

# La logique derrière l'hésitation vaccinale

Thomas C. Durand

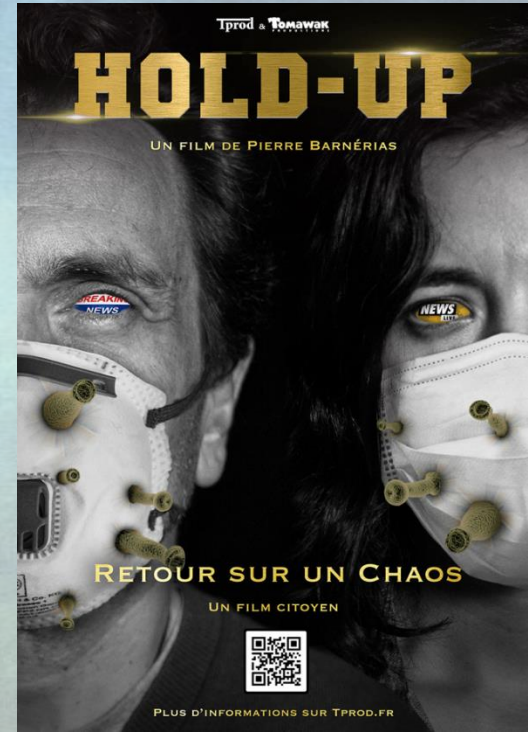
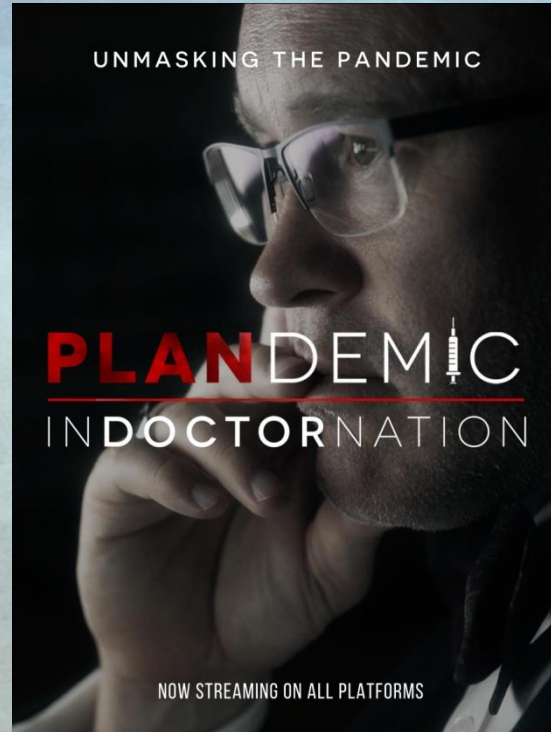
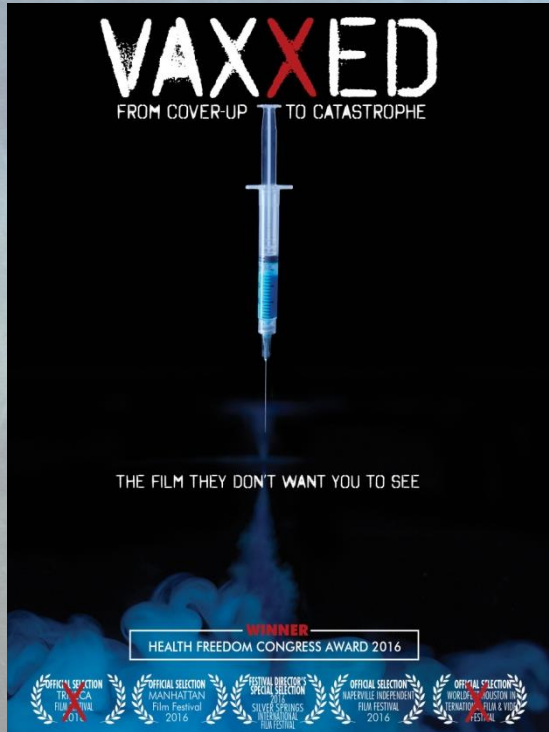


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## Hésitation vaccinale Antivaccisme

« Je ne suis pas antivaccin, mais... »

# Nuance ?



# Menace



## Dix ennemis que l'OMS devra affronter cette année

Notre santé est menacée par toute une série de problèmes qui vont des flambées de maladies à prévention vaccinale comme la rougeole et la tétanos, aux taux croissants d'obésité et d'inactivité physique, à la multiplication des crises humanitaires et aux effets de la pollution de l'environnement.



Thèmes de santé ▾

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À propos ▾

### Méfiance à l'égard des vaccins



La méfiance à l'égard des vaccins – c'est-à-dire la réticence à se faire vacciner ou le refus de vaccination – risque de remettre en cause certains des progrès obtenus dans la lutte contre des maladies à prévention vaccinale. Les vaccins sont les moyens de prévention les plus rentables et permet d'éviter deux à trois millions de décès annuels; en 2019, on pourrait sauver 1,5 million de vies de plus chaque année.

Dans le cas de la rougeole par exemple, on a constaté une augmentation de 30% du nombre de cas en 2019 et tous les cas ne sont pas dus à la réticence à se faire vacciner. Mais le fait est que certains pays enregistrent une recrudescence.

Les motifs de la non-vaccination volontaire sont complexes; un groupe consultatif de l'OMS a mentionné l'accès aux services et le manque de confiance comme raisons essentielles. Les agents de santé devraient conseiller et l'interlocuteur qu'on écoute le plus volontiers avant de prendre une décision et l'OMS les agents de santé les plus crédibles sur les vaccins, capables d'inspirer confiance.

En 2019, l'OMS intensifiera son action en vue de l'élimination mondiale du cancer du col de l'utérus grâce au vaccin anti-HPV. On pourrait aussi cette année mettre fin à la transmission du poliovirus sauvage dans les derniers pays où elle subsiste et qui ont dénombré moins de 30 cas l'an dernier. L'OMS et ses partenaires

# Ca vient d'où ?



## La vaccination est contre-intuitive

# Un problème de temporalité

## Choix intertemporel



Un Tiens vaut, se dit-on, mieux que deux Tu  
l'auras : L'un est sûr, l'autre ne l'est pas.

