

September 2021

Vaccination Resistance

People who are reluctant to vaccinate have often been portrayed in the media as conspiracy theorists. Is this an anecdotal phenomenon? A stable correlation? Research in the humanities and social sciences has looked into this question, as well as into the broader relationship with vaccination: do undecided people change their minds over time? What policies are likely to turn them off? Is the obligation to present a document proving vaccination to access collective spaces or cultural activities an effective way to encourage vaccination? What is driving the change in vaccine mistrust?

Numerous studies available on the World Pandemic Research Network (WPRN) platform provide some initial insights. Here is an overview.

Par Aurélie Louchart pour WPRN, avec le soutien de l'IEA de Paris et la Fondation RFIEA



WPRN

World Pandemic Research Network

Conspiracy mentality correlated with anti-vaccine positions

Several studies in the WPRN database examine the relationship between conspiracy beliefs and rejection of vaccination. All of them confirm that adherence to conspiracy theories reduces the intention to vaccinate. Conducted notably in [France](#), [Cameroon](#) or [Serbia](#), these studies confirm in the context of the COVID-19 pandemic a correlation established by previous research.

When conspiracies have no connection with the vaccine...

A conspiracy theory about the origin of the virus should not necessarily affect vaccination intention: if one believes that the virus was created by the Chinese government, one may think it is dangerous and want to protect oneself with a vaccine. Yet the [Serbia](#) and [France](#) studies highlight that even when conspiracy beliefs are unrelated to the vaccine, reluctance to be vaccinated against COVID-19 increases. In the French survey, none of the conspiracies studied referred to the dangers of vaccines: «The French government is using the pandemic to keep important reforms quiet»; «Manufacturers will use the pandemic to justify higher prices and make profits»; «COVID-19 is a bacteriological weapon used by the Chinese Communist Party to create panic in the West», etc. The more respondents believed in these conspiracies, the less likely they were to have a positive attitude toward vaccination. Previous studies had already found that adherence to «classic» conspiracy beliefs unrelated to vaccination (JFK assassination, moon landing, etc.) was associated with negative attitudes toward vaccines. According to the researchers from the University of Belgrade, a conspiratorial mindset, i.e. a propensity to subscribe to theories that attribute responsibility for societal phenomena to malicious actors, may lead to the belief that key information is systematically hidden from the general public and excluded from the official discourse (origin of the pandemic, harmfulness of vaccines, etc.)



WPRN

World Pandemic Research Network

Local specificities: the case of Cameroon

While the relationship between conspiracy beliefs and refusal to be vaccinated against COVID-19 is found in many nations, the conspiracies evoked sometimes have local particularities. For example, [in Cameroon](#), theories invoke plots by foreign (mainly Western) forces to harm the population. Two narratives predominate: the testing of vaccines on Cameroonians, and the attempt to exterminate them by injecting the vaccine. All of this is said to be done with the complicity of corrupt local elites - misinformation about acts of corruption is prevalent and difficult to detect because of the high level of actual corruption in the country. Another specificity is that information not controlled by the authorities is rare in Cameroon, so «fake news» is seen as a manifestation of freedom of expression, and a right to an alternative truth is claimed by anti-vax groups (evangelical churches and alternative medicine advocates).

Correlation or causation?

In some cases, a prior distrust of vaccination for non-conspiratorial reasons (religious, for example) could lead to the subscription to conspiracy theories after the fact to legitimize this point of view. This reverse pathway, whose hypothesis is underlined by the [researchers of the University de la Côte d'Azur](#), seems however not to be common.

