Established in 1871

Swiss Medical Weekly

Formerly: Schweizerische Medizinische Wochenschrift

An open access, online journal • www.smw.ch

Original article | Published 29 November 2021 | doi:10.4414/SMW.2021.w30079
Cite this as: Swiss Med Wkly. 2021;151:w30079

Perceptions of vaccination certificates among the general population in Geneva, Switzerland

Mayssam Nehme[a], Helene Baysson[b], Nick Pullen[b], Ania Wisniak[bc], Francesco Pennacchio[b], María-Eugenia Zaballa[b], Vanessa Fargnoli[d], Laurent Kaiser[efg], Samia Hurst[h], Claudine Burton-Jeangros[d], Silvia Stringhini[bij*], Idris Guessous[ai*], Specchio-COVID19 study group

[a] Division and Department of Primary Care Medicine, Geneva University Hospitals, Geneva, Switzerland
[b] Unit of Population Epidemiology, Division of Primary Care Medicine, Geneva University Hospitals, Geneva, Switzerland
[c] Institute of Global Health, Faculty of Medicine, University of Geneva, Switzerland
[d] Institute of sociological research, University of Geneva, Switzerland
[e] Division of Laboratory Medicine, Geneva University Hospitals, Geneva, Switzerland
[f] Department of Medicine, Faculty of Medicine, University of Geneva, Switzerland
[g] Geneva Centre for Emerging Viral Diseases and Laboratory of Virology, Geneva University Hospitals, Geneva, Switzerland
[h] Institute for ethics, history and the humanities, Faculty of Medicine, University of Geneva, Switzerland
[i] Department of Health and Community Medicine, Faculty of Medicine, University of Geneva, Switzerland
[j] University Center for General Medicine and Public Health, University of Lausanne, Switzerland
[*] Co-last authors, contributed equally to this work

Summary

OBJECTIVE: This study aimed to assess the public perception of COVID-19 vaccination certificates as well as potential differences between individuals.

METHODS: Between 17 March and 1 April 2021, a self-administered online questionnaire was proposed to all persons aged 18 years and older participating in the longitudinal follow-up of SARS-CoV-2 seroprevalence studies in Geneva, Switzerland. The questionnaire covered aspects of individual and collective benefits, and allowed participants to select contexts in which vaccination certificates should be presented. Results were presented as the proportion of persons agreeing or disagreeing with the implementation of vaccination certificates, selecting specific contexts where certificates should be presented, and agreeing or disagreeing with the potential risks related to certificates. Logistic regression was used to calculate odds ratios for factors associated with certificate non-acceptance.

RESULTS: Overall, 4067 individuals completed the questionnaire (response rate 77.4%; mean age 53.3 ± standard deviation 14.4 years; 56.1% were women). About 61.0% of participants agreed or strongly agreed that a vaccination certificate was necessary in certain contexts and 21.6% believed there was no context where vaccination certificates should be presented. Contexts where a majority of participants perceived a vaccination certificate should be presented included jobs where others would be at risk of COVID-related complications (60.7%), jobs where employees would be at risk of getting infected (58.7%), or to be exempt from quarantine when travelling abroad (56.0%). Contexts where fewer individuals perceived the need for vaccination certificates to be presented were participation in large gatherings (36.9%), access to social venues (35.5%), or sharing the same workspace (21.5%). Younger age, no intent for vaccination, and not believing vaccination to be an important step in surmounting the pandemic were factors associated with certificate non-acceptance.

CONCLUSION: This large population-based study showed that the general adult population in Geneva, Switzerland, agreed with the implementation of vaccination certificates in work-related and travel-related contexts. However, this solution was perceived as unnecessary for access to large gatherings or social venues, or to share the same workspace. Differences were seen with age, sex, education, socioeconomic status, and vaccination willingness and perception, highlighting the importance of taking personal and sociodemographic variation into consideration when predicting acceptance of such certificates.

Correspondence:
Mayssam Nehme, MD
Hôpitaux Universitaires de Genève
CH-1205 Geneva
mayssam.nehme@hcuge.ch

Introduction

The COVID-19 pandemic will continue to have an impact on several dimensions of physical and mental health, as well as on social and economic parameters for years to come [1–3]. With the advent of effective vaccines, mass vaccination is recognised as a way out of the pandemic, especially when it is taken into account that any public health restrictive measures should be an adequate response to specific and demonstrable risk [4, 5]. Countries with extensive vaccination programmes have already implemented "green passes", and the European Union deployed COVID certificates [6], in an effort to resume and once again allow free movement. Switzerland's COVID certificates have been available since June 2021. COVID certificates can attest to an individual's vaccination status, a past SARS-CoV-2 in-

fection or the absence of current infection [7]. As of September 2021, COVID certificates in Switzerland are used for indoor events, discos and dance events, indoor areas of bars and restaurants, cultural sporting and recreational facilities, international travel, and large gatherings of at least 1,000 individuals [7].

Implementation is underway, but little is known about the public perception of COVID certificates. There has been conflicting evidence about the role of COVID certificates in vaccination programme uptake and as a strategy in a phased reduction of lockdown measures [8, 9]. Vaccination certificates could allow safer access to several activities, and may increase the uptake of immunisation when an incentive-based approach is considered [10, 11]. However, they could also be viewed as coercive measures creating a backlash and further increasing any pre-existing resistance to vaccination [10, 12, 13]. A recent review of the public perception of COVID certificates, their potential impact on behaviour, and the uptake of testing and vaccination reported different acceptance rates depending on context (travel, social or professional) [14]. There was little information on sociodemographic differences in most of the studies included in this review [14]. A survey addressed to 12,000 scientists revealed their overall favourable attitudes towards COVID certificates [15]. Scientists perceived immunity certificates favourably for their positive impact on public health and the economy, despite highlighting risks related to equity and equality of the implementation process. Differences were perceived among participants as US-based scholars, men and scientists with more conservative political views were overall more favourable to immunity certificates [15].

To date, there is little information about the general population-based acceptance and perception of COVID certificates. In November 2020 [16], we published results on the perception of immunity certificates, mostly in relation to natural immunity. This study aimed to evaluate the public perception of vaccination certificates as a primary outcome while assessing differences between sociodemographic groups as secondary outcome measures.

Methods

Study setting and data collection

In the spring of 2021, a self-administered online questionnaire was proposed to all persons 18 years and older participating in the longitudinal follow-up of SARS-CoV-2 seroprevalence studies in Geneva, Switzerland [17, 18]. This longitudinal follow-up is conducted via the Specchio-COVID19 platform, which allows participants to answer regular online questionnaires [19]. The Specchio-COVID19 platform launched in December 2020 follows up individuals who have participated in seroprevalence studies in the canton of Geneva. Participants were randomly selected from the general population at two time-points, first between April and June 2020, with individuals participating in a previous general health study (Bus Santé, an annual health examination survey of a sample representative of the Geneva population [17, 20]); and second between November and December 2020 with individuals randomly selected from population registries of the canton of Geneva [18].

All individuals gave consent, and the study was approved by the Cantonal Research Ethics Commission of Geneva, Switzerland (protocol numbers CER 2020–01540 and CER 2020–00881). Questions about vaccination certificates were part of a larger vaccination questionnaire (analysis submitted to *Swiss Medical Weekly*). Specific questions about vaccination certificates were elaborated based on the results of the initial questionnaire on the perception of immunity certificates [16], as well as the results of a qualitative study conducted between July and November 2020, aimed at identifying arguments for or against immunity certificates [21]. An initial invitation to complete the questionnaire was sent by e-mail on 17 March 17 with a reminder 2 weeks later. We included participants who answered between 17 March and 1 April 2021.

The questionnaire (table S1 in the appendix) was collaboratively constructed by physicians (IG, MN), epidemiologists (IG, SS, HB), sociologists (CBJ, VF), and an ethicist (SH). Two main questions were asked: (1) Select the context(s) in which a vaccination certificate should be presented (with a list of contexts); (2) What is your opinion about the following statements on the implementation of a COVID-19 vaccination certificate (with a list of statements)? The answers to the latter question were based on a five-point Likert scale with the following categories: 1 “strongly disagree”; 2 “disagree”; 3 “neither agree nor disagree”; 4 ”agree”; 5 ”strongly agree” (table S1 in the appendix for details).