(Jean de La Fontaine)

« les choix intertemporels sont des décisions qui mettent en jeu des arbitrages entre des coûts et des bénéfices qui surviennent à différents moments »

(Mikaël Cozic – Théorie de la décision, le choix intertemporel)

## Actualisation hyperbolique



## L'expérience du marshmallow

Walter Mischel, Ebbe B. Ebbesen, Antonette Raskoff Zeiss, (1972) *Cognitive and attentional mechanisms in delay of gratification.*, vol. 21, 204–218 .

# Un problème de temporalité

## Choix intertemporel

### IV.3. Les facteurs viscéraux

Jusque-là nous avons évoqué le cas où le contexte du choix, incitant l'individu à distinguer l'option de statu quo de ses alternatives, le détourne de sa préférence normative. Les changements de préférences temporelles peuvent également survenir dans des situations impliquant ce que Loewenstein (1996) appelle des "facteurs viscéraux".

#### IV.3.1. L'influence des facteurs viscéraux sur les comportements

Selon Loewenstein (1996), les facteurs ou états viscéraux font référence à une large gamme d'émotions négatives (comme la peur ou la colère), de désirs ou de besoins (la faim, la soif, le désir sexuel), d'états sensoriels (la douleur) qui ont en commun de mobiliser l'attention du sujet et de le motiver à s'engager dans des comportements spécifiques. Au même titre que les préférences normatives, ils déterminent les choix que font les individus entre différents biens ou différentes activités. Néanmoins, si les préférences sont cohérentes et stables à court terme, les facteurs viscéraux sont, eux, très instables car très sensibles aux stimuli extérieurs à l'individu.

## Actualisation hyperbolique



### Choix intertemporels : un modèle comportemental d'escompte quasi-hyperbolique

Mickael Mangot

#### ► To cite this version:

Mickael Mangot. Choix intertemporels : un modèle comportemental d'escompte quasi-hyperbolique. Economies et finances. Université Panthéon-Sorbonne - Paris I, 2007. Français. tel-00165187

# Un problème de temporalité

Choix intertemporel

Actualisation hyperbolique

→ Cognitivement, l'hésitation vaccinale  
s'impose assez spontanément

# Un engagement différentiel



L'engagement numérique des personnes opposées à la vaccination est plus fort que celui des personnes favorables.

Au sujet du covid19, les contenus de faible qualité sont davantage retweetés que ceux de bonne qualité.

Puri, N.; Coomes, E.A.; Haghighi, H.; Gunaratne, K. Social media and vaccine hesitancy: New updates for the era of COVID-19 and globalized infectious diseases. *Hum. Vaccines Immunother.* **2020**, *16*, 2586–2593.

Singh, L.; Bansal, S.; Bode, L.; Budak, C.; Chi, G.; Kawintiranon, K.; Padden, C.; Vanarsdall, R.; Vraga, E.; Wang, Y. A first look at COVID-19 information and misinformation sharing on Twitter. *arXiv* **2020**, arXiv:2003.13907.

# Une pensée opportuniste

- Attrait pour les anecdotes immédiatement généralisées
- Soupçon immédiat des témoignages contraires
- Disqualification des experts (corrompus)
- Valorisation des « experts » dont la parole est désirable
- Focalisation sur les affects qui génèrent plus de partage
- Dénonciation d'une parole officielle *manipulatrice*.

## Un poids, deux mesures



# Un mouvement alimenté par l'ignorance

Beaucoup d'ignorance...

1. Sur le principe même de la vaccination
  - Certaines pharmacie vendent des "vaccins homéopathiques")
2. Sur le fonctionnement de l'immunité
  - « Booster votre système immunitaire » ? Non. Vous voulez un système immunitaire qui réagisse quand c'est nécessaire et par davantage (maladies auto-immunes)
3. Sur la pharmacovigilance
  - Les cas reportés ne sont par des instances d'effets secondaires, mais des alertes.
4. Sur la santé en général
  - Paniques liées à l'autisme, en particulier depuis l'étude du fraudeur Andrew Wakefield en 1998.

# Un mouvement idéologique

L'ESPRESSO

Accueil

France

Monde

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Fait divers

Justice

Religion

Santé

Famille

Enquête

Climat et transitions

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Trafic

Sexualité

Coronavirus - la France

Enquête

## La sensibilité catholique "tradi", fil conducteur de nombreux réseaux antivax

Alexandra Henrion-Caude, Pierre Barnérias, Richard Boutry... Plusieurs personnalités opposées au vaccin contre affichent leur foi catholique. Pas un hasard.

Durée : 6 min



– Les ph

1

Raphaël Est

conseil de M

La Pén, mais

2

Thomas L

Président acc

qui déchire

3

Martine Le P

mendiantes,

politiques...

4

Politique M

cabaret de c

simples

5

Covid 19 : pe

provoc

afis

science

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Par Étienne Girard

Publié le 04/09/2021 à 07:50

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Accueil / Les écoles Steiner-Waldorf et la vaccination

## Les écoles Steiner-Waldorf et la vaccination

Publié en ligne le 13 février 2020 - Anthroposmagasin -



La première école à mettre en œuvre la pédagogie Steiner a été ouverte en 1919 à Stuttgart en Allemagne. Elle visait à accueillir les ouvriers de l'entreprise de cigarettes Waldorf-Astoria. Le propriétaire de l'usine, alors séduit par les discours de Rudolf Steiner (1861-1925), fondateur de l'anthroposophie, lui avait demandé de créer une école qui mettrait en pratique ses théories. L'ensemble des principes de cette pédagogie ont été rassemblés dans un document rédigé en 1955 par E. A. Karl Stockmeyer (1886-1963), enseignant dans la première école Steiner. Ce

Accueil > Sport

## Antivax, ésotérisme et pyramide mystérieuse : Djokovic, adepte des pseudosciences

**Les faits** En plein bras de fer avec la justice australienne, Novak Djokovic, non vacciné, a reconnu mercredi 12 janvier avoir fait une erreur dans sa déclaration d'entrée en Australie. En toile de fond de cet imbroglio politico-judiciaire, l'appétence du joueur serbe pour les théories ésotériques et autres pseudosciences.