Most reluctant people are concerned about vaccine safety

Indeed, [a study conducted by the University of Southern California](#) tells us that only 6% of people who are reluctant to be vaccinated against COVID-19 would have this inclination because of antivax positions. The main reason for hesitating about the vaccine? Doubts about the safety of the vaccine. Half of the respondents who were reluctant to be vaccinated indicated that they were concerned that the COVID-19 vaccine was not safe (40% of «maybes», 68% of refusals). This U.S. population-based study also observes that other reasons for distrusting or rejecting the vaccine vary by group: fear that the vaccine is too expensive for 24% of racialized respondents and 16% of whites; carelessness about SARS-Cov-2 among 27% of white respondents versus 14% of racialized people.



WPRN

World Pandemic Research Network

Cette étude portant sur la population américaine observe également que les autres motifs de défiance ou de rejet du vaccin varient selon les groupes : crainte que le vaccin coûte trop cher pour 24 % des répondants racialisés et 16 % des Blancs ; insouciance à l'égard du SARS-Cov-2 chez 27 % des répondants blancs contre 14 % des personnes racialisées.

Inform without persuading

To avoid damaging already shaken trust, research conducted by Ghent University on 200,000 people recommends transparent communication about the efficacy and potential side effects of vaccines ([the study, titled «Motivation Barometer,» can be found on WPRN](#)). [Another German-Dutch research](#) tells us that those who perceive communication about a vaccine as clear and consistent show both greater trust in institutions and higher vaccination intentions. It also points out that transparent information about the limitations of vaccines does not reduce vaccination intentions. Conversely, exaggerating the risk of COVID-19 in vaccination communication undermines the credibility of scientific experts, which in turn predicts acceptance of vaccine and potential boosters.

The «fact box», an ethical information tool

A communication tool respecting all these recommendations has been developed by German and Dutch researchers. Using the Harding Center's guidelines on transparent risk communication, these scientists have designed a «fact box» dedicated to COVID-19 vaccination. [Available on WPRN](#), this easily understandable fact box presents available data on the potential benefits and harms of vaccination in a graphically appealing format. [Studying this type of information box for 90 seconds would increase the likelihood of changing one's mind about the vaccine by 1.3](#). However, that is not the purpose of this tool. It is designed to inform without attempting to persuade (marketing) or seduce (nudging), so as not to violate the ethics of health care decision making. Its ultimate goal is to enable informed decision-making, while respecting the rights of undecided and skeptical citizens



WPRN

World Pandemic Research Network

What antagonizes the undecided

The Motivation Barometer shows that ethical communication is beneficial in many ways. After interacting with a health worker in an empowering style, respondents report that they will think more about vaccination and show a greater willingness to be vaccinated. Conversely, coercive communication has a negative impact on message consideration and intention to vaccinate. [The study](#) shows that vaccine-averse people should not perceive vaccination as an infringement on their autonomy and that if a government introduces mandatory vaccination, timing is crucial. In the right context, compulsory vaccination can be seen by the undecided as a fair way to mute their doubts and preferences and to contribute to a collective goal of protecting each other and regaining collective freedom. The numbers presented in this report published in July 2021, indicate that the requirement would be premature at this point. The researchers recommend not stigmatizing the unvaccinated in order to maintain social harmony and to continue to invest in other strategies to increase support for vaccination: presenting it as an act of solidarity, encouraging people to have a specific person in mind for whom they are vaccinated, specifying the vaccination goals to be achieved before easing restrictions, etc.

Health pass to encourage vaccination?

Conversely, the use of material rewards (gifts, tax breaks, vaccination passports with privileges, etc.) undermines the value of the social incentive and further alienates vaccine sceptics, as they are perceived as pressure. However, this effect would not be felt if, in the same message, a negative PCR test is presented as a truly equivalent alternative to vaccination. [The barometer](#) also notes the importance of linking the use of a health pass to COVID alert thresholds. On the one hand, this emphasizes the temporary nature of the measure: if the numbers improve, the pass will be removed. On the other hand, the use of thresholds shows that this is a tool to avoid overloading hospitals and to ensure the health of the population, not to restrict freedom or to convince reluctant people to get vaccinated.



