From Anti-vax Intentions to Vaccination: Evidence from Nine Countries

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Summary

Despite large take-up rates in most OECD countries, millions of people still refuse COVID-19 vaccination. The large number of unvaccinated individuals raises major concerns about the diffusion of the virus. Anti-vax individuals are often very vocal about their choice and use social media to convince undecided individuals not to get vaccinated. Using original data from two surveys in nine OECD countries, we show that half of the individuals, who expressed anti-vax intentions in December 2020, were vaccinated by summer 2021. We find that information plays a key role. Vaccinations were more likely among individuals aged 50+, more informed on traditional media, trusting scientists, exposed to COVID-19, compliant with public restrictions, and less concerned about vaccines' side effects. We also run a survey experiment with informational messages in the first wave. A striking result is that these informational treatments affected not only immediate vaccination intentions, but also actual vaccination rates recorded six months later – even among individuals, who had initially expressed anti-vax intentions. Altruistic messages, about protecting health or the economy, had the largest effect. Important differences in the relative impact of our different treatments across countries indicate that successful information campaigns should be tailored to the context.

Despite large take-up rates in most OECD countries, millions of people still refuse COVID-19 vaccination. The large number of unvaccinated individuals raises major concerns about the diffusion of the virus.[1] Moreover, anti-vax individuals are often very vocal about their choice and many use social media to convince undecided individuals not to get vaccinated.[2,3] Hesitancy about COVID-19 vaccines was to be expected, given preexisting opposition to other vaccines.[4-7] Yet, in spite of more than four billion people around the world being vaccinated, vaccine hesitancy remains an important issue in fighting COVID-19, as lockdown measures have proved to have large health, economic, and psychological costs.[8,9] Mass vaccination may represent the only alternative solution to returning to restrictive public health measures. Hesitancy or outright refusal of vaccination is typically due to complacency towards the disease and lack of confidence in the vaccine.[10-13] COVID-19 vaccination hesitancy has been no different.[14-19] Requiring COVID-19 vaccination certificates to work or to access public places increased vaccination rate,[20] but was very controversial. Public health messages often increase vaccination intentions, but not necessarily actual vaccinations, and financial incentives do not seem effective.[21-23]

We use original data[24] from the panel component of two waves of a nationally representative survey of the adult population conducted in nine OECD countries (Australia, Austria, France, Germany, Italy, New Zealand, Sweden, the United Kingdom and the United States) for a total of 6,379 respondents. We investigate the determinants of vaccination intentions in December 2020, and of actual vaccination behavior in the following six months. All the countries included in the survey have high income per capita and advanced health systems, allowing us to pool their data in a common analysis. However, the pandemic affected them very differently. Each country implemented specific lockdown measures, and the informational messages and the timing of the vaccination campaigns also differed (see Table S1 in the Supplementary Material). These cross-country differences increase the external validity of our findings.

The first wave of the survey was administered between December 2nd and December 10th 2020 (see Table S2), when most countries were experiencing the second wave of the pandemic, and new lockdown measures targeted for the holiday season, were imposed. Vaccines had just been authorized. News about their upcoming deployment were in the media, but there was still little discussion (and perhaps concern) about possible side effects. The second wave of the survey was administered between June 28th and July 13th 2021. Both waves of the survey recorded individuals' attitudes, personal experiences and behavior towards COVID-19, as well as socio-demographic characteristics.

Both waves gathered information on individuals' attitudes towards COVID-19 vaccination – namely, such as whether a vaccine is the solution to the pandemic. The first wave (in December 2020) elicited individuals' willingness to be vaccinated in the next few months on a 0 to 10 scale (from not at all likely to extremely likely). The second wave (in June/July 2021) obtained information about the individuals' actual vaccination behavior and, for those who had not yet been vaccinated, about their willingness to get vaccinated in the near future. Summary statistics for all the variables used in this study, normalized on a 0-1 range for the regression analysis, are shown in Table S3.

Vaccination Intentions

Figure 1 shows the distribution of vaccination intentions in the nine countries in our sample. In each country, a wide dispersion emerges, with many individuals concentrated on extreme positions: 0 (not at all likely to be vaccinated) and 10 (extremely likely). However, large differences also exist across countries. In December 2020, the share of individuals with anti-vax intentions ranged from 10% in the U.K. to 37% in Austria, and the proportion of pro-vax went from 38% in France to 74% in the U.K.

Figure 2 (left panel) and Table S4 report the estimated coefficients of a large set of explanatory variables used in a linear regression model with vaccination intentions as the outcome variable (see Data and Methods in the Supplementary Material). Our findings suggest that socio-demographic characteristics affect vaccination intentions: adults (35-49) are less willing to be vaccinated than young individuals (18-34), service workers and blue collar workers less than white collar workers, and women less than men. Behavioral factors related to COVID-19 complacency matter too. Vaccination intentions are lower among individuals who are less informed through traditional media (TV, newspapers, radio), among people who comply less with public health rules, among people who believe that they are less likely to be infected and less likely to be severely ill, and among individuals of undeclared political ideology. Individual attitudes, mostly related to trust, are also crucial. Vaccination intentions are lower among people who have low trust in scientists, who believe that there was not enough time to assess vaccines' side effects, and that COVID-19 was created by large corporations to profit from it. Table S4 shows that most of these findings hold in each of the following three geographical samples: EU countries (Austria, France, Germany, Italy and Sweden), the U.K. and U.S., and Australia and New Zealand.

Our data allow to provide an ideal type of the individuals with anti-vax intentions, i.e., those who answered 0-3 on the 0-10 scale for vaccination intentions. Figure 2 (right panel) and Table S5 show the estimated coefficients of a similar regression, but with anti-vax intentions as the outcome variable. People with anti-vax intentions are more likely to be older than 35 and to be women, they are less informed (through traditional media), less compliant with public health rules, they feel less at risk of being infected and of becoming seriously ill, but they are more risk averse. They are also less likely to trust scientists and more likely to believe that vaccines' side effects have not been sufficiently studied.

Vaccination Behavior

Individuals are likely to follow up on their early vaccination intentions. Figure S1 plots the vaccination rate (elicited in the second wave, in June/July 2021) by vaccination intentions (reported in the first wave, in December 2020) for the whole sample and then separately for EU countries, for the U.K. and U.S., and for Australia and New Zealand. Among the hard anti-vax individuals who answered 0 (not at all likely to be vaccinated) in December 2020, the vaccination rate is 32.6%, while among the hard pro-vax, who answered 10 (extremely likely), the vaccination rate is 83.6%.

We use data from the December 2020 survey wave to study which individual factors affected actual vaccination behavior by June/July 2021, given the initial vaccination intentions elicited in December 2020. Figure 3 (left panel) and Table S6 (column 1) report the estimated coefficients of a large set of explanatory variables, including vaccination intentions, used in a linear regression model with actual vaccination as the outcome variable (see Data and Methods in the Supplementary Material). Our findings confirm the strong explanatory power of the December 2020 intentions on the actual vaccination behavior, but they also unveil additional important determinants. Controlling for vaccination intentions, older cohorts are more likely to have received the vaccination – perhaps because young individuals were offered this opportunity only later on (see Table S1), while blue collar workers and inactive people are less likely to have been vaccinated than white collar workers. Behavioral and attitudinal aspects matter too. Concerns about serious health risks, indirect exposure to COVID-19 through friends and relatives, as well as living with one's family and compliance with public health rules, all have positive signs – thereby suggesting that low complacency with COVID-19 helps vaccination. Information and trust are also important elements of persuasion. Individuals with more exposure to news on TV, radio, and newspapers (but not on social media) and more trustful of scientists were more likely to get their jabs. One of the most crucial determinants is confidence in the vaccines. The belief that expedited trials did not allow careful studies of the possible side effects of vaccinations largely reduces actual vaccination behavior. Table S6 shows

that most of these factors are significantly correlated with vaccination in all three geographical subsamples, yet interesting differences emerge. Living with one's family and traditional media consumption matter mostly in EU countries, whereas trust in scientists is crucial in Anglo-Saxon countries. Blaming COVID-19 on large corporations is a crucial impeding factor in EU countries. Conservatives are more likely to get vaccinated in Australia and New Zealand, but less in the U.K. and the U.S.