William Gazeau (avec AFP), le 12/01/2022 à 15:08 Modifié le 12/01/2022 à 19:32

✕ Lecture en 2 min.

Dans ce do

Tennis : actus

quatre tourno

Grand Chelen

Tennis : Novak

Djokovic de retour sur

ma RTS

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SPORT

CULTURE

PLAY RTS

RADIO

TV

PROGRAMME

ACCUEIL

EMISSIONS & PODCASTS

THÉMATIQUES

HAUTES FRÉQUENCES

## Antivax et religion : une dangereuse alchimie.

13 min. - le 24 octobre 2021

Religions et Spiritualité



philosophie

S'ABONNER

BOUTIQUE

Covid-19

## Médecines douces et antivax : une convergence naturelle ?

Olivier Larraguet-Matheson publié le 26 août 2020 - 14 min.

« Il y a aussi chez les adeptes des médecines douces une défiance plus prononcée vis-à-vis de la vaccination. Le taux de bénéficiaires d'une première dose d'un vaccin contre le Covid-19 n'est que de 62% chez les utilisateurs réguliers de ces médecines alternatives, alors qu'il atteint 78% dans la population adulte en général. Il y a ainsi un décalage de 16 points, ce qui est très marquant. » Tel est le constat - toujours d'actualité - que faisait le sondeur Jérôme Fourquet à la mi-août. Comment expliquer cette méfiance des adeptes de médecine alternative à l'égard de la vaccination ? La question est d'autant plus complexe que, sous ce terme générique, se regroupent les pratiques les plus diverses, de l'homéopathie à la phytothérapie en passant par l'ayurveda, la naturothérapie ou l'aromathérapie. « Orphique » et « Prométhéenne » : les deux attitudes existentielles fondamentales à l'égard de la nature dégagées par le philosophe Pierre Hadot peuvent nous aider à éclairer cette question.



« Le microbe n'est rien, le terrain est tout. »

# Un mouvement idéologique

## La pensée intuitive

Le « naturel » est bon  
La vérité est intérieure  
Le monde est juste  
La providence (ou Dieu) nous protège  
Quand on veut on peut  
La loi de l'attraction  
La maladie n'est pas notre ennemie  
Une « dette karmique »

## La science

... Nope

# Une rhétorique tous azimuts

## Mille-feuille argumentatif

Partager un argument  
=/  
croire à cet argument.

## Conséquence

Réfuter un argument  
=/  
Réfuter la croyance

- Obligation vaccinale = dictature
- Vaccin = Big Pharma
- Multiple dose = multiples profits
- La pandémie n'existe pas, donc vaccin inutile
- Puces et pilotage par les ondes de la 5G
- Protéine "magnéto" et pilotage par les ondes de la 5G
- Présence de graphène / le corps serait magnétique au lieu d'injection
- Vaccins contre le covid développés trop rapidement : c'est louche.
- On sert de cobayes !
- Les terribles effets secondaires
  - Stérilité
  - Les vaccins vont modifier notre ADN
  - Effets liés à l'aluminium
  - Myocardites, troubles menstruels, surdités (arguments valides)
  - Les vaccinés tous morts dans deux ans
  - Vaccine Adverse Event Reporting System (VAERS) très nombreux !
- "Mon corps, mon choix" (reprise de slogans pro IVG)

# Une rhétorique tous azimuts

## Mille-feuille argumentatif

Partager un argument  
=/  
croire à cet argument.

## Conséquence

Réfuter un argument  
=/  
Réfuter la croyance

Quelles sont les  
« vraies » raisons de la  
croyance ?

# Une rhétorique tous azimuts

## UN argument valide

La politique de santé  
publique se place au dessus  
des libertés individuelles.

Obligation vaccinale  
Pass sanitaire

→ Atteinte aux libertés



# Un objet de recherche



## Development of a Codebook of Online Anti-Vaccination Rhetoric to Manage COVID-19 Vaccine Misinformation

Brian Hughes<sup>1,2,3</sup>, Cynthia Miller-Idris<sup>1,2,3</sup>, Rachael Piltch-Loeb<sup>3</sup>, Beth Goldberg<sup>4</sup>, Kesa White<sup>1</sup>, Meili Criezi<sup>1</sup> and Elena Savoia<sup>5</sup>

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**Abstract:** Vaccine hesitancy (delay in obtaining a vaccine, despite availability) represents a significant barrier to managing the COVID-19 pandemic. Vaccine hesitancy is in part related to the prevalence of anti-vaccine misinformation and disinformation, which are spread through social media and user-generated content platforms. This study uses qualitative coding methodology to identify salient narratives and rhetorical styles common to anti-vaccine and COVID-denialist media. It organizes these narratives and rhetorics according to theme, imagined antagonist, and frequency. Most frequent narratives centered on “contagious disease” and rhetorics appealing to the vulnerability of children. The identification of these narratives and rhetorics may assist in developing effective public health messaging campaigns, since narrative and emotion have demonstrated persuasive effectiveness in other public health communication settings.

**Keywords:** COVID-19; vaccine hesitancy; anti-vax; public health communication; attitudinal inoculation; misinformation; disinformation

### 1. Introduction

The COVID-19 pandemic has arisen in a period of increasing vaccine hesitancy in the United States. Vaccine hesitancy is defined as a delay in the acceptance of a vaccine or the outright refusal to take a vaccine despite its availability [1]. Vaccine hesitancy is of particular concern when a vaccine is the primary method to mitigate the spread of a serious disease. Prior to the beginning of the COVID-19 pandemic, vaccine hesitancy was declared one of the top ten threats to global health by the World Health Organization [2]. The pandemic emerged shortly after a 2019 measles outbreak, which has since been tied to parental reluctance to vaccinate schoolchildren [3,4]. This was the worst outbreak of its kind since 1992 [5] and since a historic low of 0.15 measles cases per million in a 2002 [6] outbreak.

