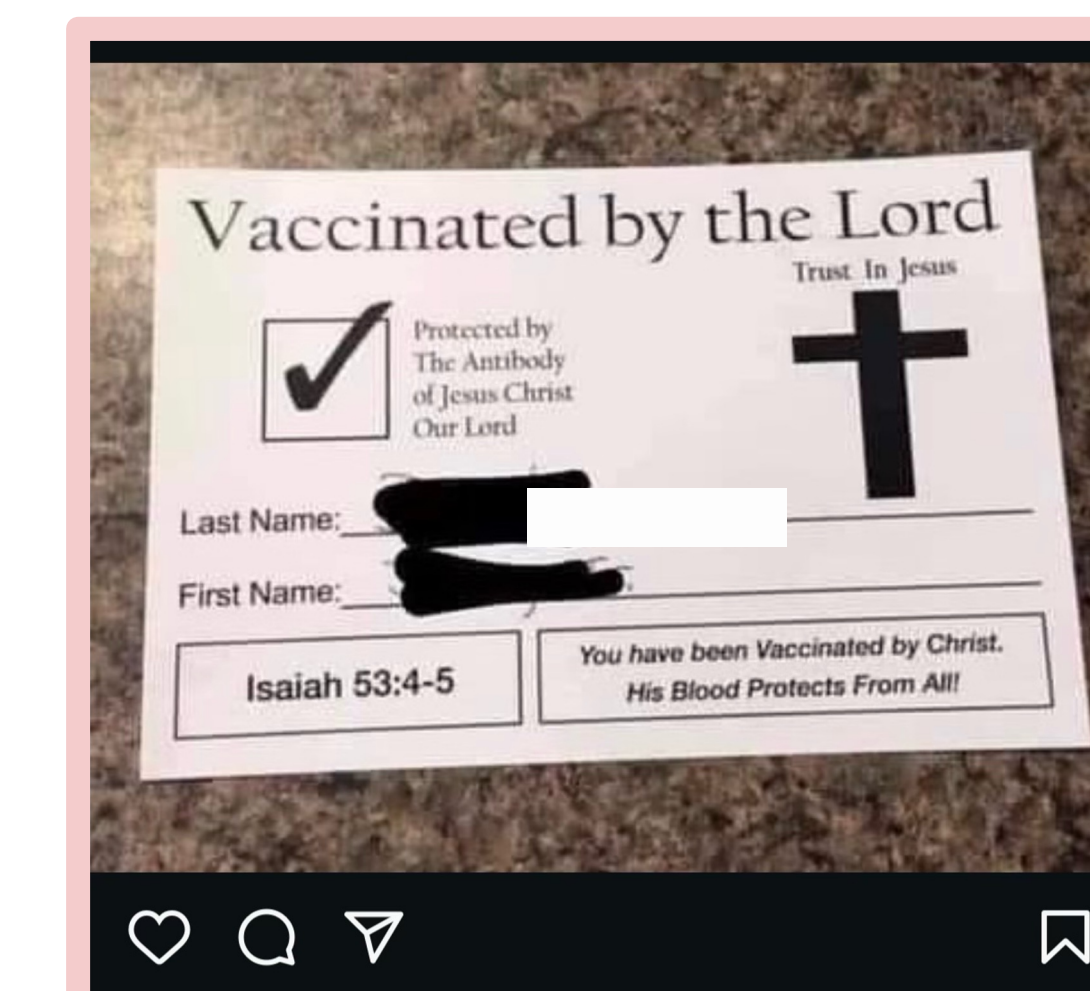


The pie chart above displays the percentage of analyzed posts that included reasoning for vaccine hesitancy, as opposed to those that included no reason.