WPRN

World Pandemic Research Network

Give the undecided some time

Another report from the Motivation Barometer tells us that giving people time to think about vaccination is a tool that should not be neglected. Over time, the majority of those who are hesitant become pro-vaccination: 79% of Belgians who had doubts about vaccination in April 2021 were vaccinated by June 2021. And over the months, almost none of the undecideds developed a negative attitude towards vaccination.

How to reduce the impact of conspiracy beliefs?

As for conspiracy holdouts, [the study conducted at the Université de la Côte d'Azur](#) points out that exposure to anti-conspiracy arguments before and after exposure to conspiracy theories can restore vaccination intention. It also points to [previous research](#) that found that pre-existing knowledge about the HPV vaccine negated the impact of exposure to antivax conspiracy theories on vaccination intentions. Proactive outreach initiatives before the public is exposed to misinformation are therefore relevant. [The Cameroon study](#) also recommends building capacity to detect conspiracy theories (civic education in schools, television programs), valuing local scientific knowledge, and promoting «truth-telling» among politicians: informing citizens about situations of uncertainty, financial or scientific challenges, and publicly admitting shortcomings.

A wealth of research

Many other dimensions related to the pandemic and the vaccine are dissected by research referenced on the WPRN platform: [The impact of Astra Zeneca vaccine side effects on vaccination intentions](#) (none in the UK, but a drop in vaccination intentions in Germany, France, Spain and Italy), [the fact that a vote in favor of Brexit does not predict a specific stance on vaccination](#), or that [in the US, more frequent social media consumption seems to increase reluctance to get vaccinated...](#) One can also find in the WPRN database [a tracker of treatments and vaccines against COVID-19 being developed on the planet](#) proposed by Stanford University, or [an algorithm](#) developed by Duke University [to rationally allocate vaccines](#) (its efficiency is 30 to 80% higher than the scenario where vaccines are randomly distributed). Research on the ethics surrounding the vaccine is also prominent, with, for example, [studies questioning legal regulation and intellectual property issues](#) or [the deliberate infection of volunteers with COVID-19 for research](#).



WPRN

World Pandemic Research Network

Appendix

RESEARCH FROM THE WORLD PANDEMIC RESEARCH NETWORK USED TO WRITE THIS NOTE

> Daniel Allington, Siobhan McAndrew, "Conspiracism, anti-vaccination attitudes and hesitancy regarding a future COVID-19 vaccine"

<https://wprn.org/item/477652>

A qualitative survey on the effects of social media consumption on perceptions of the severity of the pandemic, conspiracism and intentions towards a future vaccine. It was conducted by King's College London and the University of Bristol on a panel of 2,800 British and American respondents.

> Paul Bertin, "Predicting and correcting the influence of COVID-19 and pro-chloroquine conspiracy theories on COVID-19 vaccination intentions"

<https://wprn.org/item/410052>

This research conducted by the Université de la Côte d'Azur explored whether conspiracy theories about COVID-19 and pro-chloroquine theories could influence vaccination intention. In a new part of the study, it will experimentally test two ways to reduce beliefs in these theories to restore vaccination intention.

> David Comerford, "Repeated cross-section tracking UK vaccine hesitancy in response to news on risks"

<https://wprn.org/item/521852>

This cross-sectional survey by researchers at the University of Stirling examines the vaccination intentions of a representative sample of UK residents before and after several countries suspended the use of the AstraZeneca vaccine (due to blood clot deaths). Their data shows no decrease in vaccination intentions in the UK.

> Mark Findlay "COVID-19 Vaccine Research, Development, Regulation and Access"

<https://wprn.org/item/483352>

This brief review conducted at Singapore Management University looks at the COVID-19 vaccine through the lens of intellectual property regimes. Will substantial intellectual property rights be to blame if access to the vaccine is restricted?