Several national opinion polls have found a significant portion of the US population is hesitant to take a COVID-19 vaccine. The prevalence of COVID-19 vaccine hesitancy has ranged from a quarter to half of the US population depending on the time in which surveys were conducted, reflecting the ongoing challenge of addressing vaccine hesitancy in the pursuit of herd immunity [6,7].

INFORMATION, COMMUNICATION & SOCIETY, 2017  
<https://doi.org/10.1080/1369118X.2017.1418406>



## Mapping the anti-vaccination movement on Facebook

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### ABSTRACT

Over the past decade, anti-vaccination rhetoric has become part of the mainstream discourse regarding the public health practice of childhood vaccination. These utilise social media to foster online spaces that strengthen and popularise anti-vaccination discourses. In this paper, we examine the characteristics of and the discourses present within six popular anti-vaccination Facebook pages. We examine these large-scale datasets using a range of methods, including social network analysis, gender prediction using historical census data, and generative statistical models for topic analysis (Latent Dirichlet Allocation). We find that present-day discourses centre around moral outrage and structural oppression by institutional government and the media, suggesting a strong logic of ‘conspiracy-style’ beliefs and thinking. Furthermore, anti-vaccination pages on Facebook reflect a highly ‘feminised’ movement – the vast majority of participants are women. Although anti-vaccination networks on Facebook are global in scope, the comment activity sub-networks appear to be ‘small world’. This suggests that social media may have a role in spreading anti-vaccination ideas and making the movement durable on a global scale.

### ARTICLE HISTORY

Received 5 January 2017  
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### KEYWORDS

Anti-vaccination; social network analysis; topic modelling; social media sites; social media

## PLOS ONE

### RESEARCH ARTICLE

## The social specificities of hostility toward vaccination against Covid-19 in France

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### Abstract

Equal Access to the COVID-19 vaccine for all remains a major public health issue. The current study compared the prevalence of vaccination reluctance in general and COVID-19 vaccine hesitancy and social and health factors associated with intentions to receive the vaccine. A random socio-epidemiological population-based survey was conducted in France in November 2020, in which 85,855 adults participants were included in this study. We used logistic regressions to study being “not at all in favor” to vaccination in general, and being “certainly not” willing to get vaccinated against Covid-19. Our analysis highlighted a gendered reluctance toward vaccination in general but even more so regarding vaccination against COVID-19 (OR = 1.88 (95% CI: 1.79–1.97)). We also found that people at the bottom of the social hierarchy, in terms of level of education, financial resources, were more likely to refuse the COVID-19 vaccine (from OR = 1.22 (95% CI: 1.10–1.35) for respondents without diploma to OR = 0.52 (95% CI: 0.47–0.57) for High school +5 or more years level). People from the French overseas departments, immigrants and descendants of immigrants, were all more reluctant to the Covid-19 vaccine (first-generation Africa/Asia immigrants OR = 1.16 (95% CI: 1.04–1.30)) versus OR = 2.19 (95% CI: 1.96–2.43) for the majority population). Finally, our analysis showed that those who reported not trusting the government were more likely to be Covid-19 vaccine-reluctant (OR = 3.29 (95% CI: 3.13–3.45)). Specific campaigns should be thought beforehand to reach women and people at the bottom of the social hierarchy to avoid further social inequalities in terms of morbidity and mortality.

### Introduction

Long referred to as the land of Pasteur, France has recently acquired the image of a nation inherently hostile to vaccination, especially since the late 1990s. In 2015, only 52% of French people considered the seasonal flu vaccine to be safe, compared with 85% in the United Kingdom and 80% in Spain [1]. Surveys launched between October and December 2020 confirmed this reputation when it comes to Covid-19 [1]: only 44% of French people were willing to be vaccinated against Covid-19 if they had the opportunity, less than in Germany (65%), Italy (70%), or the United Kingdom (81%), and half as much as in China (91%). France is therefore both one of the countries with the lowest level of acceptance of vaccination in general [1] and



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### Introduction

This paper examines the structure and discourse of anti-vaccination public Facebook pages and considers how the properties of anti-vaccination networks on Facebook may be analogous to social movements. Understanding pockets of resistance to vaccination as a public health exercise provides important insights into how these attitudes may be effectively countered. Effective disease prevention is contingent on high levels of vaccination compliance and coverage within networked populations. When these networks of coverage are disrupted or begin to disintegrate, diseases such as pertussis (or whooping cough), measles, and polio re-emerge. Globally, there has been an increased politico-legal mandate on maintaining high levels of vaccination amongst the community.<sup>1</sup>

Efforts to increase community vaccination rates to effective standards have not been without resistance. There have been concerted attempts, both online and offline, to prevent the passage of legislation via techniques of intimidation and coercion, such as

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**Data Availability Statement:** All relevant data are within the paper and its Supporting Information files.

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# La rhétorique des sites antivax

**Table 1.** Top codes by prevalence.

Narrative Trope	Explanation	Prevalence (Percentage of Final Codebook)
Corrupt Elites	Populist framing of a righteous majority versus corrupt elite. Elite perceived as forcing lockdowns and health practices for their own financial gain (e.g., big pharma) and/or power.	20.4%
Vaccine Injury	A catch-all for all of the harms the vaccine can do to you, from physical deformities to mental illness to microchips that violate your autonomy/privacy.	12.1%
Sinister Origins	The people who intentionally created the COVID vaccine are shadowy and suspicious. Geopolitical powers and intelligence agencies are likely implicated.	10.4%
Freedom under Siege	Common rights such as speech, assembly, or autonomy are being stripped from you! This claim attempts to hijack feelings of protection, vulnerability, and the sacred.	9.3%
Health Freedom	Frames public health as a matter of individual freedom rather than collective responsibility. “My body, my choice” misapplied to vaccines. Tied to religious freedom/freedom of speech.	7.8%

SOURCE : Hughes, B.; Miller-Idriss, C.; Piltch-Loeb, R.; Goldberg, B.; White, K.; Criezis, M.; Savoia, E. Development of a Codebook of Online Anti-Vaccination Rhetoric to Manage COVID-19 Vaccine Misinformation. *Int. J. Environ. Res. Public Health* 2021, 18, 7556.