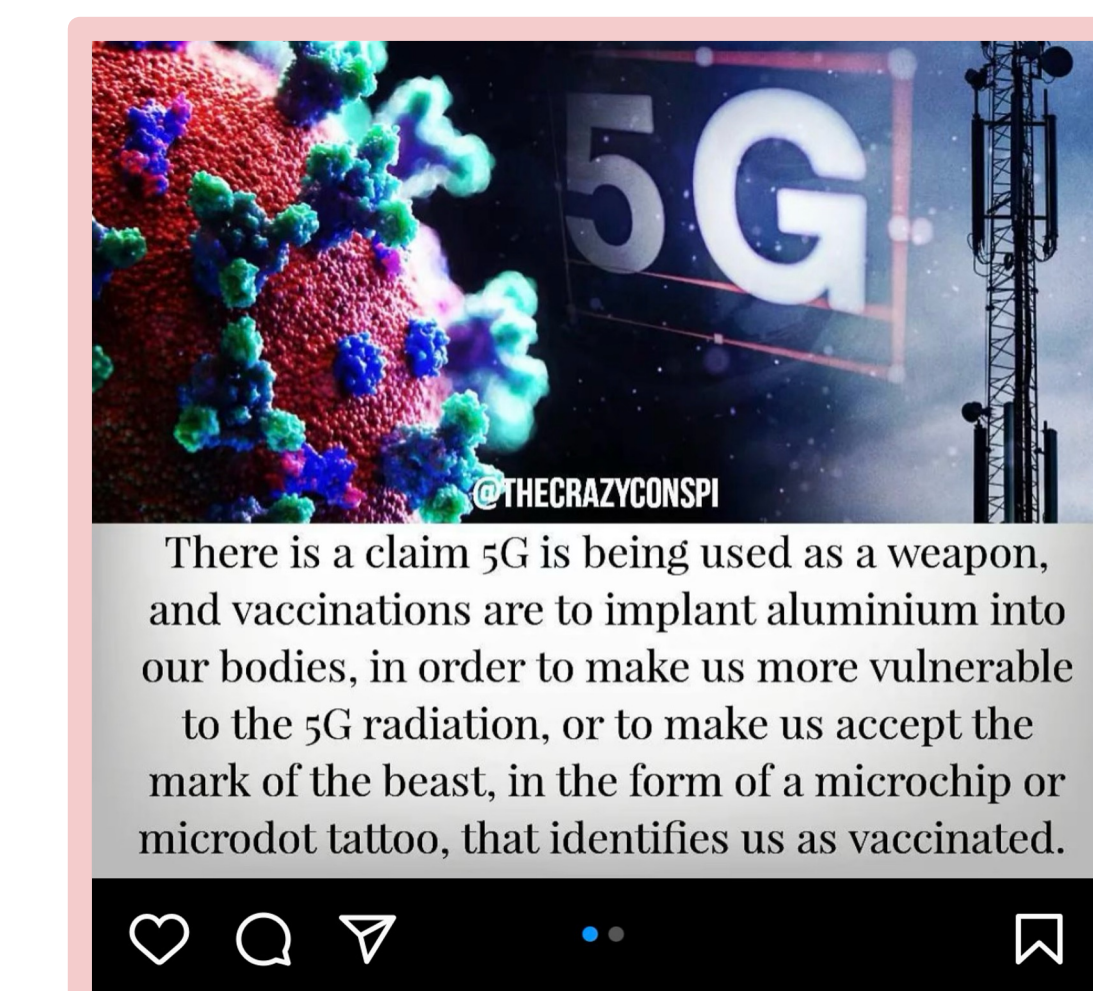
- Of the 50 posts collected, 42 included reasoning for vaccine hesitancy.
- Of the 42 posts that did include reasoning, 35.3% referenced risk related reasoning.

The chart to the right shows the percentage prevalence of each reason for vaccine hesitancy, as expressed in the posts involved in data collection.

Interestingly, 0 posts (0%) referenced a reason related to reliance on natural immunity, even though this was a reason referenced in multiple related articles.