Education was categorised as follows: “primary” included compulsory education and no formal education; “apprenticeship” included apprenticeships; “secondary” included secondary school and specialised schools; “tertiary” included universities, higher professional education and doctorates. Occupational position was categorised as follows: unskilled workers were qualified employees practising manual labour, craftsmen, traders, farmers and employees without specific training; skilled workers were qualified employees (non-manual labour); highly skilled workers were employees with a profession requiring intermediate training; professional-managers were company managers with more than 10 employees or individuals with a profession requiring university training; independent workers were individuals who worked as consultants, were independent or were company managers with fewer than 10 employees. Household income was calculated taking into consideration household revenue and the number of individuals in a household. Household income was then compared with the cantonal database available online [22] with the categories defined as “low” (below first quartile); “mid” (between quartiles 1 and 3); “High” (higher than the third quartile). Individuals were considered to have a prior SARS-CoV-2 infection if self-reported or if their serological test was positive for anti-SARS-CoV-2 antibodies as part of the seroprevalence studies. COVID-19 vaccination willingness was defined as the combined answer to the following two questions used in the larger vaccination questionnaire: “Did you get vaccinated against SARS-CoV-2? (yes, no, scheduled appointment)” and “Do you intend to get vaccinated once you will be eligible for vaccination against SARS-CoV-2? (yes, rather yes, rather no, no, does not know, not available)”. Answers “yes” and “scheduled appointment” to the first question and answers “yes” and

"rather yes" to the second question were later combined as willingness to get vaccinated. Answer "no" to the first question, and answers "no" and "rather no" to the second question were later combined as not willing to get vaccinated. Vaccination perception was defined as the answer to the question used in the larger vaccination questionnaire: "Do you think that vaccination is an important step to surmount the pandemic?" (yes, rather yes, rather no, no).

Analysis

We used the statistical software STATA version 15.1. Descriptive analyses included percentages with comparisons using chi-square tests. P-values were considered significant at $p < 0.05$. Stratifications were based on age categories, sex, education level, household income, employment status, occupational position, past SARS-CoV-2 infection, vaccination willingness and vaccination perception.

Logistic regression models were used to evaluate associations between different determinants and the absence of any context in which participants believed a vaccination certificate should be presented. The determinants considered were age, sex, education level, household income, employment status, occupational position, past SARS-CoV-2 infection, vaccination willingness and vaccination perception. The outcome was certificate non-acceptance, defined by the variable "There is no context in which a vaccination certificate should be presented". Multivariable regression models were then used to calculate adjusted odds ratios (aORs) with a 95% confidence interval (95% CI). Adjusted odds ratios were adjusted for age, sex, education level, household income, employment status, occupational position, past SARS-CoV-2 infection, vaccination willingness and vaccination perception. Missing values were handled using listwise deletion with a complete-case analysis approach. The intersex category as well as the "not available" (NA) categories for all variables were excluded from the logistical regression analysis due to low counts. Participants answering "I do not know or prefer not to answer" were included when adjusting for variables in the regression analysis, but estimates were not calculated for these categories in order to avoid misclassification.

Results

Out of 5252 individuals, 4067 answered the questionnaire (response rate 77.4%). Mean age (± standard deviation) was 53.3 ± 14.4 years, 56.1% were women, 64.7% had completed tertiary education, 64.8% had a middle to high income, 25.9% were retirees and 4% were students. Non-participants (n = 1185) had a mean age (± standard deviation) of 43.7 ± 14.4 years, 53.3% were women, 63.2% had completed tertiary education, 55.9% had middle to high income, 9.8% were retirees and 12% were students. Overall characteristics of participants are presented in table 1 and a comparison with the general population of Geneva [23] is available in table S2 in the appendix.

Overall, 61.0% of participants agreed or strongly agreed that a vaccination certificate is necessary in certain contexts and 21.6% believed there was no context where vaccination certificates should be presented, defined as certificate non-acceptance (table 2). Not willing to get vaccinated (aOR 8.29, 95% CI 6.45–10.68) and not perceiving vaccination as an important step to surmount the pandemic (aOR 4.17, 95% CI 2.86–6.08) were associated with certificate non-acceptance. Past SARS-CoV-2 infection (OR 1.53, 95% CI 1.27–1.82), age 65 years and older (OR 0.29, 95% CI 0.22–0.40), and female gender (OR 1.40, 95% CI 1.20–1.63) were associated with certificate non-acceptance in the univariate analyses but not when adjusted in the multivariable analyses. High household income (OR 0.68, 95% CI 0.50–0.91) and being a professional manager (OR 0.67, 95% CI 0.51–0.89) were inversely associated with certificate non-acceptance in the univariate analyses but not when adjusted in the multivariable analyses (table 3).

When selecting contexts, 60.7% of participants found that a vaccination certificate should be presented in order to hold a job or position that requires contact with populations at risk of complications from COVID-19 (working in

Table 1:
Characteristics of participants (n = 4067).

		% (n)
Age (mean ± SD) years		53.3 ± 14.4
Age categories (in years)	18–34	10.4 (423)
	35–49	29.1 (1184)
	50–64	35.4 (1439)
	65 and above	25.1 (1021)
Sex	Female	56.1 (2276)
	Male	43.9 (1780)
	Intersex	0.3 (11)
Education level	Primary	3.9 (158)
	Apprenticeship	17.8 (722)
	Secondary	13.4 (546)
	Tertiary	64.7 (2631)
	Not available	0.2 (10)
Household income	Low	12.9 (523)
	Mid	50.5 (2055)
	High	14.3 (582)
	Not available	3.3 (134)
	Does not know or does not wish to answer	19.0 (773)
Employment status	Salaried	53.5 (2174)
	Retired	25.9 (1052)
	Independent	7.9 (320)
	Unemployed	3.2 (132)
	Looking after home/family	4.5 (183)
	Student	4.0 (162)
	Disability	1.1 (43)
	Not available	0.0 (1)
Occupational position	Unskilled workers	9.4 (382)
	Skilled workers	24.7 (1004)
	Highly skilled workers	25.6 (1042)
	Professional-managers	34.2 (1391)
	Independent workers	0.9 (38)
	Other	5.1 (208)
	Not available	0.0 (2)
Vaccination intent	Already vaccinated (at least one dose)	12.9 (524)
	Appointment scheduled	4.3 (177)
	Will get vaccinated (yes / rather yes)	43.2 (1760)
	Will not get vaccinated (no / rather no)	13.8 (562)
	Do not know	10.4 (425)

SD: Standard deviation

a nursing home, for example) and 47.6% of participants believed a vaccination certificate should be presented when visiting individuals at risk of complications from COVID-19. Overall, 58.7% of participants found that a vaccination certificate should be presented in order to hold a job or position that required contact with infected individuals (working at a hospital for example) and 21.5% considered that a vaccination certificate should be presented if employees were sharing the same open workspace.

When considering collective versus individual benefit, 32.2% believed a vaccination certificate should be presented in order to cross international borders, 44.3% of participants believed such certificates should be presented to take a plane and 56.0% of participants believed they should be presented in order to avoid quarantine when crossing international borders. With regard to specific activities, 36.9% of participants believed vaccination certificates should be presented in order to participate in large gatherings and 35.5% in order to have access to social venues (cinema, theatre, gym, etc.).

Overall, 62.1% agreed or strongly agreed that it was easier to accept vaccination certificates than the public health restrictions in place at the time of the questionnaire, and 12.5% agreed or strongly agreed with the statement that COVID-19 was a trivial disease that did not require a vaccination certificate. When discussing potential risks, 40.0% of participants agreed or strongly agreed that vaccination status constituted personal medical data that should not be the subject of a vaccination certificate, 58.4% of participants agreed or strongly agreed that individuals without a vaccination certificate could be at risk of discrimination (employment opportunities or participating in certain activities, for example) and 66.5% agreed or strongly agreed that individuals without a vaccination cer-

Table 2:
Overall results with percentages out of 4067 participants.