# La rhétorique des sites antivax

**Table 1.** *Cont.*

Rhetorical Strategies	Explanation	Prevalence
Think of the Children!	Frames this as an advocacy campaign for protecting children. Uses emotionally affecting (manipulative) images of cute children.	16.1%
Do Your Own Research	States a conclusion and then urges the reader to research the reasons why. Visual clues lead to building arguments in favor of a predetermined anti-vax position.	8.4%
Speaking Truth to Power	Doctors, nurses, and other professional “experts” speaking against COVID alarmism are brave whistleblowers, courageously bringing truth to the people.	8.1%
Panic Button	Audio and visual cues intended to spark alarm, fear, or disgust, such as ominous music and images of needles or malformations.	7.2%

SOURCE : Hughes, B.; Miller-Idriss, C.; Piltch-Loeb, R.; Goldberg, B.; White, K.; Criezis, M.; Savoia, E. Development of a Codebook of Online Anti-Vaccination Rhetoric to Manage COVID-19 Vaccine Misinformation. *Int. J. Environ. Res. Public Health* 2021, *18*, 7556.

# La rhétorique des sites antivax

**Table 2.** Rhetorical strategies.

<b>1. Absurd!</b>
Rhetoric that holds up public health practices and cultural expressions of care/anxiety over COVID-19 to ridicule. This includes ridiculing both experts and laypeople, sometimes through misrepresentation (see “Mountains and Molehills”). Key to this rhetorical strategy is an overall tone of mockery and/or contempt.
<b>2. Appropriating Feminism and/or Womanhood</b>
Anti-vaccination messages that appropriate the language and values of feminism, such as claiming that vaccine resistance is the positive moral equivalent of advocating for reproductive rights; also, sometimes appropriating themes of femininity, the stereotypes of maternal wisdom and nurturance.
<b>3. Brave Truthteller</b>
This strategy frames the speaker as brave for publicly voicing their anti-vaccine opinions, despite the potential for public backlash, parenting judgment, or criticism from supposed experts. This strategy celebrates vaccine resistance by depicting its messengers as heroic in their stand against the establishment, akin to a whistleblower standing up to corruption. Sometimes, this takes the form of the speaker themselves claiming he or she is brave; other times, someone else’s bravery is highlighted. In vaccine-hesitant and -resistant spaces, the bravery often pertains to standing up to others’ ridicule, or to the implication that one is a bad parent.
<b>4. DYOR (Do Your Own Research)</b>
This approach often states a conclusion contrary to mainstream beliefs or scientific consensus, and then urges the audience to research the reasons why the conclusion is correct. This leads inquiring minds to build their own arguments in favor of a predetermined position. Other times, this strategy is deployed to avoid answering questions or engaging in debate. The implication is that if audiences reach the correct conclusions (i.e., the ones the speaker asserted), then they have done good research. If they disagree, their research must have been bad.

SOURCE : Hughes, B.; Miller-Idriss, C.; Piltch-Loeb, R.; Goldberg, B.; White, K.; Criezis, M.; Savoia, E. Development of a Codebook of Online Anti-Vaccination Rhetoric to Manage COVID-19 Vaccine Misinformation. *Int. J. Environ. Res. Public Health* 2021, 18, 7556.

# La rhétorique des sites antivax

## 5. Epic Significance

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The struggle against vaccination is framed as one of global, historical, or even mythic proportions. Hyperbolic rhetoric and superlatives are used to convey that this threat is profound enough to change the world, to enshrine the power of a corrupt elite—or to imperil the most vulnerable among us (children). In addition to the exaggeration of the threat posed by vaccines, this strategy positions the audience as capable of, or even obligated to, participate in this epic quest for justice.

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## 6. A Global Movement/Sleeping Giants

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Rather than inflating the threat of the vaccine to epic proportions, this strategy inflates the anti-vaccine movement itself. The voices of ordinary people all around the world are depicted as speaking as one, a unified, grassroots groundswell against evil. Sometimes anti-vaccine and anti-public health movements are framed as just the beginning of a groundswell that addresses other conspiracies. This strategy employs a populist frame that all over the world, good ordinary people (“just plain folks”) are ready to rise up and take back the power over their own lives.

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## 7. Health Freedom

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This strategy frames public health as a matter of individual freedom rather than collective responsibility. Sometimes, this even borrows from the language of women’s reproductive rights, re-appropriating concepts such as “my body, my choice” to vaccines. This is sometimes related to religious freedom (vaccines) or freedom of speech (anti-mask).

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# La rhétorique des sites antivax

## 12. Panic Button

A common rhetorical technique that uses audio and visual cues intended to spark alarm, disgust, confusion, squeamishness, anxiety, or dread in audiences. Ominous music can be used to indicate that viewers should be worried or mistrustful about what is shown to them. Images of hypodermic needles, malformations purportedly caused by vaccines, or forced vaccinations are depicted in ways that evoke fear and/or disgust.

## 13. People are Saying

This strategy states or implies that “many” people feel a certain way, evoking a social norm against vaccination. The strategy depicts those who agree with the speaker as good people, and those who disagree as fearful conformists. It may imply that evidence exists simply because other people are allegedly saying it, even though there is no actual evidence presented. Otherwise, it may rely on testimonies, first-hand accounts that usually emphasize emotion over facts, and may or may not actually be true.

## 14. Question Begging

A technique that poses questions designed to set up a narrative, as opposed to asking questions for objective journalistic purposes. This strategy asks a series of questions that lead to a specific anti-vaccine answer, while framing the conversation as objective and inquisitive.

## 15. Think of the Children!

This rhetoric suggests that anti-vaccine advocacy is not about what activists want for themselves, but rather what is best for children. Arguments are framed so as to position children’s exaggerated physical vulnerability and moral purity as the decisive factor in assessing risk. It often uses emotionally affecting (manipulative) images of cute children.