Are some of these factors able to motivate even individuals with previous anti-vax intentions (as elicited in December 2020) to get their jabs? Figure 4 (right panel) and Table S7 (column 1) report the estimated coefficients of the same factors on the same outcome, actual vaccination, but after restricting the sample to individuals with anti-vax intentions (who answered 0-3 to the question on vaccination intentions in the December 2020 wave). We find that older age, concerns with health risks, and indirect exposure to COVID-19 through friends or relatives increase vaccination among individuals with anti-vax intentions. Individuals compliant with public health rules are also more likely to get vaccinated, despite their initial anti-vax intentions, perhaps due to the mounting social pressure to be vaccinated. Information and trust seem equally crucial to convince anti-vax people. Individuals with high consumption of traditional media and more trust in scientists are more likely to get vaccinated, regardless of their initial level of vaccination hesitancy. Instead, concerns about negative health consequences from vaccination are an important factor decreasing the likelihood of vaccination among anti-vax individuals. Interestingly, risk aversion reduces actual vaccination among anti-vax, thereby suggesting that these individuals may be more concerned about possible negative side effects of vaccination than about the risk of getting COVID-19. A similar picture emerges when considering our three geographical subsamples separately (Table S7, columns 2-4).

Experimental Evidence

Our panel data evidence suggests a possible role for information messages in convincing people to get vaccinated. We exploit a survey experiment to obtain causal evidence on the impact of information on vaccination behavior. In our December 2020 survey, respondents in each country were randomly assigned to four treatment groups or a control group. Individuals in all treatment groups were exposed to the following message: "The only way to become immune to COVID-19 in the long run is by vaccination." Then, depending on the treatment group, they also saw one of the following four messages: (i) "In this case, if you were vaccinated, you could avoid getting infected with the virus" (henceforth, the Self-protection group); (ii) "In this case, if you were vaccinated, you might be able to avoid passing the virus on to others" (Protecting Others); (iii) "In this case, if a person was vaccinated, they could avoid getting infected with the virus. This would protect the health of people in your country [in each country, respondents saw the actual name of the country]" (Protecting Health); or (iv) "In this case, if a person was vaccinated, they could avoid getting infected with the virus. It would allow a return to normal economic activity and reduce unemployment" (Protecting the Economy). Individuals in the control group received no informational content. Respondents in all groups were then asked "If a vaccine against COVID-19 was available in the next few months, would you agree to be vaccinated?", with possible answers ranging from 0 (not at all likely) to 10 (extremely likely). In the June/July 2021 survey, the same individuals were asked whether they had received at least one shot of a COVID-19 vaccine. Table S8 show that the personal characteristics of the survey participants across the four experimental treatments and the control group are balanced.

Figure 4 (upper left panel) and Table S9 (column 1) show that the altruistic messages about Protecting Others, Protecting Health, and Protecting the Economy have a positive and significant impact on individual intentions elicited in the December 2020 survey, immediately after the treatments. These impacts are sizable: 2.2 percentage points (significant at the 10% level), 3.0

percentage points (significant at the 5% level), and 3.8 percentage points (significant at the 1% level) respectively, which correspond to 3.5%, 4.8%, and 6.1% of the mean in the control group. Interestingly, the effect of the Self-protection message, while positive, is lower than these three effects, and it is the only one that is not statistically significant. A possible concern with responses on vaccination intentions, which are obtained immediately after the treatments, is social desirability bias. Individuals may over-report their vaccination intentions in order to comply with social norms after receiving treatments that highlighted the importance of getting vaccinated.

We now turn to the effects on vaccination, as reported six months later, in the June/July 2021 wave. In this case, the social desirability bias is less likely to occur, both because the informational treatments were received six months earlier and because individuals are asked to report their actual behavior, rather than their intentions. Hence, misreporting about actual vaccination amounts to telling a clear lie. Strikingly, the persuasive effects of the altruistic messages persisted in the following months, translating in a higher probability of the recipients actually getting vaccinated (see Figure 4, upper right panel and Table S9, column 2). The effects on vaccination rates are of similar magnitudes as the effects on vaccination intentions: 2.6 percentage points for Protecting Others (significant at the 10% level), 3.8 percentage points for Protecting Health (significant at the 5% level), and 2.9 percentage points for Protecting the Economy (significant at the 10% level), which account for 3.9%, 5.7%, and 4.3% of the mean in the control group. By contrast, the effect of Self-protection is once again small and not significant. Results displayed in the lower panels of Figure 4 (and in Table S9, columns 3-5) show that the altruistic messages have differential effects across countries. The message about Protecting Health is most effective in the EU countries, whereas the messages about Protecting Others and particularly about Protecting the Economy are more impactful in the U.K. and U.S.

These messages also help reducing anti-vax intentions and convincing individuals expressing such intentions to get vaccinated. Figure S2 (upper left panel) and Table S9 (column 6) show that being

exposed to one of the altruistic messages (Protecting Others, Protecting Health, or Protecting the Economy) reduces the probability of the respondent reporting anti-vax intentions by 3.0 to 5.0 percentage points (12.6% to 20.9% of the mean in the control group). The other panels in Figure S2 and columns 7-10 in Table S9 show the results of our treatments on the actual vaccination behavior of the subsample of individuals who had reported anti-vax intentions in the first survey. This group of individuals may be endogenously selected, since, as reported in the upper left panel of Figure S2, the number of anti-vax individuals is lower in the treatment groups. In fact, we should expect people reporting anti-vax intentions, despite receiving treatments promoting vaccination, to have a lower predisposition to get vaccinated than anti-vax individuals in the control group. Therefore, concerns that the subsample of anti-vax individuals may be endogenous should work *against* us finding a positive treatment effect on their vaccination rate. On average, we do not find evidence of the treatments inducing people, who stated anti-vax intentions in the December 2020 survey, to get vaccinated (Figure S2, upper right panel, and Table S9, column 7). Due to the endogenous sample concerns, this point estimate is likely to represent a lower bound on the true effect. However, this average effect conceals important differences across countries. In fact, consistently with the previous results on vaccination rates, we find that, in the EU countries (Figure S.2, lower left panel, and Table S9, column 8), Protecting Health is effective in increasing the vaccination rate by 8.3 percentage points (16.6% of the mean in the control group), while in the U.K. and U.S. (Figure S.2, lower right panel, and Table S9, column 9), Protecting the Economy has a positive, yet not statistically significant effect – possibly due to the limited number of observations.