Question and answers		**% (n)**
In which context(s) should a vaccination certificate be presented?		
If working in a job where others would be at risk (for ex. in nursing homes)		60.7 (2470)
If working in a job where the employee is at high risk of infection (for ex. in hospitals)		58.7 (2388)
If working in a job where employees have to share the same open workspace		21.5 (873)
To visit high risk individuals (for ex. in nursing homes or hospitals)		47.6 (1937)
To cross national borders		32.2 (1308)
To take a plane		44.3 (1800)
To be exempt from quarantine when travelling abroad		56.0 (2277)
To participate in large gatherings (for ex. concerts, matches etc.)		36.9 (1500)
To have access to social venues (for ex. cinema, theater, sports club)		35.5 (1443)
There is no context where a certificate should be presented		21.6 (878)
Other contexts		1.4 (55)
What is your opinion about the following statements on a scale of 1 (strongly disagree) to 5 (strongly agree)?		
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)	Strongly disagree	13.6 (551)
	Disagree	8.7 (355)
	Neither agree nor disagree	16.7 (678)
	Agree	23.2 (945)
	Strongly agree	37.8 (1538)
COVID-19 is a trivial disease that does not necessitate a vaccination certificate	Strongly disagree	49.9 (2028)
	Disagree	20.5 (834)
	Neither agree nor disagree	17.2 (698)
	Agree	7.9 (320)
	Strongly agree	4.6 (187)
Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)	Strongly disagree	9.4 (381)
	Disagree	9.4 (384)
	Neither agree nor disagree	22.7 (923)
	Agree	26.9 (1096)
	Strongly agree	31.5 (1283)
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)	Strongly disagree	7.4 (302)
	Disagree	7.5 (304)
	Neither agree nor disagree	18.5 (753)
	Agree	31.7 (1291)
	Strongly agree	34.8 (1417)
Personal medical data belongs to the individual and should not be the object of a vaccination certificate	Strongly disagree	21.9 (891)
	Disagree	15.9 (646)
	Neither agree nor disagree	22.3 (905)
	Agree	13.3 (540)
	Strongly agree	26.7 (1085)
It is easier to accept a vaccination certificate than the public health restrictions (for ex. partial lockdown, business closures)	Strongly disagree	8.8 (357)
	Disagree	8.7 (354)
	Neither agree nor disagree	20.5 (833)
	Agree	24.7 (1003)
	Strongly agree	37.4 (1520)

tificate could lose certain rights (crossing borders, for example).

Stratification by age, sex, education level, household income, employment status, occupational position, past SARS-CoV-2 infection, vaccination willingness and vaccination perception is presented in appendix table S3.

Vaccination willingness and perception

Overall, 66.0% of individuals who did not or will not get vaccinated (371 out of 562) did not believe there was any context where a vaccination certificate should be presented versus 10.9% of individuals who reported they had been or intended to get vaccinated (336 out of 3080). Additionally, participants who did not believe vaccination to be an im-

Table 3:
Associations between baseline characteristics, past SARS-CoV-2 infection, perception and willingness to get vaccinated and certificate non-acceptance. Certificate non-acceptance is defined as the outcome based on the answers to the question "There is no context where a certificate should be presented". Observations where information was not available or with low numbers were not included in this analysis.

		There is no context where a certificate should be presented % (n)	p-value	Associations with certificate non-acceptance (n = 3624)			
				Unadjusted OR (95% CI)	p-value	Adjusted OR* (95% CI)	p-value
Age (years)	18–34 (n = 423)	27.7 (117)	<0.001	Ref		Ref	
	35–49 (n = 1184)	29.1 (345)		1.06 (0.83–1.36)	0.564	0.99 (0.68–1.45)	0.970
	50–64 (n = 1439)	21.7 (312)		**0.72 (0.56–0.92)**	0.010	0.89 (0.60–1.30)	0.544
	65 and older (n = 1021)	10.2 (104)		**0.29 (0.22–0.40)**	<0.001	0.58 (0.31–1.08)	0.087
Sex	Male (n = 1780)	18.5 (329)	<0.001	Ref		Ref	
	Female (n = 2276)	24.0 (547)		**1.40 (1.20–1.63)**	<0.001	1.13 (0.92–1.40)	0.239
	Intersex (n = 11)	18.2 (2)		–		–	
Education level	Primary (n = 158)	17.7 (28)	0.005	Ref		Ref	
	Apprenticeship (n = 722)	25.2 (182)		**1.56 (1.00–2.42)**	0.047	1.22 (0.66–2.27)	0.529
	Secondary (n = 546)	24.8 (135)		1.52 (0.97–2.40)	0.067	1.27 (0.68–2.40)	0.454
	Tertiary (n = 2,631)	20.3 (533)		1.18 (0.78–1.80)	0.440	1.18 (0.64–2.18)	0.594
	Not available (n = 10)	0.0 (0)		–		–	
Household income	Low (n = 523)	24.1 (126)	0.005	Ref		Ref	
	Mid (n = 2,055)	21.7 (445)		0.87 (0.69–1.09)	0.231	1.12 (0.81–1.55)	0.493
	High (n = 582)	17.5 (102)		**0.67 (0.50–0.90)**	0.007	1.14 (0.76–1.72)	0.512
	Does not know or does not wish to answer (n = 773)	21.1 (163)		–		–	
	Not available (n = 134)	31.3 (42)		–		–	
Employment status	Salaried (n = 2,174)	26.5 (575)	<0.001	Ref		Ref	
	Retired (n = 1052)	10.6 (111)		**0.33 (0.26–0.41)**	<0.001	0.65 (0.39–1.08)	0.098
	Independent (n = 320)	23.2 (74)		0.84 (0.63–1.10)	0.252	0.80 (0.55–1.18)	0.270
	Unemployed (n = 132)	20.6 (27)		0.72 (0.47–1.11)	0.185	0.58 (0.33–1.02)	0.061
	Looking after home/family (n = 183)	20.2 (37)		0.70 (0.48–1.02)	0.066	0.59 (0.35–1.01)	0.057
	Student (n = 162)	23.6 (38)		0.86 (0.59–1.25)	0.404	1.19 (0.59–2.39)	0.621
	Disability (n = 43)	32.6 (14)		1.34 (0.70–2.56)	0.371	1.15 (0.45–2.96)	0.762
	Not available (n = 1)	0.0 (0)		–		–	
Occupational position	Unskilled workers (n = 382)	22.8 (87)	<0.001	Ref		Ref	
	Skilled workers (n = 1004)	24.9 (249)		1.10 (0.83–1.45)	0.494	1.05 (0.70–1.57)	0.825
	Highly skilled workers (n = 1042)	25.4 (264)		1.13 (0.86–1.49)	0.373	1.37 (0.90–2.08)	0.144
	Professionalmanagers (n = 1391)	16.6 (231)		**0.67 (0.51–0.89)**	<0.001	0.98 (0.64–1.52)	0.941
	Independent workers (n = 38)	18.4 (7)		0.75 (0.32–1.77)	0.518	0.86 (0.25–3.00)	0.818
	Other (n = 208)	17.3 (36)		–		–	
	Not available (n = 2)	100.0 (2)		–		–	
Past SARS–CoV–2 infection	No (n = 3295)	20.1 (663)	<0.001	Ref		Ref	
	Yes (n = 772)	27.8 (215)		**1.53 (1.27–1.82)**	<0.001	1.24 (0.97–1.58)	0.078
Vaccination willingness	Yes (n = 3080)	10.9 (336)	<0.001	Ref		Ref	
	No (n = 562)	66.0 (371)		**13.79 (11.14–17.06)**	<0.001	**8.29 (6.45–10.68)**	**<0.001**
Vaccination as an important step to surmount the pandemic	Yes (n = 3753)	17.0 (637)	<0.001	Ref		Ref	
	No (n = 314)	76.8 (241)		**16.06 (12.19–21.16)**	<0.001	**4.17 (2.86–6.08)**	**<0.001**

* Odds ratios were adjusted for age, sex, education level, household income, employment status, occupational position, past SARS–CoV–2 infection, vaccination willingness and vaccination perception

CI: confidence interval; OR: odds ratio; Ref: reference

Results in bold indicate statistical significance.

portant step in surmounting the COVID-19 pandemic rejected all contexts of vaccination certificates, with 76.8% of them seeing no context where vaccination certificates should be presented (241 out of 314) versus 17.0% of individuals who believed vaccination to be an important step in surmounting the COVID-19 pandemic (637 out of 3753). Participants who did not believe vaccination to be an important step in surmounting the COVID-19 pandemic were also more likely to perceive a discrimination risk against individuals without a vaccination certificate, were more likely to agree that vaccination status was personal data that should not be the subject of a vaccination certificate, and were less likely to agree that certificates were easier to accept than the public health restrictions in place at the time of the questionnaire.