> Aram Grigoryan, «Effective, Fair and Equitable Pandemic Rationing»

<https://wprn.org/item/400752>

Duke University proposes algorithms that optimize vaccine allocation to make it as fair, equitable and efficient as possible. Simulations show that the efficiency gains from optimization are substantial. It answers the question «who gets what vaccine?» and not just «who gets a vaccine?»



WPRN

World Pandemic Research Network

Appendix

> Nicolas Duquette, “Heard immunity: effective persuasion for a future COVID-19 vaccine”

<https://wprn.org/item/489852>

The University of Southern California survey of vaccination intentions found that intentions varied widely by ethnicity: 75% of Asian, 54.5% of white, 52% of mixed race and 48% of Latino respondents expressed an intention to vaccinate, compared to only 25% of black and 19% of American Indian respondents. Among respondents other than white, intent to vaccinate is more than 50% higher if the message emphasizes protecting others (rather than oneself).

> Felix Rebitschek, Mirjam Jenny, Christoph Wilhelm & Al., “HC-RKI Fact Boxes”

<https://wprn.org/item/528452>

Applying the results of the Harding Center’s research on transparent risk communication, these researchers from the University of Potsdam, the Robert Koch Institute, and the Max Planck Institute created information boxes on the potential benefits and harms of mRNA-based vaccines against COVID-19.

> Adair Richards, “Ethical Guidelines for Deliberately Infecting Volunteers with COVID-19”

<https://wprn.org/item/438952>

This article explores the ethical dimensions of human trials in the development of vaccines or treatments for COVID-19. It discusses five potential objections: the risk of harm to participants, the risk that the research will not result in a usable vaccine, the inability of an individual to give true free and informed consent, the fact that such experiments may damage the reputation of the research, and that such experiments may set a dangerous precedent.

> Mahama Tawat, “Fake News and the COVID-19 Pandemic. A Study of Practices and Sociopolitical Implications in Cameroon”

<https://wprn.org/item/512852>

Using Cameroon as a case study, this article from the University of Montpellier examines «fake news» and its micro and macro socio-political implications for the vaccination campaign. Policy recommendations on the scientific, communication and socio-political levels are provided.



WPRN

World Pandemic Research Network

Appendix

> Joachim Waterschoot, Maarten Vansteenkiste, Sofie Morbée, “The Motivation barometer”

<https://wprn.org/item/528752>

The «Motivation Barometer» is a large-scale study of the Belgian population’s motivation to adhere to anti-covid measures and their psychological well-being. Data were collected from more than 200,000 participants in the Flemish and Walloon regions, with more than one year of daily and weekly measurements. Scientific articles and reports are published regularly based on the results. The project is conducted by the Developmental Psychology Research Group of Ghent University.

> Jack Zeng, Jason Pham, Jia Liu & Al. “Curated web tracker of global development of treatments and vaccines for COVID-19”

<https://wprn.org/item/408452>

Stanford University provides a tracker of COVID-19 treatments and vaccines in development. It provides progressive levels (raw clinical trials, drug and vaccine leads...) that can help decision makers coordinate their efforts. Data come from clinicaltrials.gov, pubmed.gov, and drugbank.ca, among others. As of September 2021, it lists 331 treatments in clinical trials, 62 vaccines in clinical trials, and 5 FDA-approved vaccines.

> Iris Zezelj, «Irrational beliefs differentially predict adherence to guidelines and pseudoscientific practices during the COVID-19 pandemic»

<https://wprn.org/item/441452>

Researchers from the University of Belgrade examine whether irrational beliefs (conspiracy theory, overestimation of COVID-19 knowledge, type I cognitive error bias, and cognitive intuition) predict adherence to anti-COVID-19 measures, pseudoscientific practices, and vaccine intention. Another Serbian study on this topic is also available on WPRN: Jasna Milosevic Dordevic, «Links between conspiracy beliefs, vaccine knowledge, and trust: Anti-vaccine behavior of Serbian adults» <https://wprn.org/item/535152>