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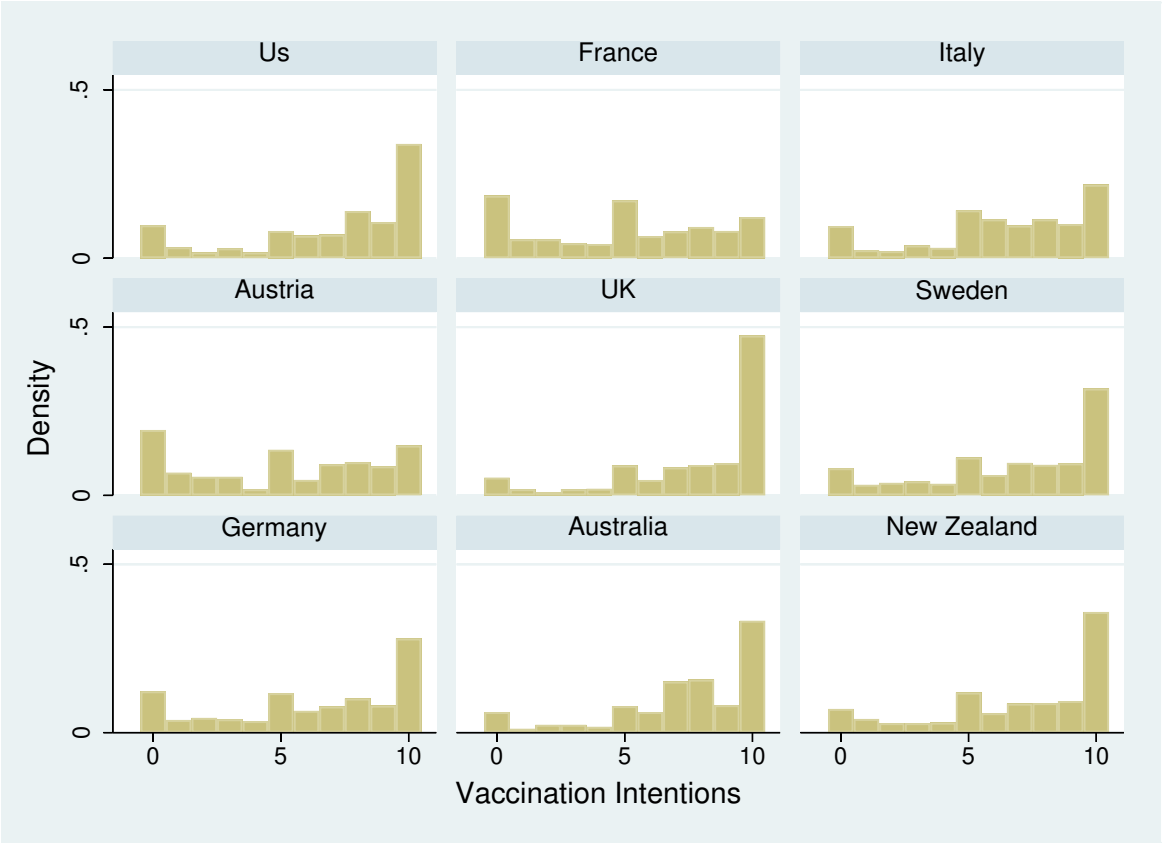
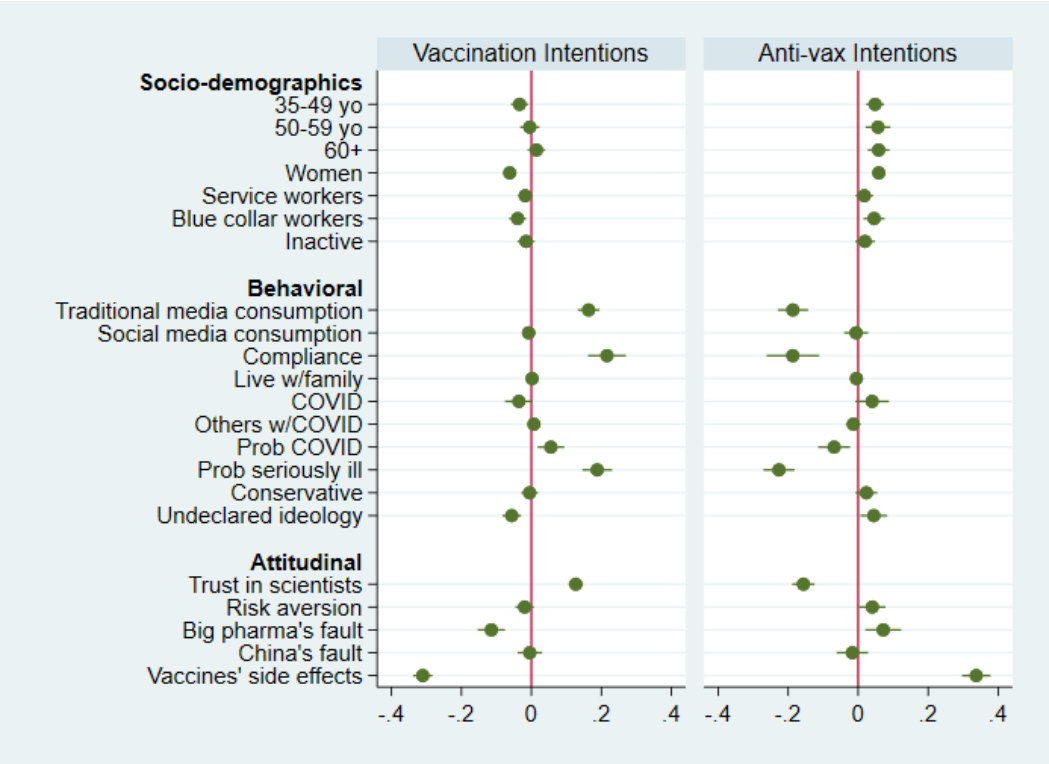
Fig. 1: Distribution of Vaccination Intentions

Distribution of vaccination intentions on a 0 (not at all likely) to 1 (extremely likely) scale, by country.



1 **Fig. 2: Determinants of Vaccination Intentions**

2



3

4 Point estimates of explanatory variables' coefficients and 95% confidence intervals, from

5 regressions using pooled data and the outcome variables "Vaccination Intentions" on the left panel

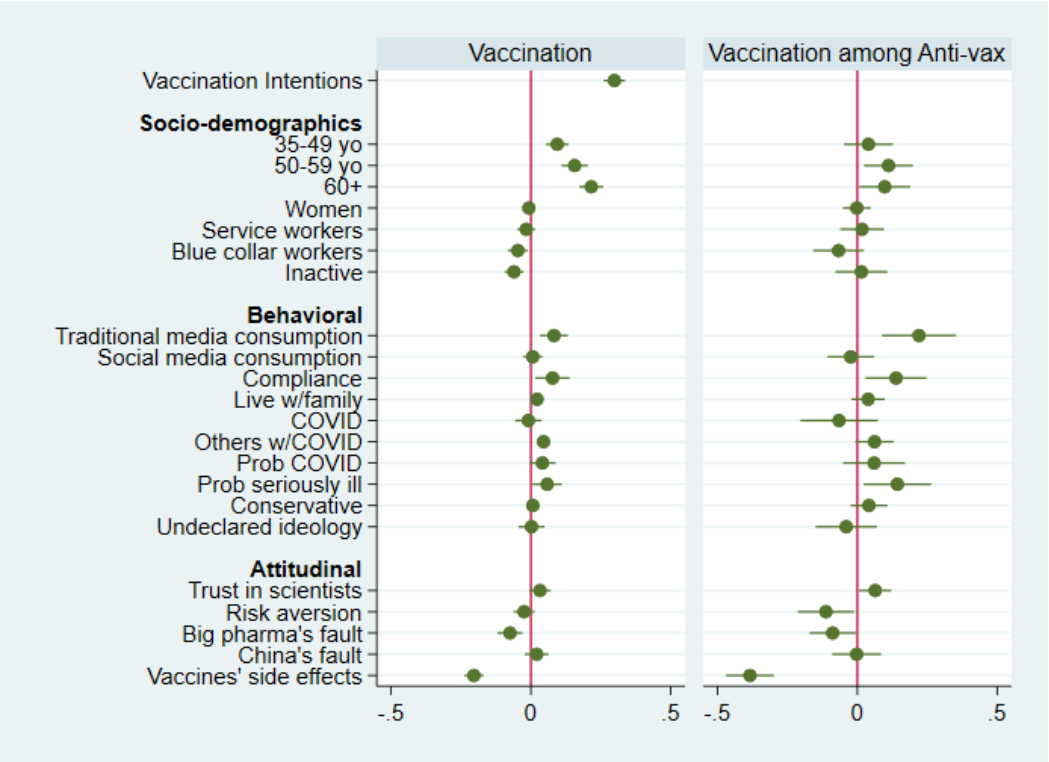
6 and "Anti-vax Intentions" on the right panel (see Table S4 and Methods in the Supplementary

7 Material).

8

1 **Fig. 3: Determinants of Vaccinations**

2



3

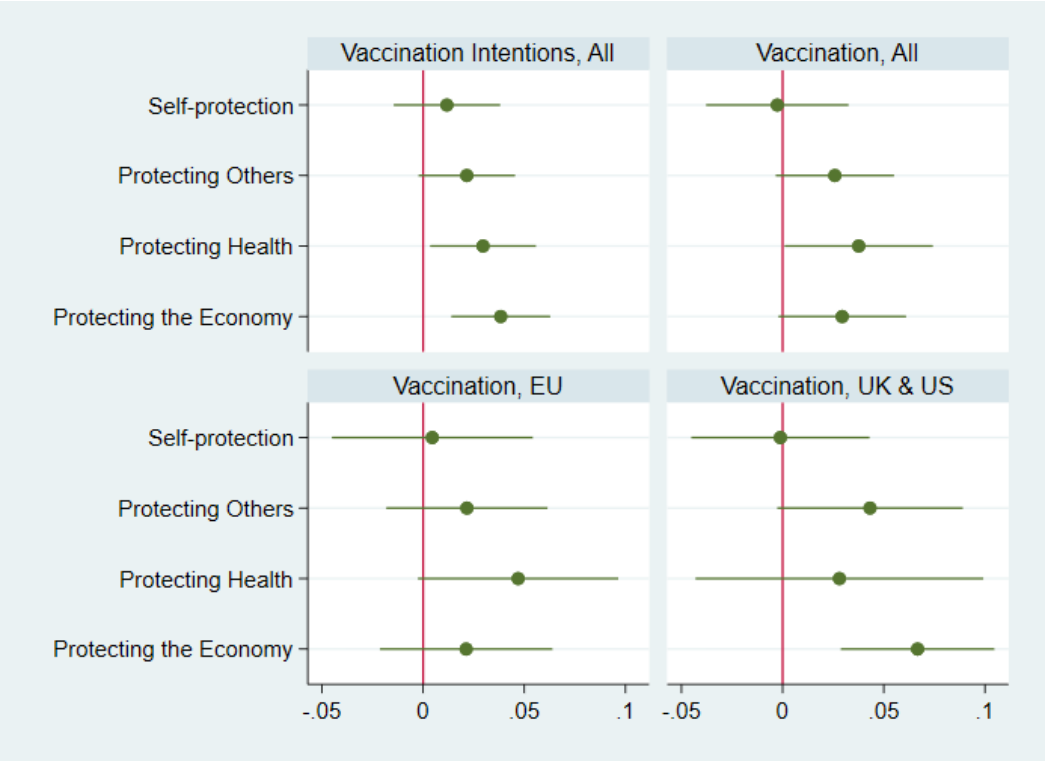
4

5 Point estimates of explanatory variables' coefficients and 95% confidence intervals, from regressions
6 using pooled data and the outcome variable "Vaccination" for the entire sample on the left panel and
7 for the sample of individuals with anti-vax intentions only on the right panel (see Tables S6 and S7
8 and Methods in the Supplementary Material).