Past SARS-CoV-2 infection

Participants who had been infected with SARS-CoV-2 were less likely to support vaccination certificates. Overall, 27.8% of individuals who had been infected did not believe there was any context where a vaccination certificate should be presented versus 20.1% of individuals who had not been infected. Additionally, 47.2% of previously infected individuals were likely to agree or strongly agree that vaccination status was personal medical data that should not be the subject of a vaccination certificate versus 38.2% of individuals who had not been infected. Of previously infected individuals, 15.2% agreed or strongly agreed with the statement that COVID-19 was a trivial disease not necessitating a vaccination certificate versus 11.8% of non-infected individuals.

Sociodemographic characteristics

Older individuals were more likely to agree with a vaccination certificate overall, whether in a professional, travel or social context. They were more likely to disagree with the statement that COVID-19 was a trivial disease not necessitating a vaccination certificate. Younger individuals were more likely to agree or strongly agree that individuals without vaccination certificates might lose certain rights or be at risk of discrimination.

Men were more inclined to agree with the use of vaccination certificates in all listed contexts, and when compared with the public health measures in place at the time of the questionnaire, they were also less likely to agree that individuals without vaccination certificates might face discrimination or lose certain rights. Women more strongly agreed that vaccination status constituted personal medical data that should not be the subject of a vaccination certificate.

Individuals with a tertiary education were more likely to agree with the statement that vaccination certificates were needed in professional settings where others would be at risk of COVID-related complications or where the employee might be at risk of infection, whereas no difference was seen in contexts of travel, access to social venues or large gatherings. Individuals with a tertiary education were less likely to agree with the statement that vaccination status constituted personal medical data that should not be the subject of a certificate.

Individuals with a low household income agreed less overall with the use of vaccination certificates. They were more likely to agree that COVID-19 was a trivial disease not necessitating a vaccination certificate and that vaccination status constituted personal medical data that should not be the subject of a certificate. They were less likely to agree that individuals without a vaccination certificate were at risk of discrimination or may lose certain rights. They were also less likely to agree that it would be easier to accept vaccination certificates than the public health restrictions in place at the time of the questionnaire.

Managers were more inclined to agree with vaccination certificates in all contexts. More participants in the professional managers category agreed that vaccination certificates should be presented to take a plane or to be exempt from quarantine when travelling abroad. Fewer participants in the professional-managers category agreed that vaccination status constituted personal medical data that should not be the subject of a certificate.

Discussion

Using a large population-based study, we found that 61.0% of individuals agreed or strongly agreed that a vaccination certificate is necessary in certain contexts, and 62.1% agreed or strongly agreed that it was easier to accept vaccination certificates than the public health restrictions in place at the time of the questionnaire. Certificate non-acceptance (overall 21.6%) was more prevalent in younger age categories and was associated with an absence of willingness to get vaccinated and an absence of belief in vaccination as an important step in surmounting the pandemic. Overall, 27.8% of 18–34 years old reported certificate non-acceptance versus 10.2% of individuals 65 years and older. By comparison, a recent French survey (n = 3058) reported a 34.1% overall certificate non-acceptance rate (44.4% in individuals 18–34 years old versus 16.7% in individuals 65 years and older) [24], and a UK-based public poll (n = 1715) reported a 34% overall certificate non-acceptance rate (42% in individuals 18–24 and 25–49 years old versus 20% in individuals 65 years and older) [25]. In the UK, a recent study estimated a 78.71% vaccination intent rate in the population, but that the introduction of vaccine passports would lower vaccination acceptance further in the subgroups not willing to get vaccinated. The lower inclination to get vaccinated was more evident in males and individuals who were more highly educated after adjusting for baseline vaccination intent [13]. There was also a strong association between vaccination intent and the acceptance of vaccination certificates, as seen in our study. The latest reports of vaccination in the general population in Geneva showed higher vaccination rates with age as of 14 September 2021 [26]. As participants in our sample were older overall, we could predict that certificate acceptance would be lower in the general population. When data in our sample were standardised to the age, sex and education distribution of the Geneva population, we estimate certificate acceptance at 57.7% and certificate non-acceptance at 22.4%.

Contexts where a majority of participants perceived a vaccination certificate should be presented included jobs where others would be at risk of COVID-related complications and jobs where employees were at risk of getting

infected. This is in line with recent articles showing the need for safeguards around work-related vaccination policies that should be based on the actual risk to workers' or customers' health [2, 27]. The majority of participants were also in favour of a vaccination certificate when presented with the option of quarantine exemption if traveling abroad, which could be a way to reinvigorate the tourism and travel sectors that have suffered greatly during the pandemic. On the other hand, participants were less in favour of a vaccination certificate in order to participate in large gatherings or to access social venues, where it might be up to private actors to decide whether vaccines are mandatory, thus potentially influencing vaccination uptake [2]. Interestingly, in a canton that borders France and where many individuals cross borders frequently, only 32.2% believed vaccination certificates should be presented to cross borders, whereas 44.3% believed they should be presented to take a plane. This could also be due to the perception or impression of an increased risk of infection when taking a plane versus other means of transportation. A public poll in the UK in March 2021 [25] revealed that 72% of participants believed vaccination certificates should be required to visit nursing homes, followed by gyms (56%), pubs and bars (56%), cinemas (55%), restaurants (53%), public transport (45%) and supermarkets (31%) underlining the differences in acceptability according to context [25].

The majority of individuals perceived risks of discrimination and loss of certain rights for those without a vaccination certificate. Forty percent perceived vaccination status as personal medical data that should not be part of a vaccination certificate. Although vaccination certificates risk infringing on civil liberties by putting pressure on individuals to share their information, it must be recognised that lockdown measures and the pandemic itself have also represented a burden on civil liberties such as free movement or allowing people to return to work [1]. This was evidenced in our study, where a majority of participants agreed that it was easier to accept a vaccination certificate than the public health restrictions in place at the time of the questionnaire.

Women were less likely to agree with the latter statement, as well as less likely to agree with vaccination certificates in all the listed contexts, indicating they were overall less in favour of vaccination certificates. Similar results were reported in a recent publication showing that female scholars were significantly less in favour of immunity certificates [15]. Gender differences were less evident in the multivariable analyses in our study. Individuals who had been infected were less inclined to agree with vaccination certificates. This could be because a higher percentage of previously infected individuals agreed with the statement that COVID-19 was a trivial disease not necessitating a vaccination certificate, or because of their lower perceived personal need for vaccination, having themselves acquired natural immunity.

When these results were compared with those of our previous survey in May–June 2020 [16], individuals still believed immunity certificates were important in certain contexts but not all, while identifying potential risks of discrimination or losing certain rights. It is important to note that the risk of deliberate infection as a means to obtain a certificate should decrease with the advent of vaccination, as individuals could now make the decision to get vaccinated. That being said, it is also important to take into account that universal access to vaccines remained an issue at the time of our study, especially in low and middle income countries.

Our study adds to the general body of knowledge by providing information on the importance of taking into account differences in the perception of vaccination and the disease itself when implementing vaccination certificates. Although disagreements exist regarding the justification and appropriate use of vaccination certificates on ethical grounds [28, 29], the likely public uptake of such certificates is an important factor in considering their implementation. Vaccination certificates should not be a blanket solution, however, and ought to be tailored to specific contexts instead.

This study has several limitations. First, the questionnaire was not pre-tested and was only available online and in French. Participants were all recruited from the seroprevalence studies, were generally older, with a higher education level and a higher socioeconomic status than the overall population of Geneva, limiting the generalisability of the results. Second, the timing of the questionnaire when partial lockdown measures were still in effect in Switzerland and when vaccination was only available to individuals 65 years and older or individuals with chronic diseases at risk of COVID-related complications, could have influenced opinions which could change over time. The survey will be repeated over time, addressing this limitation. Third, our study evaluated vaccination certificates only, rather than the three-modality certificates deployed in Switzerland and the EU. Fourth, participants were potentially unlikely to be aware of the advantages or disadvantages of the studied intervention, as is usually the case in survey research.

Conclusion

Vaccination certificates appear to be supported by the majority of the general population in Geneva, Switzerland, especially in contexts of quarantine exemption and where work-related transmission of SARS-CoV-2 would be reduced for individuals at risk of complications or infection. Vaccination certificates are less accepted in contexts of large gatherings, access to social venues or shared workspaces. When implemented, it is important to address and communicate the role of vaccination certificates as a transition strategy in facilitating a collective phased return to pre-COVID activities by providing reassurance to individuals pursuing these activities as to their reduced risk of transmitting or acquiring an infection. Vaccination certificates should be met with a targeted implementation, adapting them to certain contexts, and modifying or cancelling them when they are no longer needed. Implementation strategies should take into consideration personal and sociodemographic variations in certificate non-acceptance, highlighting the importance of tailoring communication to younger individuals, those who may not agree with vaccination against SARS-CoV-2, and those who believe COVID-19 to be a trivial disease.