## 16. Trappings of Authority

Often a visual rhetoric, this strategy uses symbols of authority and expertise to give added weight to an argument. A speaker might be in an office full of books. They might be in a doctor’s office. They might be expensively dressed. The interviewer or director might refer to them with exaggerated deference. Sometimes, their credentials are presented as if they were very impressive but, when examined more closely, are spurious or over-inflated.

# La rhétorique des sites antivax

## **Antagonist: Government/Establishment and Elites:**

Narratives 1–8 are framed in such a way as to villainize experts, authorities, and figures of cultural influence. These “elites” consist of groups such as the medical establishment, governments, media, and press.

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### **1. 1984**

This narrative depicts the COVID pandemic and all public health measures associated with it as the final few steps toward a maximally repressive global government. It presents a “domino theory,” in which free speech, freedom of religion, and freedom of travel will soon be abolished. Every time a new public health directive has been passed, it says, many vaguer, but far worse, oppressions are sure to come next.

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### **2. Alarmist Authorities**

This narrative presents a distorted pattern of events in which authorities’ warnings and measures against COVID are overblown. (see Fluffing the Curve and Follow the Money)

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### **3. Censored!**

Digital platforms and social media are portrayed as actively engaged in “censoring” advocates of “health freedom.” This is often framed as a David vs. Goliath scenario where powerful companies conspire against brave individuals speaking truth to power. This is described in the language of a grave injustice.

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### **4. Corrupt Elite**

This narrative is a standard populist appeal. The world can be divided into a corrupt elite and a righteous majority. The corrupt elite is on the side of lockdowns and mandatory masks/vaccines. The fact that the elite favors these lockdowns, masks, and vaccines is taken as more than sufficient evidence that they should not be trusted. So the reasoning goes: the elites must be corrupt, because they are pushing an untrustworthy and potentially dangerous medicine.

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### **5. Fluffing the Curve**

This narrative argues that officials are misrepresenting the numbers of COVID injuries and deaths, or that doctors are somehow incentivized to report more deaths. Perhaps they are doing so to ensure profits (see “Follow the Money”), or perhaps to instill fear and control (see “1984,” “Sinister Motives”). This category also includes “apples to oranges” comparisons of patient categories, different diseases’ mortality rates, vaccinated vs. unvaccinated health outcomes, and more.

# La rhétorique des sites antivax

## 6. Follow the Money

This narrative paints the COVID pandemic as an unprecedented opportunity for corporate looting and medical profiteering. Additionally, anything that points to more robust public health initiatives is almost certainly a set-up for crony handouts and panic-driven marketing. There is big money in medicine, this narrative says, and for media giants, there is big money in making people “panic-watch” and “doomscroll.” These are stories in which powerful men will do whatever it takes to compete and aggrandize their wallets and ego—whether it means lying, neglect, withholding care or resources, or plain out killing. There is a specific sub-category that describes claims made against Anthony Fauci regarding supposed fraud. Most famous is the “HIV Scandal” involving a series of vague accusations of silencing patients, academics, and scientists to uphold a Ponzi scheme related to HIV treatment protocols [88].

## 7. Freedom Under Siege

This narrative paints a story in which common rights such as speech, assembly, or possession of some entitled object are being stripped from citizens. This claim attempts to hijack feelings of protection, vulnerability, and the sacred. Can also be framed with the key words, “Religious and Philosophical Exemption.”

## 8. Unaccountable Elites

These narratives are framed around the assumption that doctors, politicians, and the media will never have to account for their lying or incompetence. So the story goes: if they have no skin in the game, then why should we believe a word they say?

# La rhétorique des sites antivax

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**Antagonist: Society at Large:**

Narratives 9–12 pit anti-vaccine advocates and COVID denialists against society in general or specific elements of it, such as our public political discourse or areas where racial disparities are acutely felt.

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**9. Heroes and Freedom Fighters**

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Here, doctors (and “doctors”) speaking out against vaccine injury or COVID alarmism are brave whistleblowers, acting at tremendous personal and professional risk to bring the truth to the people. The people protesting public health measures are painted as the moral and ideological equivalent of Soviet dissidents, the founding fathers, and the Arab Spring all rolled into one. This narrativizes the “Brave Truth-tellers” rhetorical strategy by imbuing it with specific protagonists and struggles.

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**10. Erasing POC**

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This narrative argues that people of color are shut out of public debate over vaccination, that their voices are dismissed, or they are tokenized and only deployed when it is convenient for the white and powerful. It might also argue that people of colors’ rights to “health freedom” or their experiences of “vaccine injury” are invisible due to systemic racism in the medical system. It usually accompanies tropes such as “Racist Medicine” or “POC Injury.” It is an example of how effective anti-vaccine narratives can be essentially correct, but still point toward false and damaging conclusions.

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**11. Racist medicine**

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This narrative points to the real history of medical abuse of minorities in the US and elsewhere and implies that minorities should, therefore, mistrust what they hear about COVID and vaccines. Usually, no specific threat or conspiracy is articulated. The history is described and the connection with the present day is left implicit, but clear (see also: Intersection with Social Justice, Erasing POC, POC Injury).

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**12. “You made it political!”**

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This frames the conflict between vaccination and non-vaccination as a partisan political issue. On one hand, it might state that pro-public health voices are the ones making this political, when it is actually a matter of common sense, religious freedom, or personal choice. On the other hand, this narrative category might take an explicitly partisan tone, for example arguing that former President Donald Trump was heroically battling big pharma and a corrupt elite.

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# La rhétorique des sites antivax

## **Antagonist: Shadowy Villain:**

Narratives 13–14 do not offer a specific villain, but implicate an extremely powerful and mysterious agent whose means and motives are unknown—perhaps beyond comprehension. Conspiracy theories that verge on the supernatural often framed their antagonist in these terms. These demonstrate that narratives can be based around an absence or unarticulated mystery (see literature review).

---

### **13. Chinese Virus**

These stories claim with absolute certainty while lacking in substantive proof that the virus was created or leaked from the Wuhan lab in China. These tropes are distinct from legitimate inquiry into a possible “lab-leak hypothesis,” because of the narratives that they indicate. Sometimes, those narratives claim that a virus cannot mutate that quickly, or that COVID is a powerful bioweapon and the idea that we can easily stop it with masks or a vaccine is laughably naïve. These narratives are highly compatible with long-existing anti-Asian stereotypes as a sinister “enemy within” Western countries.