9

10

Fig. 4: Effects of Experimental Treatments



Point estimates and 95% confidence intervals for each of the four treatments (Self-protection, Protecting Others, Protecting Health, and Protecting the Economy), from regressions using pooled data and the outcome variables "Vaccination Intentions" (upper left panel) and "Vaccination" (upper right panel and lower panels) and also controlling for country fixed effects. In the lower panels, we restrict the sample to EU countries (left) and to the U.K. and U.S. (right).

Methods

Our data[24] exploit the panel component of two survey waves conducted in December 2020 and in June/July 2021, respectively, in nine countries: Australia, Austria, France, Germany, Italy, New Zealand, Sweden, the United Kingdom (U.K.) and the United States (U.S.). Our sample includes a total of 6,379 respondents who were successfully surveyed in both waves, corresponding to 59% of the participants in the December 2020 wave.

The first wave of the survey was administered between December 2nd and December 10th 2020 (see Table S2), when most countries were experiencing the second wave of the pandemic, and new lockdown measures targeted for the holiday season, were imposed. Vaccines had just been authorized. News about their upcoming deployment were in the media, but there was still little discussion (and perhaps concern) about possible side effects. The second wave of the survey was administered between June 28th and July 13th 2021. At the end of June 2021, the percentage of people in the total population who had received at least one shot of a COVID-19 vaccine varied between 14.1% in New Zealand and 65.8% in the U.K., largely reflecting the timing and organization of the vaccination campaigns in the different countries. Most countries prioritized health care workers and elderly people and only managed to make a vaccine available to the entire adult population, including the young adults, in early summer 2021.

Both waves of the survey recorded individuals' attitudes and behavior towards COVID-19 and COVID-19 vaccination. The surveys also collected information on individuals' socio-demographic characteristics such as age (four age groups: 18-34, 35-49, 50-59, and 60+), gender, type of occupation (white collar, blue collar, service workers, and inactive), level of education (no high school, high school, and college), living arrangements (living with family, living alone and living with friends), political orientation (liberal, centrist, and conservative, corresponding respectively to 0-3, 4-6, and 7-10 on the 0-10 scale of political ideology from left to right), and level of information. We capture consumption of traditional media by averaging the responses to questions

on how frequently the individual (a) watches TV; (b) listens to the radio; and (c) reads the newspaper, with possible answers being never (corresponding to category 1), 1 or 2 days a week (2), 3 or 4 days a week (3), 5 or 6 days a week (4), or every day (5). We also use information on how much individuals use social media, on the same 1-5 scale.

The surveys collected information on respondents' experiences, expectations, and behavior on COVID-related issues. Individuals reported whether they – or their relatives or friends – had been infected with COVID-19. They were asked how likely they think they are to be infected if they return to their normal life (on a 0–10 scale) and how likely they think they are to be seriously ill if infected with COVID-19 (on a 0–10 scale). Moreover, individuals reported their level of risk aversion, by answering how difficult it is for them to accept health risks (on a 0–10 scale). The December 2020 wave also collected information about individuals' compliance with several COVID-19 related health and social distancing rules, which were in place (or about to be reintroduced) in most countries in our sample, such as coughing into one's elbow, stopping hugging or greeting, avoiding crowded places, and wearing face masks.

To measure confidence towards COVID-19 vaccines, questions were asked on trust in scientists, on elements of conspiracy theories, and on the COVID-19 vaccine trial procedure. In both waves, respondents were asked how much they trust scientists (on a 1–4 scale, from "not at all" to "completely") and how much they believe the following two statements to be true, on a 1-10 scale (from completely unlikely to very likely): (i) "The virus has been created by large corporations because some of them can directly profit from it" and (ii) "The virus was created by China to increase its power in the world." In the second wave, on a 1-10 scale (from completely unlikely to very likely), respondents were asked whether they believe that, due to the expedition of clinical trials, the possible negative consequences of COVID-19 vaccines were not fully analyzed.

All predetermined variables are well-balanced: out of 104 coefficients, four are significant at the 5% level and eight others at the 10% level, which is in line with what would be expected.

Analogously, the attrition rate from the first to the second wave is not significantly different across treatments (see Table S8, column 26).

Our outcome variables are COVID-19 vaccination intentions and actual vaccination. In both waves, individuals were asked "If a vaccine against COVID-19 was available in the next few months, would you agree to be vaccinated?", with possible answers ranging from 0 (not at all likely) to 10 (extremely likely). We then constructed a dummy variable Anti-vax intentions, for those individuals, who answered between 0 and 3 to the previous question. We also create a dummy variable for hard anti-vax (who answered 0) and soft anti-vax (who answered 1-3). In the second wave (in June/July 2021), individuals were asked whether they had already received one or two doses of a COVID-19 vaccine or none. Summary statistics for all the variables used in this study, normalized on a 0-1 range for the regression analysis, are shown in Table S3 in the Supplementary Material.

To estimate the effect of our explanatory variables on our outcomes of interest ("Vaccination Intentions", "Anti-vax Intentions", and "Vaccination"), we use OLS estimates of the following linear equation:

$$y_{ic} = \alpha + \gamma X_{ic} + \delta Z_{ic} + \rho C_{ic} + \beta F_c + \mu I_{ic} + \varepsilon_{ic},$$

where y_{ic} is an outcome of interest for individual i in country c, X_{ic} is the vector of control variables that capture the individual sociodemographic factors (age groups, education, occupation status, and gender), Z_{ic} is the vector of psycho-behavioral characteristics (risk aversion, consumption of traditional and social media, estimated probability of being infected, estimated probability of being serious ill if infected, whether the respondent had COVID, whether a friend or relative had COVID, and political ideology), C_{ic} is the vector of variables capturing confidence in COVID-19 vaccines (COVID-19 was created by large corporations or by China, trust in scientists,

belief that there was not enough time to study the vaccines' side effects), I_{ic} is the variable capturing Vaccination Intentions, which is used when the outcome variable is "Vaccination", F_c are country fixed effects and ε_{ic} is the error term. Standard errors are clustered at the region-country level. All explanatory variables are measured in December 2020 in the first wave, except the belief that there was not enough time to study the vaccines' side effects, which was only asked in the June/July 2021 wave. This is to avoid that some perceptions (on COVID or on the vaccines) that we want to study as a determinant of the vaccination decision may actually be affected by the vaccination experience itself.

Results using this specification are reported in Figures 2 and 3 and in Tables S4 to S7.

Figure 2 (left panel) displays the point estimates from a regression of the outcome variable "Vaccination Intentions" on the entire set of explanatory variables, using the full sample. These estimates are also reported in Table S4 (column 1), while columns 2 to 4 report the results for three geographical subsets: EU countries, the U.K. and U.S., and Australia and New Zealand.

Figure 2 (right panel) displays the point estimates from a regression of the outcome variable "Anti-vax Intentions" on the entire set of explanatory variables, using the full sample. These estimates are also reported in Table S5 (column 1), while columns 4 to 6 report the results for three geographical subsets: EU countries, the U.K. and U.S., and Australia and New Zealand. Columns 2 and 3 report the results for two additional outcomes, using the full sample: "Hard Anti-vax Intentions" and "Soft Anti-vax Intentions".

Figure 3 (left panel) displays the point estimates from a regression of the outcome variable "Vaccination" on the entire set of explanatory variables and on vaccination intentions, using the full sample. These estimates are also reported in Table S6 (column 1), while columns 2 to 4 report the

results for three geographical subsets: EU countries, the U.K. and U.S., and Australia and New Zealand.

Finally, Figure 3 (right panel) displays the point estimates from a regression of the outcome variable "Vaccination" on the entire set of explanatory variables, for the sample of individuals with Anti-vax intentions only. These estimates are also reported in Table S7 (column 1), while columns 2 to 4 report the results for three geographical subsets: EU countries, the U.K. and U.S., and Australia and New Zealand.

