

# Vaccination campaign messages often prove ineffective

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The research team at the TUM School of Social Sciences and Technology showed that vaccination campaigns often have overly undifferentiated messages. Credit: Andreas Heddergott / TUM

Conventional vaccination campaign messages often miss their targets. A study in eight European countries shows that information on the benefits of vaccines can even reduce the willingness to get immunized. The researchers also looked into the factors that influenced the impact of messages, including low health literacy. A further study provides indications of the relationship between trust in vaccines and their approval procedures.

Not many COVID-19 vaccination campaigns in Europe lived up to the hopes of the public health authorities. However, the results of past studies in various countries have yielded a mixed picture as to which communication strategies can increase [vaccine](#) uptake and which factors undermine certain messages. A team of the Technical University of Munich (TUM), the University of Trento and the London School of Economics and Political Science explored these questions in Bulgaria, France, Germany, Italy, Poland, Spain, Sweden and the UK.

During the intensive phase of the vaccination campaigns, in June 2021 (in April in Germany), more than 10,000 unvaccinated adults were initially provided online with general information on the available vaccines. Then they received one of three messages combining text and images or were assigned to a control group. Message 1 highlighted the efficacy of the available vaccines in reducing the risk of serious illness and death through COVID-19. Message 2 stressed the advantages of having a vaccination certificate, especially for travel. Message 3 presented the prospect of leisure-time activities without restrictions, for example restaurant and cinema visits, access to fitness studios and attendance at concerts. The participants were then asked whether they intended to be vaccinated against COVID-19 if given the opportunity during the following week.

## **Three messages effective only in Germany**

The study, published in *Science Advances*, shows that the tested messages would be effective in boosting vaccination quotas only in Germany and, to a lesser extent, in the UK. In Germany the vaccination willingness was significantly higher in the three groups than in the control group. In the UK, the readiness was higher only when the message stressed the benefits of a vaccination certificate. In all other countries the messages were ineffective—or even produced results opposite to those intended: people in Spain and Italy, when informed of the reduced risk of illness

through vaccines, were less likely to seek vaccination than the corresponding control groups.

## **Decisive factor: Health literacy**

Using data mining methods, the research team was able to carry out detailed analysis of various associations between the message effectiveness and sociodemographic characteristics as well as the following factors: citizens' trust in their government, their literacy with regard to healthcare issues and the share of the population who believe in certain conspiracy theories. The scientists used existing surveys to obtain data on these factors (which are not to be seen as monocausal) for the various countries.

For all messages, the likelihood of achieving the desired effect was reduced in a country when the health literacy of the population was low. "This result surprised us," says Matteo M. Galizzi, a professor of behavioral science at the London School of Economics and Political Science. "We had thought that understandable and clearly visualized information on COVID-19 would lead to an improved understanding of the disease among people with little prior knowledge and thus to a greater vaccination willingness." In contrast, the study confirmed conjectures that citizens' trust in their own government would have a positive effect on vaccination intention.

## **Older people less receptive**

Where there was relatively high prevalence of conspiracy theories, neither the message on health benefits nor that on the prospect of future leisure-time options produced significant successes. "The analysis shows that this strong disinformation can also explain the negative impact of health information in Spain and Italy," says Giuseppe A. Veltri, a

professor in computational social science at the University of Trento.

The researchers saw differences between socio-economic groups. For example, men with low levels of educational attainment were more often convinced by the two messages highlighting advantages in [everyday life](#) and leisure time than men with the same profile in the [control group](#). Among these men there was also a very pronounced effect in countries with a high level of trust in the government and low prevalence of conspiracy theories. Older people tended to be less receptive on the whole to all of the messages.

### **'Clearer differentiation in campaigns'**

"During the pandemic, people often looked at other countries to see what was working better or worse. Our study showed that such comparisons have limited usefulness," says Prof. Tim Büthe, Chair of International Relations at TUM. "A more promising approach is to investigate the existing conditions in every country and then adapt the policy measures and communication strategies accordingly. Policy makers can use our findings to inform messaging for upcoming COVID-19 booster campaigns."

Janina Steinert, a professor of global health at TUM, who headed the study, says: "Messages encouraging people to get vaccinated should target the various groups more closely, both in terms of content and how they are communicated, for example via certain social media channels or with gender-based or age group-specific advertising. Where the public lacks trust in the government, individuals seen as role models by certain socio-economic groups can be chosen as communicators."

However, if a communication campaign has poor prospects of success due to several known barriers, the research team recommends shifting the focus to other measures. These might include concrete incentives or

individually assigned vaccination appointments, which can only be actively objected to. "In the long term, all countries should develop their citizens' health literacy to improve the effectiveness of future vaccination campaigns," says Steinert.

**More information:** Janina I. Steinert et al, COVID-19 vaccine hesitancy in eight European countries: Prevalence, determinants, and heterogeneity, *Science Advances* (2022). [DOI: 10.1126/sciadv.abm9825](https://doi.org/10.1126/sciadv.abm9825)

Silvia Angerer et al, How Does the Vaccine Approval Procedure Affect COVID-19 Vaccination Intentions? *SSRN Electronic Journal* (2022). [DOI: 10.2139/ssrn.4073498](https://doi.org/10.2139/ssrn.4073498)

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