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### **14. Sinister Motives**

The people behind the COVID vaccine are described as shadowy and suspicious. Geopolitical powers, pharmaceutical corporations, and intelligence agencies are likely implicated.

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## **Antagonist: The Vaccine Itself:**

Narratives 15–19 focus on the harm they imagine a COVID vaccine will inflict. Unless tied to another narrative or rhetoric specifying additional antagonists or personifying the vaccine, these narratives offer an antagonist that is impersonal and without motive.

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### **15. The Perfect Family**

These narratives are often framed around anecdotes of supposed vaccine injury. Children are presented as perfect angels, baby geniuses, junior Olympians, etc. Parents are presented as bursting with pride, ready for a smooth, normal, American (or English or Australian or w/e) life. Then came the vaccine, and its injury. Then came the never-ending tribulations. The dream is long dead.

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### **16. POC Injury**

This narrative states that ethnic minorities have congenital conditions which allopathic medicine does not properly consider during the development of treatments and vaccines. One example is the claim that African Americans, particularly boys, have stronger immune systems that are more reactive to vaccines. While the coding team did not encounter similar messages targeting women of any race, it seems possible that women's higher rates of autoimmune disorder, and historic mistreatment in medicine, could underpin similarly pseudoscientific theories (see also "Racist Medicine").

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### **17. Rushed Vaccine**

These narratives say that the COVID vaccine has been rushed to market without proper testing, that it could not have gone through trustworthy safety protocols, and that the public cannot trust that it will be safe.

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### **18. Unknowable Dangers**

These narratives assume that we should apply the precautionary principle to dangers associated with preventing COVID (i.e., vaccines) but not to COVID itself (e.g., the danger is overblown, go to the pub!) (see also: Mountains and Molehills). This is distinct from the Vaccine Injury narrative, as it focuses on vague potential future outcomes, whereas Vaccine Injury focuses on specific, and often present-day, claims of injury.

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### **19. Vaccine Injury**

A catch-all term for all the bad things vaccines can do to you, with no legitimate causal link required. Extremely common.

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## **Miscellaneous/No Clear Antagonist:**

Narratives 20–22 either did not present a clear antagonist or were not consistent enough in their imagined antagonists to effectively classify.

### **20. All-or-Nothing**

These narratives cast their heroes and villains as either all trustworthy, good, and “on the right side” or else dangerously misguided, stupid, or evil.

### **21. Imminent Threat**

Narratives of this sort warn their audience that “time is running out,” and something terrible is either happening or about to happen very soon. This threat could be specific (e.g., a law being debated that would mandate vaccines for public school attendance), or it could be vague (e.g., the end of America). The warning is very frequently accompanied with some call to action, such as calling your congressman or evangelizing in favor of anti-vax messages.

### **22. Overblown Risk**

These narratives dismiss risks associated with COVID as overblown. They sometimes misuse statistics to reach this conclusion, such as comparing high-risk populations’ flu mortality rates to low-risk populations’ COVID mortality. Most often, these narratives center around an emotionally dismissive claim of others’ alarmism. This is distinct from the Alarmist Authorities code, as it addresses a more general cultural alarmism that may originate in not-elite sources.

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## RESEARCH ARTICLE

## The social specificities of hostility toward vaccination against Covid-19 in France

Nathalie Bajos<sup>1\*</sup>, Alexis Spire<sup>2</sup>, Léna Silberzan<sup>3</sup>, for the EPICOV study group<sup>4</sup><sup>1</sup>IRIS, Inserm/EHESP/CNRS, Aubervilliers, France

\* These authors contributed equally to this work.

† Membership of the EPICOV study group is provided in the Acknowledgments.

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### Abstract

Equal Access to the COVID-19 vaccine for all remains a major public health issue. The current study compared the prevalence of vaccination reluctance in general and COVID-19 vaccine hesitancy and social and health factors associated with intentions to receive the vaccine. A random socio-epidemiological population-based survey was conducted in France in November 2020, in which 85,855 adults participants were included in this study. We used logistic regressions to study being "not at all in favor" to vaccination in general, and being "certainly not" willing to get vaccinated against Covid-19. Our analysis highlighted a gendered reluctance toward vaccination in general but even more so regarding vaccination against COVID-19 (OR = 1.86 (95% CI: 1.79–1.97)). We also found that people at the bottom of the social hierarchy, in terms of level of education, financial resources, were more likely to refuse the COVID-19 vaccine (from OR = 1.22 (95% CI: 1.10–1.35) for respondents without diploma to OR = 0.52 (95% CI: 0.47–0.57) for High school +5 or more years level). People from the French overseas departments, immigrants and descendants of immigrants, were all more reluctant to the Covid-19 vaccine (first-generation Africa/Asia immigrants OR = 1.16 (95% CI: 1.04–1.30)) versus OR = 2.19 (95% CI: 1.96–2.43) for the majority population). Finally, our analysis showed that those who reported not trusting the government were more likely to be Covid-19 vaccine-reluctant (OR = 3.29 (95% CI: 3.13–3.45)). Specific campaigns should be thought beforehand to reach women and people at the bottom of the social hierarchy to avoid furthering social inequalities in terms of morbidity and mortality.

### Introduction

Long referred to as the land of Pasteur, France has recently acquired the image of a nation inherently hostile to vaccination, especially since the late 1990's. In 2015, only 52% of French people considered the seasonal flu vaccine to be safe, compared with 85% in the United Kingdom and 80% in Spain [1]. Surveys launched between October and December 2020 confirmed this reputation when it comes to Covid-19 [2]: only 44% of French people were willing to be vaccinated against Covid-19 if they had the opportunity, less than in Germany (65%), Italy (70%), or the United Kingdom (81%), and half as much as in China (91%). France is therefore both one of the countries with the lowest level of acceptance of vaccination in general [3] and

« Specific campaigns should be thought beforehand to reach women and people at the bottom of the social hierarchy to avoid furthering social inequalities in terms of morbidity and mortality. »

(...)