To estimate the impact of our informational treatments on COVID-19 vaccination, we run the following linear equation:

$$y_{ic} = \alpha + \mu E_{ic} + \beta F_c + \varepsilon_{ic},$$

where y_{ic} is the outcome variable ("Vaccination Intentions", "Anti-vax Intentions", and "Vaccination"), E_{ic} is the vector that captures the four informational treatments, F_c are country fixed effects, and ε_{ic} is the error term. Standard errors are clustered at the region-country level.

Results of this specification are reported in Figures 4 and S2 and in Tables S8 and S9.

Table S8 reports the balance tests for the personal characteristics of the survey participants across the four experimental treatments. They represent the results of separate linear regression of the covariates in the vectors X_{ic}, Z_{ic}, and C_{ic} on the four treatments (Self-protection, Protecting Others, Protecting Health, and Protecting the Economy).

Figure 4 displays the point estimates from regressions of the outcome variables “Vaccination Intentions” (upper left panel) and “Vaccination” (upper right panel and lower panels) on the four treatments (Self-protection, Protecting Others, Protecting Health, and Protecting the Economy) and on country fixed effects. We use the full sample in the upper panels and restrict the sample to EU countries and to the U.K. and U.S. in the lower panels. These results as well as the results for Australia and New Zealand are also reported in Table S9 (columns 1-5).

Figure S2 displays the point estimates from regressions of the outcome variables “Anti-vax Intentions” (upper left panel) and “Vaccination” (upper right panel and lower panels), on the four treatments (Self-protection, Protecting Others, Protecting Health, and Protecting the Economy) and on country fixed effects. We use the full sample in the upper left panel, the sample of individuals with anti-vax intentions in the upper right panel, and restrict the sample to individuals with anti-vax intentions in EU countries and in the U.K. and U.S. in the lower panels. These results as well as the results for individuals with anti-vax intentions in Australia and New Zealand are also reported in Table S9 (columns 6-10).

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Competing interests: Authors declare no competing interests;

Data and Materials availability: The data description is the paper and in supplementary materials. All data, code, and materials used in the analysis will be made available to the reviewers at any time, and to the general public in case of acceptance.

Supplementary Materials:

Fig. S1: Vaccination Rate by Initial Vaccination Intentions

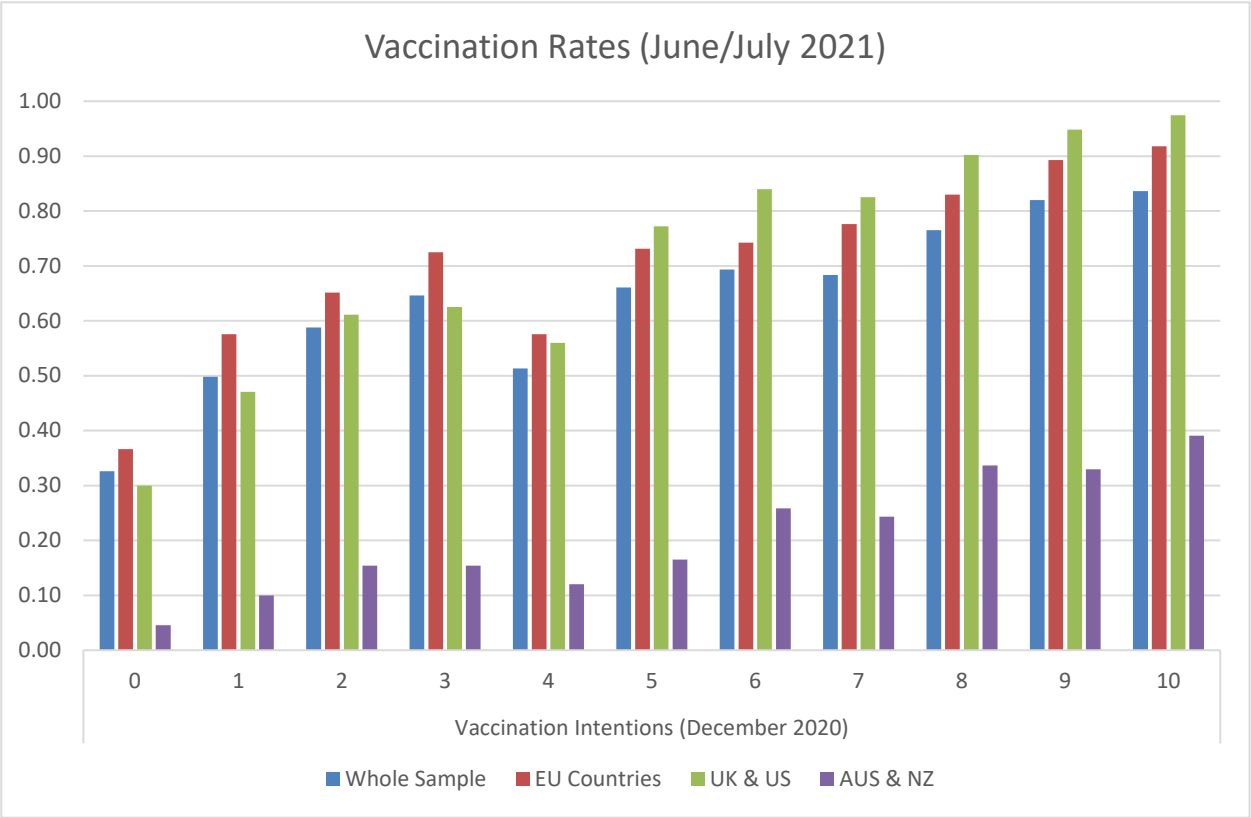
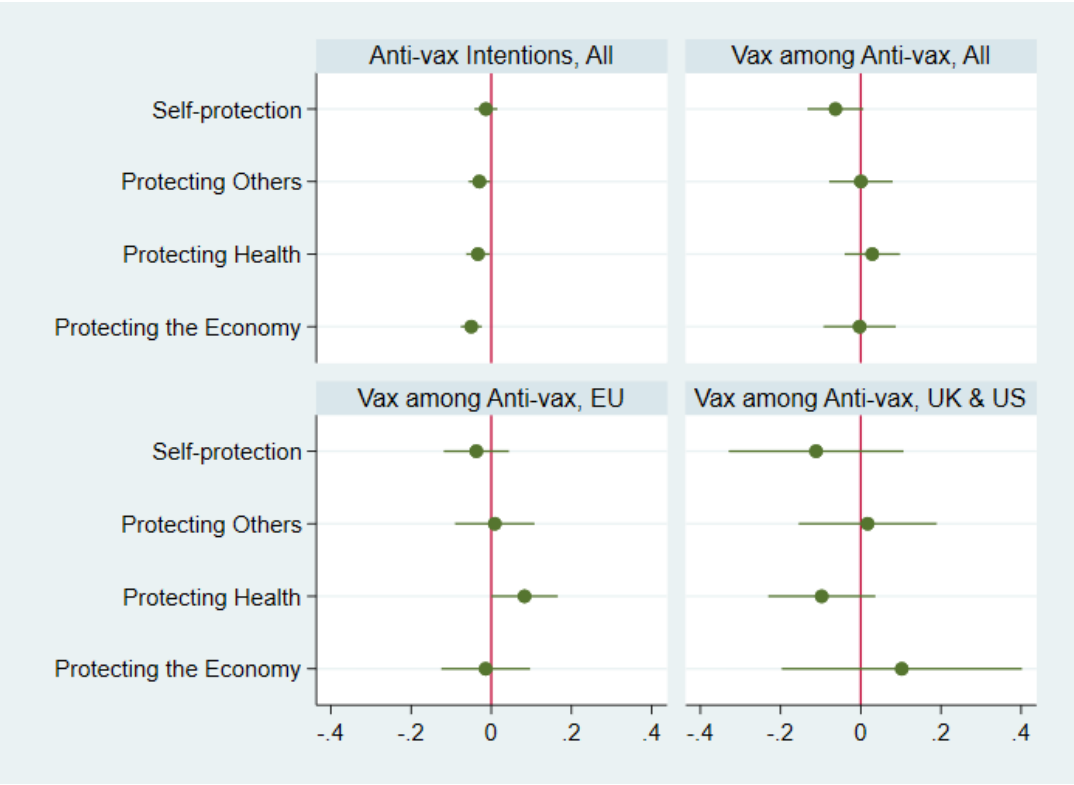


Fig. S2: Effects of Experimental Treatments among Anti-vax



Point estimates and 95% confidence intervals for each of the four treatments (Self-protection, Protecting Others, Protecting Health, and Protecting the Economy), from regressions using pooled data and the outcome variables "Anti-vax" (upper left panel) and "Vaccination" (other panels) and also controlling for country fixed effects. We restrict the sample to individuals with Anti-vax intentions (upper right panel), individuals with Anti-vax intentions in EU countries (lower left panel) and individuals with Anti-vax intentions in the U.K. and U.S. (lower right panel).