Data sharing statement

Individual study data that underlie the results reported in this article can be made available to the scientific community after de-identification and upon submission of a data request application to the investigator board via the corresponding author.

Specchio-COVID19 study group

Isabelle Arm-Vernez, Andrew S Azman, Fatim Ba, Oumar Aly Ba, Delphine Bachmann, Jean-François Balavoine, Michael Balavoine, Hélène Baysson, Lison Beigbeder, Julie Berthelot, Patrick Bleich, Gaëlle Bryand, François Chappuis, Prune Collombet, Delphine S. Courvoisier, Alain Cudet, Carlos de Mestral Vargas, Paola D'Ippolito, Richard Dubos, Roxane Dumont, Isabella Eckerle, Nacira El Merjani, Antoine Flahault, Natalie Francioli, Marion Frangville, Idris Guessous, Séverine Harnal, Samia Hurst, Laurent Kaiser, Omar Kherad, Julien Lamour, Pierre Lescuyer, François LHuissier, Fanny-Blanche Lombard, Andrea Jutta Loizeau, Elsa Lorthe, Chantal Martinez, Lucie Ménard, Lakshmi Menon, Ludovic Metral-Boffod, Alexandre Moulin, Mayssam Nehme, Natacha Noël, Francesco Pennacchio, Javier Perez-Saez, Giovanni Piumatti, Didier Pittet, Jane Portier, Klara M Posfay-Barbe, Géraldine Poulain, Caroline Pugin, Nick Pullen, Zo Francia Randrianandrasana, Aude Richard, Viviane Richard, Frederic Rinaldi, Jessica Rizzo, Khadija Samir, Claire Semaani, Silvia Stringhini, Stéphanie Testini, Guillemette Violot, Nicolas Vuilleumier, Ania Wisniak, María-Eugenia Zaballa

Conflict of interest statement

All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. We confirm that the manuscript has been read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed. The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. We further confirm that any aspect of the work covered in this manuscript that has involved human patients has been conducted with the ethical approval of the Cantonal Research Ethics Commission of Geneva, Switzerland, and that such approvals are acknowledged within the manuscript.

Financial disclousure

This work was supported by the Edmond J SAFRA foundation for clinical research in internal medicine, the General Directorate of Health of the Department of Safety, Employment and Health of the canton of Geneva, the Private Foundation of the Geneva University Hospitals, the Swiss Federal Office of Public Health, the Swiss School of Public Health (Corona Immunitas Research Program) and the Fondation des Grangettes.

References

1. Brown RC, Savulescu J, Williams B, Wilkinson D. Passport to freedom? Immunity passports for COVID-19. J Med Ethics. 2020 Oct;46(10):652–9. http://dx.doi.org/10.1136/medethics-2020-106365. PubMed. 1473-4257
2. Hall MA, Studdert DM. "Vaccine Passport" Certification - Policy and Ethical Considerations. N Engl J Med. 2021 Sep;385(11):e32. http://dx.doi.org/10.1056/NEJMp2104289. ; Epub ahead of print. PubMed. 1533-4406
3. Saladino V, Algeri D, Auriemma V. The Psychological and Social Impact of Covid-19: New Perspectives of Well-Being. Front Psychol. 2020 Oct;11:577684. http://dx.doi.org/10.3389/fpsyg.2020.577684. PubMed. 1664-1078
4. Childress JF, Faden RR, Gaare RD, Gostin LO, Kahn J, Bonnie RJ, et al. Public health ethics: mapping the terrain. J Law Med Ethics. 2002;30(2):170–8. http://dx.doi.org/10.1111/j.1748-720X.2002.tb00384.x. PubMed. 1073-1105
5. Osama T, Razai MS, Majeed A. Covid-19 vaccine passports: access, equity, and ethics. BMJ. 2021 Apr;373(861):n861. http://dx.doi.org/10.1136/bmj.n861. PubMed. 1756-1833
6. European Commission. EU Digital COVID Certificate https://ec.europa.eu/health/ehealth/covid-19_en. Published April 21, 2021. [Accessed 23 September 2021]
7. Federal Office of Public Health. Switzerland. Coronavirus: COVID certificate. https://www.bag.admin.ch/bag/en/home/krankheiten/ausbrueche-epidemien-pandemien/aktuelle-ausbrueche-epidemien/novel-cov/covid-zertifikat.html. [Accessed 23 September 2021]
8. Brown RC, Kelly D, Wilkinson D, Savulescu J. The scientific and ethical feasibility of immunity passports. Lancet Infect Dis. 2021 Mar;21(3):e58–63. http://dx.doi.org/10.1016/S1473-3099(20)30766-0. PubMed. 1474-4457
9. Schmelz K. Enforcement may crowd out voluntary support for COVID-19 policies, especially where trust in government is weak and in a liberal society. Proc Natl Acad Sci USA. 2021 Jan;118(1):e2016385118. http://dx.doi.org/10.1073/pnas.2016385118. PubMed. 1091-6490
10. Sesa G, Wong B, Czabanowska K, Reid J, Davidovitch N, Martin-Moreno JM, Middleton J. Covid-19 vaccine passports and vaccine hesitancy: freedom or control? BMJ opinion. March 30, 2021.
11. Wilf-Miron R, Myers V, Saban M. Incentivizing Vaccination Uptake: The "Green Pass" Proposal in Israel. JAMA. 2021 Apr;325(15):1503–4. http://dx.doi.org/10.1001/jama.2021.4300. PubMed. 1538-3598
12. Lazarus JV, Ratzan SC, Palayew A, Gostin LO, Larson HJ, Rabin K, et al. A global survey of potential acceptance of a COVID-19 vaccine [Erratum in: Nat Med. 2021 Jan 11; PMID: 33082575; PMCID: PMC7573523]. Nat Med. 2021 Feb;27(2):225–8. http://dx.doi.org/10.1038/s41591-020-1124-9. PubMed. 1546-170X
13. de Figueiredo A, Larson HJ, Reicher S. The potential impact of vaccine passports on inclination to accept COVID-19 vaccinations in the United Kingdom: evidence from a large cross-sectional survey and modelling study. medRxiv 2021;2021.05.31.21258122.
14. Drury J, Mao G, John A, et al. Behavioural responses to Covid-19 health certification: A rapid review. medRxiv 2021;2021.04.07.21255072.
15. Aranzales I, Chan HF, Eichenberge R, Hegselmann R, Stadelmann D, Torgler B. Scientists' Opinions on Immunity Certificates: Evidence from a Large-Scale Survey Among more than 12,000 Scientists (No. 2021-08). Center for Research in Economics, Management and the Arts (CREMA).
16. Nehme M, Stringhini S, Guessous I; SEROCoV-Pop Study Team. Perceptions of immunity and vaccination certificates among the general population: a nested study within a serosurvey of anti-SARS-CoV-2 antibodies (SEROCoV-POP). Swiss Med Wkly. 2020 Nov;150:w20398. http://dx.doi.org/10.4414/smw.2020.20398. PubMed. 1424-3997
17. Stringhini S, Wisniak A, Piumatti G, Azman AS, Lauer SA, Baysson H, et al. Seroprevalence of anti-SARS-CoV-2 IgG antibodies in Geneva, Switzerland (SEROCoV-POP): a population-based study. Lancet. 2020 Aug;396(10247):313–9. http://dx.doi.org/10.1016/S0140-6736(20)31304-0. PubMed. 1474-547X
18. Stringhini S, Zaballa ME, Perez-Saez J, Pullen N, de Mestral C, Picazio A, et al.; Specchio-COVID19 Study Group. Seroprevalence of anti-SARS-CoV-2 antibodies after the second pandemic peak. Lancet Infect Dis. 2021 May;21(5):600–1. http://dx.doi.org/10.1016/S1473-3099(21)00054-2. PubMed. 1474-4457
19. Baysson H, Pennacchio F, Wisniak A, Zaballa ME, Collombet P, Joost S, Balavoine JF, Bachmann D, Trono D, Pittet D, Chappuis F, Kherad O, Kaiser L, Guessous I, Stringhini S, on behalf of the Specchio COVID19 study group The Specchio-COVID19 study cohort: a web-based prospective study of SARS-CoV-2 serosurveys participants in the canton of Geneva (Switzerland) (in preparation).
20. de Mestral C, Stringhini S, Guessous I, Jornayvaz FR. Thirteen-year trends in the prevalence of diabetes in an urban region of Switzerland: a population-based study. Diabet Med. 2020 Aug;37(8):1374–8. http://dx.doi.org/10.1111/dme.14206. PubMed. 1464-5491
21. Fargnoli V, Nehme M, Guessous I, Burton-Jeangros C. Acceptability of COVID-19 Certificates: A Qualitative Study in Geneva, Switzerland, in 2020. Front Public Health. 2021 Aug;9:682365. http://dx.doi.org/10.3389/fpubh.2021.682365. PubMed. 2296-2565
22. Office Cantonal des Statistiques (OCSTAT). T 20.02.7.01 - Statistique cantonale du revenu et de la fortune des ménages - Quantiles du revenu annuel brut des ménages selon le type de ménage en 2015-2017 - Canton de Genève. 2020. [Accessed 23 September 2021]
23. Office cantonal des statistiques (OCSTAT) STATISTIQUES CANTONALES, POPULATION, Etat et évolution de la population. Version 2020. Available at: https://www.ge.ch/statistique/domaines/apercu.asp?dom=01_01 [Accessed 12 September 2021].
24. Ward J, Bonneton M, Botelho-Nevers E, et al. Enquête COVIREIVAC: les français et la vaccination. ORS PACA- June 2021.
25. YouGov. Would Britons support a vaccine passport for COVID-19? [Internet]. YouGov; 2021 March 5. Available from: https://yougov.co.uk/topics/health/articles-reports/2021/03/05/britons-support-covid-19-vaccine-passport-system. [Accessed 23 September 2021]