« Failure to take into account the social determinants of reluctance to vaccinate could lead to strengthening social inequalities in terms of morbidity and mortality. »

### OPEN ACCESS

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Anti-Vaccination Beliefs and Unrelated Conspiracy Theories

Zachary J. Goldberg, Sean Richey

First Published May 29, 2020 | Research Article | [Check for updates](#)

<https://doi.org/10.1177/0043820020920554>

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Chinese

Much recent literature has examined the correlates of anti-vaccination beliefs, without specifying the mechanism that creates adherence to these debunked ideas. We posit that anti-vaccination beliefs are an outcome of a general psychological propensity to believe in conspiracies based on new research on the interconnectedness of conspiracy beliefs. These ideas are tested with a confirmatory factor analysis and a seemingly unrelated regression (SUR) model of a nationally representative U.S. sample from the 2016 American National Election Studies. The confirmatory factor analysis shows that anti-vaccination beliefs highly correlate with belief in the unrelated conspiracies that Obama is a Muslim and 9/11 trutherism. Our SUR models also show that all three of these very different beliefs have similar predictors. All three have a negative correlation with political trust, political knowledge, education, and a positive correlation with authoritarianism. Thus, anti-vaccination beliefs are shown to be part of a psychological propensity to believe in conspiracies.

Keywords

Health Policy, Public Opinion, Vaccinations, Anti-Vaccination Beliefs, Anti-Vaxers, Conspiracies, Conspiracy Theories, Conspiracy Ideation, 9/11 Trutherism, Birtherism, Obama, Political Trust, Political Psychology

Palabras clave:

Política de salud, Opinión pública, Comportamiento de votación, Política pública, Vacunación, Creencias sobre la vacunación, Teorías de la conspiración, Obama

Review article

A systematic review of narrative interventions: Lessons for countering anti-vaccination conspiracy theories and misinformation

Aleksandra Lazic and Iris Žeželj

University of Belgrade, Serbia

Abstract

Even if a small portion of the population refuses vaccination due to anti-vaccination conspiracy theories or misinformation, this poses a threat to public health. We argue that addressing conspiracy theories with only corrective information is not enough. Instead, considering that they are complex narratives embedded in personal and cultural worldviews, they should be encountered with counternarratives. To identify existing narrative interventions aimed at countering anti-vaccination conspiracy theories and, more generally, map prerequisites for a narrative intervention to be successful, we present a systematic review of experimental effects of exposure to pro-vaccine narratives on a range of vaccination outcomes, based on 17 studies and 97 comparisons. We did not find any narrative interventions aimed directly at conspiracy theories. However, the review allowed us to make evidence-based recommendations for future research and for public communicators. This might help pro-vaccine communication match anti-vaccine communication in its potential to spread and go viral.

Keywords

health and media, health communication, public understanding of science, science communication

[T]he scientific community needs to be better at storytelling. Stories are the most fundamental way we communicate. Even Jesus told nearly all his messages in parables, why don't we? #vaccines #vaccinesaveslives

—Tweet by Ethan Lindenberger, [https://twitter.com\\_j\\_lindenberger/status/1155944720364793856](https://twitter.com_j_lindenberger/status/1155944720364793856) (last accessed 2 August 2019).

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Email: [izezelj@fbg.ac.rs](mailto:izezelj@fbg.ac.rs)

Table 2. Recommendation for pro-vaccine public communicators.

Recommendations	Description	Evidence in the article
<i>Rely both on personal and cultural experiences</i>	Tell the stories of firsthand or secondhand personal experiences of vaccination and vaccine-preventable diseases, but rely on broader cultural narratives about vaccines as well (e.g. about the world before vaccinations or about vaccine breakthroughs).	Theory
<i>Be coherent</i>	Ensure that the narrative is not only cohesive but also coherent (i.e., that sentences follow from one another so that people understand what the main idea of the narrative is).	Theory
<i>Tailor to the target audience</i>	Present the narrative in a socially and culturally normative manner, so that it aligns with the expectations of the target audience.	Theory, Review
<i>Affirm audience's worldview</i>	Frame the narrative in a way that affirms rather than threatens people's values and worldviews. Focus on the opportunities that vaccination opens up for the activities valued by their group rather than on restrictions.	Theory
<i>Mind the "who"</i>	Choose storytellers who reflect the life of the target audience; storytellers can be community members, friends, family, healthcare providers. Include storytellers with diverse cultural values. Combine the voices of the medical experts and non-experts. To foster involvement, choose characters whose characteristics are similar to the target audience (e.g. in terms of culture, history, life, gender, age or language).	Theory, Review
<i>Research the existing conspiracy theories</i>	Using qualitative techniques, identify themes of acceptance and resistance in anti-vaccine conspiracy theories and vaccination decision narratives in the given socio-cultural environment and incorporate them into the narrative. The narrative may also tackle paths through which anti-vaccine conspiracy theories have been experimentally shown to influence vaccination decision-making (e.g. perceived danger of vaccines, powerlessness, disillusionment, and trust in medical authorities).	Theory, Review
<i>Mind the "whom"</i>	Identify those who would benefit most from a narrative intervention (e.g. people low in numeracy).	Theory
<i>Combine facts and narratives</i>	Provide facts (e.g. vaccine safety and efficacy data, individual risk of infection, or risk of disease symptoms and of vaccine side effects) along with the narrative.	Test
<i>Don't go to extremes in emotion</i>	Avoid over-reliance on extreme negative emotional appeals.	Theory, Review
<i>Don't divide</i>	Do not use polarizing Us vs. Them narratives. Do not ridicule or shame conspiracy believers.	Theory

# En résumé

- Problème de temporalité
- Engagement différentiel
- Une pensée opportuniste
- Alimentée par l'ignorance
- Une rhétorique anarchique
- Une « vraie » atteinte aux libertés
- Succès lié à des déterminants sociaux
- Forte composante conspirationniste

Champ de bataille  
NARRATIF