1 **Table S1.** Mortality and Vaccination Statistics

	Mortality Rate	Vaccination Rate	Vaccination Starting Date	Open-to-all-adult Date	Groups with Vaccination Mandate
Australia	3.6	23.7%	February 2021	August 2021	Healthcare workers; 70+; 40+.
Austria	68.5	53.2%	January 2021	May 2021	Healthcare staff & 80+; selected workers & 65+.
France	93.6	50.8%	December 2020	June 2021	Care givers 50+; 75+; 65+; 50+ & with co-morbidities.
Germany	36.1	55.3%	December 2020	June 2021	Medical personnel & 80+; 70+ & with preconditions; 60+.
Italy	118.5	57%	December 2020	June 2021	Healthcare workers & 80+; 70+; 60+ & with co-morbidities.
New Zealand	0.5	14.1%	February 2021	July 2021	Healthcare workers; 65+ & with preconditions.
Sweden	81.3	48.5%	December 2020	July 2021	Healthcare workers; 65+; people with preconditions, 55+.
U.K.	106.5	65.8%	December 2020	February 2021	Healthcare workers & 50+.
U.S.	101.5	54.7%	December 2020	April 2021	

2 Note: Mortality rates measure deaths per 100,000 inhabitants on 28 December 2020, from
3 https://coronavirus.jhu.edu/data/mortality. Vaccination rates are the ratio of people who received at
4 least one vaccination over the total population on 30 June 2021, from
5 https://ourworldindata.org/covid-vaccinations.
6
7
8
9

1 **Table S2.** Dates of the Survey's First and Second Waves

	Dates of the Survey's First Wave	Dates of the Survey's Second Wave	Number of Respondents Surveyed in Both Waves
Australia	4-10 December 2020	June 28-July 8, 2021	343
Austria	5-9 December 2020	July 1-July 13, 2021	324
France	2-5 December 2020	June 29-July 8, 2021	850
Germany	5-9 December 2020	June 30-July 7, 2021	1481
Italy	5-7 December 2020	June 29-July 6, 2021	710
New Zealand	5-9 December 2020	June 29-July 10, 2021	639
Sweden	5-9 December 2020	June 30-July 8, 2021	693
U.K.	5-8 December 2020	June 29-July 9, 2021	697
U.S.	4-11 December 2020	June 28-July 8, 2021	642

2

1 **Table S3.** Summary Statistics

VARIABLES	Obs	Mean	Std. dev.	Min	Max
18-34 yo	6379	0.17	0.38	0	1
35-49 yo	6379	0.27	0.44	0	1
50-59 yo	6379	0.19	0.4	0	1
65+	6379	0.36	0.48	0	1
Women	6379	0.49	0.5	0	1
White collars workers	6379	0.17	0.37	0	1
Service workers	6379	0.31	0.46	0	1
Blue collars workers	6379	0.14	0.35	0	1
Inactive	6379	0.38	0.49	0	1
High school	6379	0.52	0.5	0	1
College	6379	0.39	0.49	0	1
Media Info	6379	0.58	0.22	0,2	1
Social Info	6371	0.51	0.32	0,2	1
Compliance	6379	0.74	0.22	0	1
Live w/family	6379	0.64	0.48	0	1
COVID	6379	0.04	0.2	0	1
Others w/COVID	6379	0.24	0.43	0	1
Prob COVID	6379	0.52	0.29	0	1
Prob Seriously Ill	6379	0.55	0.28	0	1
Live w/Family	6379	0.64	0.48	0	1
Conservative	6379	0.24	0.43	0	1
Centrist	6379	0.45	0.5	0	1
Liberal	6379	0.22	0.41	0	1
Undeclared Ideology	6379	0.09	0.28	0	1
Trust in Scientists	6378	0.84	0.37	0	1
Risk Aversion	6252	0.57	0.26	0	1
Big Pharma's Fault	6275	0.26	0.32	0	1
China's Fault	6253	0.32	0.34	0	1
Vaccines' Side Effects	6379	0.51	0.31	0	1
Vaccination Intentions	6379	0.65	0.34	0	1
Self-protection	6379	0.2	0.4	0	1
Protecting Others	6379	0.2	0.4	0	1
Protecting Own Country	6379	0.2	0.4	0	1
Protecting the Economy	6379	0.2	0.4	0	1

2

1 **Table S4.** Determinants of Vaccination Intentions

VARIABLES	(1) All	(2) EU	(3) UK & US	(4) AUS & NZ
35-49 yo	-0.034***	-0.046***	-0.019	0.006
	[0.012]	[0.015]	[0.029]	[0.023]
50-59 yo	-0.005	-0.004	0.025	-0.045
	[0.014]	[0.018]	[0.027]	[0.035]
60+	0.014	0.001	0.052	-0.018
	[0.013]	[0.017]	[0.031]	[0.026]
Women	-0.062***	-0.075***	-0.041**	-0.035
	[0.008]	[0.009]	[0.016]	[0.026]
High school	0.004	-0.006	0.127	0.017
	[0.016]	[0.021]	[0.110]	[0.023]
College	0.018	0.010	0.148	0.020
	[0.017]	[0.023]	[0.105]	[0.025]
Service workers	-0.018*	-0.021	-0.030*	0.024
	[0.010]	[0.014]	[0.014]	[0.023]
Blue collar workers	-0.039***	-0.042**	-0.049***	-0.008
	[0.012]	[0.019]	[0.011]	[0.031]
Inactive	-0.015	-0.009	-0.037	-0.016
	[0.012]	[0.018]	[0.025]	[0.024]
Traditional media consumption	0.164***	0.167***	0.117***	0.177***
	[0.016]	[0.020]	[0.025]	[0.045]
Social media consumption	-0.008	-0.003	-0.002	-0.035
	[0.010]	[0.012]	[0.025]	[0.024]
Compliance	0.216***	0.224***	0.340***	0.130***
	[0.027]	[0.036]	[0.059]	[0.045]
Live w/family	0.002	0.009	-0.013	-0.014
	[0.006]	[0.008]	[0.011]	[0.018]
COVID	-0.036*	-0.039	-0.018	-0.029
	[0.020]	[0.028]	[0.042]	[0.029]
Others w/COVID	0.007	0.010	0.025	-0.083**
	[0.008]	[0.009]	[0.018]	[0.038]
Prob COVID	0.056***	0.037*	0.071	0.012
	[0.019]	[0.020]	[0.042]	[0.055]
Prob seriously ill	0.188***	0.228***	0.095***	0.209***
	[0.021]	[0.027]	[0.030]	[0.036]
Conservative	-0.005	-0.021*	-0.003	0.066*
	[0.012]	[0.012]	[0.032]	[0.033]
Undeclared ideology	-0.056***	-0.058***	-0.051***	-0.068**
	[0.014]	[0.020]	[0.013]	[0.029]
Trust in scientists	0.127***	0.118***	0.175***	0.121***
	[0.010]	[0.012]	[0.030]	[0.030]
Risk aversion	-0.019	-0.007	-0.016	-0.063**
	[0.013]	[0.018]	[0.029]	[0.027]
Big pharma's fault	-0.114***	-0.116***	-0.078*	-0.134***
	[0.020]	[0.029]	[0.037]	[0.044]
China's fault	-0.004	-0.012	0.027	-0.000
	[0.018]	[0.027]	[0.025]	[0.040]
Vaccines' side effects	-0.311***	-0.304***	-0.248***	-0.398***
	[0.014]	[0.017]	[0.025]	[0.027]
Observations	6,072	3,930	1,229	913
R-squared	0.383	0.375	0.393	0.321
Country FE	Yes	Yes	Yes	Yes
Mean outcome variable	0.649	0.604	0.751	0.705