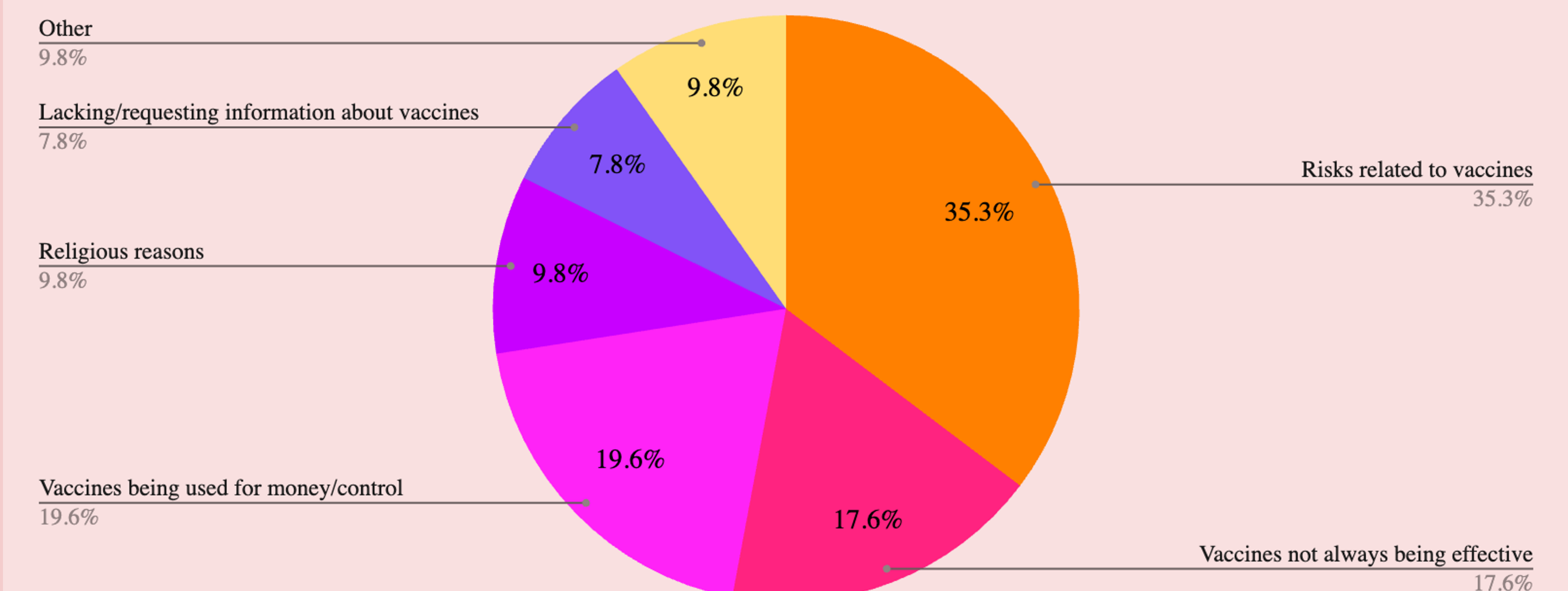


This is an example of a post that was coded into the "Religious reasons" category.



This post was coded into the "Monetary incentive/control" category.

Prevalence of Reasons for Vaccine Hesitancy



## Conclusions

### Key Findings:

- The vast majority (84%) of posts collected had a reason, or multiple, for the vaccine hesitancy expressed.
- 90.2% of posts with reasons aligned with the codebook created for the study.
- The most prevalent reason mentioned (35.3%) was related to risks associated with vaccines.
- The least prevalent reason, with zero mentions (0%) was related to reliance on natural immunity.

### Limitations:

- Due to time constraints, the sample size was relatively small, and a larger sample size would have provided a more reliable data set.
- There is an element of subjectivity involved in the post analysis and coding.

### Future research:

- This study could be expanded to analyze a larger sample size, and encompass more social media platforms.

### Implications:

- Vaccine hesitancy impacts the medical and political choices of a huge swath of America's population. It is important to understand both the reasons behind this hesitancy and the prevalence of these reasons, to help medical professionals and policy makers to better communicate and empathize with these citizens.
- Understanding that the overwhelming majority of these citizens have reasons for their hesitancy, and that over half (52.9%) of those in the study were related to risks or lack of effectiveness of vaccines can help inform decisions related to the ways citizens are educated about vaccines, and the ways that medical professionals address these hesitations.

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