1 **Table S5.** Determinants of Anti-vax Intentions

VARIABLES	(1) Anti-vax All	(2) Hard Anti-vax All	(3) Soft Anti-vax All	(4) Anti-vax EU	(5) Anti-vax UK & US	(6) Anti-vax AUS & NZ
35-49 yo	0.048***	0.040***	0.008	0.053***	0.035	0.040
	[0.013]	[0.010]	[0.011]	[0.017]	[0.029]	[0.028]
50-59 yo	0.057***	0.049***	0.007	0.054**	0.034	0.094*
	[0.018]	[0.012]	[0.014]	[0.023]	[0.028]	[0.053]
60+	0.059***	0.051***	0.007	0.068***	0.021	0.097***
	[0.016]	[0.012]	[0.012]	[0.022]	[0.033]	[0.033]
Women	0.059***	0.024***	0.035***	0.069***	0.037**	0.044*
	[0.009]	[0.008]	[0.008]	[0.013]	[0.012]	[0.024]
High school	0.022	-0.004	0.026	0.035	-0.212	0.013
	[0.020]	[0.015]	[0.018]	[0.027]	[0.128]	[0.028]
College	0.017	-0.006	0.023	0.034	-0.224*	0.005
	[0.021]	[0.015]	[0.019]	[0.028]	[0.119]	[0.029]
Service workers	0.018	0.015	0.002	0.028	0.019	-0.024
	[0.013]	[0.010]	[0.012]	[0.018]	[0.016]	[0.028]
Blue collar workers	0.046***	0.013	0.033**	0.056**	0.040*	0.016
	[0.015]	[0.012]	[0.015]	[0.024]	[0.022]	[0.035]
Inactive	0.020	0.012	0.007	0.016	0.055**	0.015
	[0.014]	[0.009]	[0.013]	[0.021]	[0.019]	[0.032]
Traditional media consumption	-0.186***	-0.141***	-0.046**	-0.196***	-0.103**	-0.209***
	[0.022]	[0.022]	[0.021]	[0.028]	[0.035]	[0.054]
Social media consumption	-0.006	0.001	-0.007	-0.006	-0.053	0.063
	[0.017]	[0.010]	[0.018]	[0.021]	[0.035]	[0.045]
Compliance	-0.187***	-0.183***	-0.004	-0.183***	-0.288***	-0.164***
	[0.038]	[0.031]	[0.021]	[0.057]	[0.055]	[0.048]
Live w/family	-0.005	-0.000	-0.004	-0.010	0.001	0.007
	[0.008]	[0.008]	[0.006]	[0.011]	[0.014]	[0.024]
COVID	0.040	0.019	0.021	0.038	0.043	0.022
	[0.024]	[0.023]	[0.017]	[0.034]	[0.048]	[0.041]
Others w/COVID	-0.014	-0.000	-0.013	-0.018	-0.022	0.044
	[0.011]	[0.008]	[0.008]	[0.013]	[0.017]	[0.044]
Prob COVID	-0.069***	-0.069***	0.000	-0.047*	-0.042	-0.059
	[0.023]	[0.018]	[0.016]	[0.028]	[0.051]	[0.060]
Prob seriously ill	-0.226***	-0.121***	-0.105***	-0.276***	-0.152***	-0.204***
	[0.022]	[0.019]	[0.017]	[0.030]	[0.038]	[0.040]
Conservative	0.024	0.037***	-0.014	0.037**	0.035	-0.052
	[0.016]	[0.011]	[0.010]	[0.018]	[0.032]	[0.045]
Undeclared ideology	0.045**	0.023	0.022	0.040	0.055**	0.049
	[0.019]	[0.014]	[0.015]	[0.029]	[0.020]	[0.040]
Trust in scientists	-0.156***	-0.132***	-0.024*	-0.152***	-0.203***	-0.128**
	[0.016]	[0.013]	[0.012]	[0.019]	[0.041]	[0.056]
Risk aversion	0.040**	0.024	0.016	0.027	0.019	0.115***
	[0.019]	[0.015]	[0.015]	[0.027]	[0.040]	[0.038]
Big pharma's fault	0.072***	0.080***	-0.008	0.073*	0.034	0.113**
	[0.026]	[0.020]	[0.017]	[0.039]	[0.045]	[0.052]
China's fault	-0.017	-0.045**	0.028*	-0.021	-0.026	-0.008
	[0.023]	[0.019]	[0.015]	[0.036]	[0.027]	[0.043]
Vaccines' side effects	0.337***	0.222***	0.116***	0.355***	0.232***	0.391***
	[0.020]	[0.016]	[0.017]	[0.026]	[0.036]	[0.038]
Observations	6,072	6,072	6,072	3,930	1,229	913
R-squared	0.261	0.228	0.052	0.253	0.294	0.234
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Mean outcome variable	0.212	0.107	0.105	0.250	0.128	0.158

1 **Table S6.** Determinants of Vaccinations

VARIABLES	(1) All	(2) EU	(3) UK & US	(4) AS & NZ
Vaccination Intentions	0.298***	0.302***	0.364***	0.175***
	[0.019]	[0.024]	[0.036]	[0.040]
35-49 yo	0.094***	0.103***	0.084***	0.066
	[0.020]	[0.029]	[0.022]	[0.041]
50-59 yo	0.156***	0.174***	0.119***	0.134**
	[0.024]	[0.032]	[0.020]	[0.062]
60+	0.216***	0.230***	0.115***	0.293***
	[0.021]	[0.026]	[0.027]	[0.072]
Women	-0.007	0.003	-0.029*	-0.010
	[0.010]	[0.012]	[0.014]	[0.025]
High school	0.006	0.013	0.145	0.009
	[0.021]	[0.028]	[0.173]	[0.033]
College	0.019	0.031	0.169	-0.009
	[0.022]	[0.029]	[0.160]	[0.041]
Service workers	-0.017	-0.001	-0.013	-0.090**
	[0.015]	[0.023]	[0.020]	[0.035]
Blue collar workers	-0.047**	-0.048*	-0.027	-0.096***
	[0.018]	[0.027]	[0.023]	[0.032]
Inactive	-0.060***	-0.047*	-0.077***	-0.142***
	[0.017]	[0.024]	[0.023]	[0.045]
Traditional media consumption	0.083***	0.087***	0.043	0.079
	[0.025]	[0.030]	[0.048]	[0.079]
Social media consumption	0.007	0.001	-0.014	0.070
	[0.018]	[0.022]	[0.028]	[0.045]
Compliance	0.078**	0.084**	0.131**	0.018
	[0.031]	[0.038]	[0.045]	[0.060]
Live w/family	0.022**	0.027**	0.019	-0.013
	[0.010]	[0.013]	[0.019]	[0.029]
COVID	-0.009	-0.046*	0.020	0.119**
	[0.024]	[0.027]	[0.039]	[0.054]
Others w/COVID	0.045***	0.059***	0.018	-0.083***
	[0.012]	[0.015]	[0.017]	[0.028]
Prob COVID	0.042*	0.003	0.075**	-0.015
	[0.023]	[0.034]	[0.031]	[0.077]
Prob seriously ill	0.058**	0.099**	0.025	0.013
	[0.026]	[0.038]	[0.025]	[0.061]
Conservative	0.007	0.013	-0.051***	0.074*
	[0.012]	[0.013]	[0.014]	[0.039]
Undeclared ideology	0.002	-0.025	0.061**	0.025
	[0.023]	[0.033]	[0.024]	[0.045]
Trust in scientists	0.033*	0.008	0.089***	0.076**
	[0.020]	[0.025]	[0.023]	[0.035]
Risk aversion	-0.024	-0.035	-0.023	0.043
	[0.019]	[0.026]	[0.032]	[0.036]
Big pharma's fault	-0.074***	-0.097***	-0.052	-0.014
	[0.022]	[0.029]	[0.033]	[0.062]
China's fault	0.021	0.034	0.049	-0.031
	[0.021]	[0.028]	[0.043]	[0.046]
Vaccines' side effects	-0.204***	-0.220***	-0.175***	-0.157***
	[0.017]	[0.019]	[0.037]	[0.053]
Observations	6,072	3,930	1,229	913

R-squared	0.349	0.238	0.344	0.167
Country FE	Yes	Yes	Yes	Yes
Mean outcome variable	0.693	0.741	0.854	0.269

1 **Table S7.** Determinants of Vaccinations among Anti-vax

VARIABLES	(1) All	(2) EU	(3) UK & US	(4) AUS & NZ
35-49 yo	0.040	-0.014	0.323***	0.056
	[0.044]	[0.052]	[0.078]	[0.056]
50-59 yo	0.111**	0.092*	0.256*	0.130
	[0.044]	[0.051]	[0.132]	[0.079]
60+	0.098**	0.063	0.220*	0.206***
	[0.046]	[0.055]	[0.110]	[0.065]
Women	-0.002	0.015	-0.001	-0.062
	[0.025]	[0.026]	[0.075]	[0.061]
High school	0.038	0.041	0.084	0.083**
	[0.060]	[0.080]	[0.187]	[0.031]
College	0.021	0.020	0.117	0.064
	[0.063]	[0.085]	[0.162]	[0.048]
Service workers	0.017	0.046	-0.068	-0.052
	[0.040]	[0.049]	[0.089]	[0.100]
Blue collar workers	-0.067	-0.064	-0.189	-0.073
	[0.046]	[0.059]	[0.116]	[0.100]
Inactive	0.014	0.047	-0.210*	-0.071
	[0.047]	[0.057]	[0.101]	[0.130]
Traditional media consumption	0.221***	0.234***	0.474*	-0.044
	[0.067]	[0.074]	[0.260]	[0.178]
Social media consumption	-0.023	-0.020	-0.096	0.035
	[0.042]	[0.049]	[0.137]	[0.112]
Compliance	0.139**	0.172***	0.205	-0.042
	[0.055]	[0.061]	[0.135]	[0.105]
Live w/family	0.039	0.043	0.081	-0.014
	[0.030]	[0.036]	[0.067]	[0.052]
COVID	-0.065	-0.077	-0.192	0.176
	[0.070]	[0.081]	[0.169]	[0.144]
Others w/COVID	0.061*	0.056	0.068	-0.036
	[0.035]	[0.036]	[0.143]	[0.101]
Prob COVID	0.060	-0.015	0.147	0.128
	[0.056]	[0.074]	[0.148]	[0.074]
Prob seriously ill	0.143**	0.199**	0.150	0.066
	[0.061]	[0.089]	[0.103]	[0.047]
Conservative	0.042	0.052	-0.023	-0.003
	[0.033]	[0.041]	[0.079]	[0.085]
Undeclared ideology	-0.040	-0.137**	0.263	0.105
	[0.055]	[0.060]	[0.165]	[0.070]
Trust in scientists	0.064**	0.039	0.119	0.113**
	[0.029]	[0.034]	[0.101]	[0.042]
Risk aversion	-0.112**	-0.123*	-0.123	-0.048
	[0.050]	[0.063]	[0.127]	[0.088]
Big pharma's fault	-0.088**	-0.084	-0.125	0.039
	[0.042]	[0.051]	[0.083]	[0.070]
China's fault	-0.002	0.018	0.064	-0.225***
	[0.044]	[0.052]	[0.162]	[0.068]
Vaccines' side effects	-0.384***	-0.431***	-0.302**	-0.082
	[0.043]	[0.049]	[0.126]	[0.097]
Observations	1,285	984	157	144
R-squared	0.219	0.178	0.338	0.221
Country FE	Yes	Yes	Yes	Yes
Mean outcome variable	0.450	0.503	0.439	0.0972

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Table S8: Balance Tests (Panel A)

VARIABLES	(1) 18-34 yo	(2) 35-49 yo	(3) 50-59 yo	(4) 60+	(5) Women	(6) High school	(7) College	(8) Service workers	(9) Blue collar workers	(10) Inactive	(11) Traditional media consumption	(12) Social media consumption	(13) Compliance
Self-protection	0.036**	0.025	0.018	-0.008	0.005	0.021	-0.028	-0.000	-0.017	0.027	-0.006	0.015	0.011
	[0.017]	[0.018]	[0.017]	[0.018]	[0.019]	[0.020]	[0.018]	[0.022]	[0.015]	[0.021]	[0.007]	[0.013]	[0.010]
Protecting Others	-0.023	0.001	0.019	0.003	0.006	0.011	-0.002	-0.006	-0.016	0.008	-0.007	0.013	0.007
	[0.016]	[0.016]	[0.013]	[0.019]	[0.019]	[0.018]	[0.016]	[0.023]	[0.015]	[0.018]	[0.009]	[0.012]	[0.008]
Protecting Health	-0.026	0.009	0.003	0.014	0.003	0.022	-0.000	-0.007	-0.026*	0.028	-0.002	-0.001	0.014**
	[0.019]	[0.018]	[0.016]	[0.018]	[0.022]	[0.021]	[0.018]	[0.023]	[0.016]	[0.019]	[0.008]	[0.012]	[0.007]
Protecting the Economy	-0.032*	0.003	-0.006	0.035*	-0.031*	-0.021	0.012	-0.038*	-0.016	0.041**	0.005	0.006	0.005
	[0.016]	[0.016]	[0.014]	[0.020]	[0.017]	[0.020]	[0.020]	[0.020]	[0.014]	[0.020]	[0.009]	[0.010]	[0.010]
Observations	6,379	6,379	6,379	6,379	6,379	6,379	6,379	6,379	6,379	6,379	6,379	6,371	6,379
R-squared	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000
Mean outcome variable	0.173	0.268	0.195	0.364	0.487	0.519	0.389	0.311	0.142	0.381	0.583	0.508	0.742

Table S8: Balance Tests (Panel B)

VARIABLES	(14) Live w/family	(15) COVID	(16) Others w/COVID	(17) Prob COVID	(18) Prob seriously ill	(19) Conservative	(20) Undeclared ideology	(21) Trust in scientists	(22) Risk aversion	(23) Big pharma's fault	(24) China's fault	(25) Vaccines' side effects	(26) Attrition
Self-protection	-0.025	-0.000	-0.022	0.011	-0.005	-0.018	0.008	0.022	0.005	-0.010	-0.011	-0.004	-0.014
	[0.018]	[0.008]	[0.019]	[0.010]	[0.010]	[0.013]	[0.010]	[0.015]	[0.009]	[0.016]	[0.013]	[0.013]	[0.014]
Protecting Others	-0.019	0.002	-0.006	0.017	0.006	-0.006	0.020*	0.034**	0.002	0.005	0.004	-0.002	-0.018
	[0.018]	[0.007]	[0.016]	[0.011]	[0.009]	[0.014]	[0.011]	[0.015]	[0.009]	[0.013]	[0.013]	[0.010]	[0.013]
Protecting Health	0.009	-0.003	0.004	0.005	0.001	0.003	0.002	0.013	0.001	-0.008	0.011	-0.021*	0.002
	[0.019]	[0.007]	[0.017]	[0.012]	[0.011]	[0.015]	[0.011]	[0.018]	[0.011]	[0.013]	[0.012]	[0.011]	[0.016]
Protecting the Economy	-0.024	-0.005	-0.022	0.010	0.011	-0.007	0.001	0.017	-0.016*	-0.016	0.003	-0.007	-0.007
	[0.019]	[0.006]	[0.017]	[0.010]	[0.010]	[0.017]	[0.009]	[0.014]	[0.009]	[0.013]	[0.012]	[0.014]	[0.013]
Observations	6,379	6,379	6,379	6,379	6,379	6,379	6,379	6,378	6,252	6,275	6,253	6,379	10,895
R-squared	0.001	0.000	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.000	0.001	0.000
Mean outcome variable	0.640	0.0409	0.238	0.520	0.549	0.242	0.0883	0.836	0.573	0.264	0.319	0.506	0.414

Table S9: Effects of Experimental Treatments

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
							Among Individuals with Anti-vax Intentions			
VARIABLES	Intentions all	Vaccination all	Vaccination EU	Vaccination UK & US	Vaccination AUS & NZ	Anti-vax Intentions all	Vaccination all	Vaccination EU	Vaccination UK & US	Vaccination AUS & NZ
Self-protection	0.012	-0.003	0.005	-0.001	-0.033	-0.013	-0.063*	-0.037	-0.111	-0.178**
	[0.013]	[0.018]	[0.025]	[0.020]	[0.043]	[0.014]	[0.035]	[0.041]	[0.098]	[0.063]
Protecting Others	0.022*	0.026*	0.022	0.043*	0.020	-0.030**	0.000	0.009	0.017	-0.070
	[0.012]	[0.015]	[0.020]	[0.021]	[0.041]	[0.014]	[0.040]	[0.049]	[0.077]	[0.089]
Protecting Health	0.030**	0.038**	0.047*	0.028	0.012	-0.033**	0.029	0.083**	-0.097	-0.179**
	[0.013]	[0.018]	[0.025]	[0.032]	[0.044]	[0.015]	[0.035]	[0.041]	[0.060]	[0.063]
Protecting the Economy	0.038***	0.029*	0.021	0.067***	0.014	-0.050***	-0.003	-0.014	0.102	-0.013
	[0.012]	[0.016]	[0.021]	[0.017]	[0.049]	[0.013]	[0.045]	[0.055]	[0.134]	[0.056]
Observations	6,379	6,379	4,058	1,339	982	6,379	1,367	1,035	184	148
R-squared	0.062	0.161	0.003	0.031	0.026	0.038	0.076	0.011	0.045	0.071
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mean outcome variable	0.647	0.691	0.741	0.843	0.280	0.214	0.450	0.506	0.418	0.0946
Mean in the control group	0.626	0.671	0.721	0.816	0.274	0.239	0.455	0.500	0.442	0.176