26. Direction générale de la santé Chiffres et campagne de vaccination à Genève Available at https://www.ge.ch/se-faire-vacciner-contre-covid-19/chiffres-campagne-vaccination-geneve [Accessed September 15 2021].
27. Hall MA, Studdert D. Public Views about COVID-19 "Immunity Passports" medRxiv 2021.01.26.21250184; doi: https://doi.org/http://dx.doi.org/10.1101/2021.01.26.21250184.
28. Voo TC, Reis AA, Thomé B, Ho CW, Tam CC, Kelly-Cirino C, et al. Immunity certification for COVID-19: ethical considerations. Bull World Health Organ. 2021 Feb;99(2):155–61. http://dx.doi.org/10.2471/BLT.20.280701. PubMed. 1564-0604
29. Kofler N, Baylis F. Covid-19 vaccination certificates: Prospects and problems. The Hastings Center. March 10, 2021.

Appendix

Table S1. Survey items on vaccination certificates

1. Select the context(s) in which a vaccination certificate should be presented:	
If working in a job where others would be at risk(for ex. in nursing homes)	☐
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	☐
If working in a job where employees have to share the same open workspace	☐
To visit high risk individuals (for ex. in nursing homes or hospitals)	☐
To cross national borders	☐
To take a plane	☐
To be exempt from quarantine when travelling abroad	☐
To participate in large gatherings (for ex. concerts, matches etc.)	☐
To participate in collective social activities (for ex. cinemas,theater, sports clubs)	☐
Other contexts	☐
There is no context where a certificate should be presented	☐
2. What is your opinion about the following statements on a scale of 1 (Strongly disagree)to 5 (Strongly agree)?	
A vaccination certificate should be necessary in certain contexts(for ex. to travel, take care of vulnerable individuals)	1 "Strongly disagree"; 2 "Disagree"; 3 "Neither agree nor disagree"; 4" Agree"; 5" Strongly agree"
COVID-19 is a trivial disease that does not necessitate avaccination certificate	1 "Strongly disagree"; 2 "Disagree"; 3 "Neither agree nor disagree"; 4" Agree"; 5" Strongly agree"
Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)	1 "Strongly disagree"; 2 "Disagree"; 3 "Neither agree nor disagree"; 4" Agree"; 5" Strongly agree"
Individuals without a vaccination certificate risk losing certainrights (for ex. crossing borders)	1 "Strongly disagree"; 2 "Disagree"; 3 "Neither agree nor disagree"; 4" Agree"; 5" Strongly agree"

Personal medical data belongs to the individual and should not be the object of a vaccination certificate	1 "Strongly disagree"; 2 "Disagree"; 3 "Neither agree nor disagree"; 4" Agree"; 5" Strongly agree"
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)	1 "Strongly disagree"; 2 "Disagree"; 3 "Neither agree nor disagree"; 4" Agree"; 5" Strongly agree"

Table S2. Characteristics of participants and the general population in Geneva

	Participants	**General population in Geneva**
Age categories	%(N)	%(N)
18-34	10.4(423)	27.9(113,447)
35-49	29.1(1,182)	27.8(115,274)
50-64	35.4(1,439)	24.1(99,841)
65 and above	25.1(1,021)	20.2(83,812)
Sex		
Female	56.1(2,276)	51.5(262,119)
Male	43.9(1,780)	48.5(246,655)
Intersex	0.3(11)	-
Education Level		
Primary	3.9(158)	27.5(105,439)
Apprenticeship-Secondary	31.2(1,268)	32.6(125,139)
Tertiary	64.7(2,631)	39.9(153,334)
Not available	0.2(10)	-

*Data for the general population was provided by the cantonal office of statistics (OCSTAT) in Geneva Apprenticeship and Secondary levels of education were combined as presented by the cantonal office of statistics

Table S3. Stratified results by age categories, sex, education level, household income, employment status, occupational position, past SARS-CoV-2 infection, vaccination willingness, and vaccination perception

	Age categories (years)				
	18-34	**35-49**	**50-64**	**65 and above**	**P-value**
	%(N)	%(N)	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:					
If working in a job where others would be at risk (for ex. in nursing homes)	57.4(243)	55.1(652)	61.8(889)	67.2(686)	<0.001
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	51.5(218)	51.4(609)	61.0(878)	66.9(683)	<0.001
If working in a job where employees have to share the same open workspace	10.4(44)	14.4(171)	20.4(294)	35.7(364)	<0.001
To visit high risk individuals (for ex. in nursing homes or hospitals)	37.1(157)	39.1(463)	46.9(675)	62.9(642)	<0.001
To cross national borders	21.5(91)	23.8(282)	30.2(435)	49.0(500)	<0.001
To take a plane	31.4(133)	35.3(418)	42.9(618)	61.8(631)	<0.001
To be exempt from quarantine when travelling abroad	45.9(194)	46.9(555)	54.8(788)	72.5(740)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	30.7(130)	31.2(369)	35.5(511)	48.0(490)	<0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	22.7(96)	27.1(321)	33.4(480)	53.5(546)	<0.001
There is no context where a certificate should be presented	27.7(117)	29.1(345)	21.7(312)	10.2(104)	<0.001
Other contexts	0.9(4)	1.4(16)	1.5(21)	1.4(14)	
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?					
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)					
Strongly disagree	17.7(75)	17.5(207)	13.6(195)	7.2(74)	
Disagree	13.7(58)	10.8(128)	7.8(112)	5.6(57)	
Neither agree nor disagree	22.9(97)	20.3(240)	15.8(227)	11.2(114)	<0.001
Agree	22.5(95)	24.6(291)	24.6(354)	20.1(205)	
Strongly agree	23.2(98)	26.9(318)	38.3(551)	55.9(571)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate					
Strongly disagree	33.1(140)	41.6(492)	49.0(705)	67.7(691)	
Disagree	33.6(142)	23.1(274)	21.5(310)	10.6(108)	
Neither agree nor disagree	21.3(90)	22.7(269)	17.4(250)	8.7(89)	<0.001
Agree	7.8(33)	9.1(108)	7.9(114)	6.4(65)	
Strongly agree	4.3(18)	3.5(41)	4.2(60)	6.7(68)	

Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)					
Strongly disagree	7.3(31)	10.5(124)	8.8(126)	9.8(100)	
Disagree	11.6(49)	7.9(94)	9.5(136)	10.3(105)	
Neither agree nor disagree	16.3(69)	19.8(234)	22.2(319)	29.5(301)	<0.001
Agree	29.3(124)	26.9(318)	28.1(405)	24.4(249)	
Strongly agree	35.5(150)	35.0(414)	31.5(453)	26.1(266)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)					
Strongly disagree	6.4(27)	8.9(105)	7.2(103)	6.6(67)	
Disagree	6.9(29)	6.6(78)	7.8(112)	8.3(85)	
Neither agree nor disagree	16.1(68)	17.1(202)	16.7(240)	23.8(243)	<0.001
Agree	32.2(136)	31.3(370)	34.5(497)	28.2(288)	
Strongly agree	38.5(163)	36.2(429)	33.8(487)	33.1(338)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate					
Strongly disagree	11.6(49)	14.9(176)	21.0(302)	35.7(364)	
Disagree	15.6(66)	14.4(171)	17.3(249)	15.7(160)	
Neither agree nor disagree	24.1(102)	24.0(284)	20.8(300)	21.4(219)	<0.001
Agree	14.9(63)	15.2(180)	14.3(206)	8.9(91)	
Strongly agree	33.8(143)	31.5(373)	26.5(382)	18.3(187)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)					
Strongly disagree	9.9(42)	9.5(113)	8.7(125)	7.5(77)	
Disagree	14.2(60)	10.0(118)	8.3(119)	5.6(57)	
Neither agree nor disagree	28.6(121)	22.9(271)	20.5(295)	14.3(146)	<0.001
Agree	21.5(91)	26.4(313)	26.3(378)	21.6(221)	
Strongly agree	25.8(109)	31.2(369)	36.3(522)	50.9(520)	

	Sex			
	Female	**Male**	**Intersex**	**P-value**
	%(N)	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:				
If working in a job where others would be at risk (for ex. in nursing homes)	58.8(1,338)	63.1(1,124)	72.7(8)	0.005
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	56.9(1,295)	61.0(1,085)	72.7(8)	0.010
If working in a job where employees have to share the same open workspace	17.5(399)	26.6(473)	9.1(1)	<0.001
To visit high risk individuals (for ex. in nursing homes or hospitals)	44.4(1,010)	51.9(923)	36.4(4)	<0.001
To cross national borders	28.9(658)	36.4(648)	18.2(2)	<0.001
To take a plane	39.8(906)	49.9(889)	45.5(5)	<0.001
To be exempt from quarantine when travelling abroad	51.8(1,178)	61.6(1,096)	27.3(3)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	33.7(767)	41.0(729)	36.4(4)	<0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	31.2(711)	40.9(728)	36.4(4)	<0.001
There is no context where a certificate should be presented	24.0(547)	18.5(329)	18.2(2)	<0.001
Other contexts	1.2(28)	1.5(27)	0.0(0)	
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?				
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)				
Strongly disagree	15.3(348)	11.3(202)	9.1(1)	
Disagree	9.1(207)	8.2(146)	18.2(2)	
Neither agree nor disagree	18.1(413)	14.9(265)	0.0(0)	<0.001
Agree	22.9(522)	23.5(419)	36.4(4)	
Strongly agree	34.5(786)	42.0(748)	36.4(4)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate				
Strongly disagree	47.9(1,091)	52.4(933)	36.4(4)	
Disagree	20.7(472)	20.1(358)	36.4(4)	
Neither agree nor disagree	18.3(416)	15.7(279)	27.3(3)	0.041
Agree	8.4(192)	7.2(128)	0.0(0)	
Strongly agree	4.6(105)	4.6(82)	0.0(0)	

Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)				
Strongly disagree	9.4(215)	9.3(165)	9.1(1)	
Disagree	8.7(199)	10.3(184)	9.1(1)	
Neither agree nor disagree	23.2(527)	22.1(394)	18.2(2)	0.008
Agree	25.3(576)	29.0(517)	27.3(3)	
Strongly agree	33.3(759)	29.2(520)	36.4(4)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)				
Strongly disagree	8.0(181)	6.8(121)	0.0(0)	
Disagree	7.2(165)	7.8(139)	0.0(0)	
Neither agree nor disagree	18.8(429)	18.1(322)	18.2(2)	0.057
Agree	30.0(682)	33.9(603)	54.5(6)	
Strongly agree	36.0(819)	33.4(595)	27.3(3)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate				
Strongly disagree	18.8(427)	26.0(463)	9.1(1)	
Disagree	13.0(295)	19.7(350)	9.1(1)	
Neither agree nor disagree	23.7(539)	20.4(363)	27.3(3)	<0.001
Agree	14.1(321)	12.1(215)	36.4(4)	
Strongly agree	30.5(694)	21.9(389)	18.2(2)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)				
Strongly disagree	9.6(218)	7.8(138)	9.1(1)	
Disagree	10.0(228)	7.0(124)	18.2(2)	
Neither agree nor disagree	21.7(495)	19.0(338)	0.0(0)	<0.001
Agree	23.5(535)	26.1(465)	27.3(3)	
Strongly agree	35.1(800)	40.2(715)	45.5(5)	

	Education level					
	Primary	**Apprenticeship**	**Secondary**	**Tertiary**	**Not available**	**P-value**
	%(N)	%(N)	%(N)	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:						
If working in a job where others would be at risk (for ex. in nursing homes)	58.9(93)	53.3(385)	56.4(308)	63.7(1,677)	70.0(7)	<0.001
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	55.7(88)	52.4(378)	53.1(290)	61.8(1,625)	70.0(7)	<0.001
If working in a job where employees have to share the same open workspace	26.6(42)	19.7(142)	19.2(105)	22.1(581)	30.0(3)	0.157
To visit high risk individuals (for ex. in nursing homes or hospitals)	50.0(79)	42.8(309)	45.4(248)	49.3(1,297)	40.0(4)	0.019
To cross national borders	39.2(62)	34.3(248)	30.8(168)	31.4(827)	30.0(3)	0.184
To take a plane	50.0(79)	44.0(318)	40.8(223)	44.6(1,174)	60.0(6)	0.197
To be exempt from quarantine when travelling abroad	50.0(79)	52.2(377)	53.1(290)	58.0(1,526)	50.0(5)	0.012
To participate in large gatherings (for ex. concerts, matches etc.)	34.8(55)	33.8(244)	34.1(186)	38.4(1,011)	40.0(4)	0.101
To access social venues (for ex. cinema, theater, sports club)	36.1(57)	35.9(259)	31.3(171)	36.3(954)	20.0(2)	0.181
There is no context where a certificate should be presented	17.7(28)	25.2(182)	24.7(135)	20.3(533)	0.0(0)	0.003
Other contexts	1.9(3)	1.4(10)	1.6(9)	1.2(32)	10.0(1)	
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?						
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)						
Strongly disagree	15.2(24)	14.9(107)	16.3(89)	12.6(331)	0.0(0)	
Disagree	7.6(12)	9.4(68)	9.0(49)	8.6(226)	0.0(0)	
Neither agree nor disagree	16.5(26)	17.7(128)	20.1(110)	15.6(411)	30.0(3)	0.014
Agree	20.3(32)	19.1(138)	22.2(121)	24.8(652)	20.0(2)	
Strongly agree	40.5(64)	38.9(281)	32.4(177)	38.4(1,011)	50.0(5)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate						
Strongly disagree	43.0(68)	46.4(335)	46.7(255)	51.8(1,364)	60.0(6)	
Disagree	17.1(27)	17.6(127)	20.5(112)	21.5(566)	20.0(2)	
Neither agree nor disagree	18.4(29)	19.3(139)	20.0(109)	16.0(420)	10.0(1)	<0.001
Agree	10.8(17)	10.0(72)	7.7(42)	7.2(189)	0.0(0)	
Strongly agree	10.8(17)	6.8(49)	5.1(28)	3.5(92)	10.0(1)	

Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)						
Strongly disagree	18.4(29)	10.1(73)	9.3(51)	8.6(225)	30.0(3)	
Disagree	12.0(19)	10.1(73)	9.0(49)	9.2(243)	0.0(0)	
Neither agree nor disagree	21.5(34)	22.0(159)	21.8(119)	23.1(608)	30.0(3)	0.001
Agree	17.7(28)	23.3(168)	27.8(152)	28.4(746)	20.0(2)	
Strongly agree	30.4(48)	34.5(249)	32.1(175)	30.7(809)	20.0(2)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)						
Strongly disagree	12.0(19)	8.2(59)	7.3(40)	6.9(182)	20.0(2)	
Disagree	12.0(19)	7.6(55)	8.1(44)	7.1(186)	0.0(0)	
Neither agree nor disagree	20.3(32)	19.0(137)	18.9(103)	18.2(478)	30.0(3)	0.005
Agree	19.0(30)	27.3(197)	31.9(174)	33.8(888)	20.0(2)	
Strongly agree	36.7(58)	38.0(274)	33.9(185)	34.1(897)	30.0(3)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate						
Strongly disagree	15.2(24)	20.5(148)	19.6(107)	23.1(608)	40.0(4)	
Disagree	12.7(20)	10.4(75)	13.6(74)	18.1(477)	0.0(0)	
Neither agree nor disagree	27.8(44)	23.5(170)	22.0(120)	21.6(568)	30.0(3)	<0.001
Agree	12.7(20)	13.4(97)	15.2(83)	12.9(339)	10.0(1)	
Strongly agree	31.6(50)	32.1(232)	29.7(162)	24.3(639)	20.0(2)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)						
Strongly disagree	12.7(20)	10.7(77)	9.9(54)	7.8(206)	0.0(0)	
Disagree	8.9(14)	7.6(55)	10.6(58)	8.6(226)	10.0(1)	
Neither agree nor disagree	21.5(34)	23.5(170)	24.4(133)	18.7(493)	30.0(3)	<0.001
Agree	15.8(25)	20.9(151)	23.6(129)	26.5(697)	10.0(1)	
Strongly agree	41.1(65)	37.3(269)	31.5(172)	38.4(1,009)	50.0(5)	

	Household income					
	Low	**Mid**	**High**	**Does not know or does not wish to answer**	**Not available**	**P-value**
	%(N)	%(N)	%(N)	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:						
If working in a job where others would be at risk (for ex. in nursing homes)	59.1(309)	60.6(1,245)	66.3(386)	59.2(458)	53.7(72)	0.022
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	54.1(283)	59.4(1,221)	63.1(367)	58.1(449)	50.7(68)	0.013
If working in a job where employees have to share the same open workspace	24.9(130)	21.4(440)	21.3(124)	20.7(160)	14.2(19)	0.087
To visit high risk individuals (for ex. in nursing homes or hospitals)	47.2(247)	47.1(968)	52.7(307)	47.2(365)	37.3(50)	0.018
To cross national borders	35.6(186)	31.0(638)	35.1(204)	31.7(245)	26.1(35)	0.083
To take a plane	42.4(222)	43.6(895)	49.3(287)	45.7(353)	32.1(43)	0.004
To be exempt from quarantine when travelling abroad	51.4(269)	56.0(1,151)	64.1(373)	55.5(429)	41.0(55)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	35.0(183)	36.1(741)	44.8(261)	35.1(271)	32.8(44)	0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	35.4(185)	34.9(717)	42.3(246)	34.2(264)	23.1(31)	<0.001
There is no context where a certificate should be presented	24.1(126)	21.7(445)	17.5(102)	21.1(163)	31.3(42)	0.005
Other contexts	0.8(4)	1.5(30)	1.2(7)	1.7(13)	0.7(1)	0.616
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?						
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)						
Strongly disagree	15.9(83)	13.0(267)	11.3(66)	14.1(109)	19.4(26)	
Disagree	9.9(52)	8.6(177)	6.9(40)	9.8(76)	7.5(10)	
Neither agree nor disagree	17.4(91)	16.0(329)	12.7(74)	20.2(156)	20.9(28)	<0.001
Agree	21.6(113)	24.7(507)	26.5(154)	18.9(146)	18.7(25)	
Strongly agree	35.2(184)	37.7(775)	42.6(248)	37.0(286)	33.6(45)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate						
Strongly disagree	46.1(241)	51.2(1,053)	54.6(318)	47.0(363)	39.6(53)	
Disagree	18.2(95)	20.1(414)	21.3(124)	21.0(162)	29.1(39)	
Neither agree nor disagree	18.5(97)	16.7(344)	14.1(82)	19.8(153)	16.4(22)	<0.001
Agree	10.1(53)	8.0(164)	7.0(41)	6.7(52)	7.5(10)	
Strongly agree	7.1(37)	3.9(80)	2.9(17)	5.6(43)	7.5(10)	

Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)						
Strongly disagree	9.9(52)	8.7(179)	9.8(57)	11.0(85)	6.0(8)	
Disagree	10.1(53)	8.8(180)	10.5(61)	10.5(81)	6.7(9)	
Neither agree nor disagree	23.3(122)	24.3(499)	20.1(117)	21.2(164)	15.7(21)	<0.001
Agree	20.5(107)	26.8(551)	33.0(192)	25.2(195)	38.1(51)	
Strongly agree	36.1(189)	31.4(646)	26.6(155)	32.1(248)	33.6(45)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)						
Strongly disagree	10.1(53)	6.5(133)	7.2(42)	8.5(66)	6.0(8)	
Disagree	6.7(35)	7.5(154)	7.2(42)	8.2(63)	7.5(10)	
Neither agree nor disagree	18.2(95)	19.2(394)	16.7(97)	20.1(155)	9.0(12)	0.001
Agree	27.3(143)	32.4(665)	37.8(220)	27.4(212)	38.1(51)	
Strongly agree	37.7(197)	34.5(709)	31.1(181)	35.8(277)	39.6(53)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate						
Strongly disagree	15.5(81)	22.4(460)	28.5(166)	19.8(153)	23.1(31)	
Disagree	11.7(61)	17.2(353)	19.6(114)	13.2(102)	11.9(16)	
Neither agree nor disagree	25.8(135)	21.7(446)	20.4(119)	22.8(176)	21.6(29)	<0.001
Agree	12.6(66)	13.0(267)	13.1(76)	14.6(113)	13.4(18)	
Strongly agree	34.4(180)	25.7(529)	18.4(107)	29.6(229)	29.9(40)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)						
Strongly disagree	12.2(64)	8.2(169)	6.9(40)	8.4(65)	14.2(19)	
Disagree	7.8(41)	8.3(171)	7.0(41)	10.7(83)	13.4(18)	
Neither agree nor disagree	22.9(120)	20.4(419)	13.6(79)	23.3(180)	26.1(35)	<0.001
Agree	23.1(121)	25.5(523)	26.8(156)	22.0(170)	24.6(33)	
Strongly agree	33.8(177)	37.6(773)	45.7(266)	35.6(275)	21.6(29)	

	Employment status								
	Salaried	**Retired**	**Independent**	**Unemployed**	**Homemaker**	**Disability**	**Student**	**Not available**	**P-value**
	%(N)	%(N)	%(N)	%(N)	%(N)	%(N)	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:									
If working in a job where others would be at risk (for ex. in nursing homes)	58.2(1,266)	66.2(696)	60.0(192)	58.3(77)	62.3(114)	46.5(20)	64.2(104)	100.0(1)	<0.001
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	55.1(1,198)	66.4(699)	58.1(186)	58.3(77)	60.1(110)	46.5(20)	59.9(97)	100.0(1)	<0.001
If working in a job where employees have to share the same open workspace	16.1(350)	34.2(360)	20.3(65)	22.7(30)	21.3(39)	18.6(8)	12.3(20)	100.0(1)	<0.001
To visit high risk individuals (for ex. in nursing homes or hospitals)	41.7(907)	60.8(640)	46.6(149)	44.7(59)	53.0(97)	39.5(17)	41.4(67)	100.0(1)	<0.001
To cross national borders	25.8(560)	48.4(509)	28.7(92)	27.3(36)	32.8(60)	27.9(12)	23.5(38)	100.0(1)	<0.001
To take a plane	37.0(805)	61.6(648)	43.1(138)	43.2(57)	47.0(86)	30.2(13)	32.1(52)	100.0(1)	<0.001
To be exempt from quarantine when travelling abroad	50.2(1,092)	72.1(758)	54.7(175)	45.5(60)	53.6(98)	37.2(16)	47.5(77)	100.0(1)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	31.9(694)	47.8(503)	36.3(116)	34.8(46)	38.3(70)	30.2(13)	35.2(57)	100.0(1)	<0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	28.9(629)	52.2(549)	33.1(106)	31.1(41)	36.1(66)	32.6(14)	22.8(37)	100.0(1)	<0.001
There is no context where a certificate should be presented	26.4(575)	10.6(111)	23.4(75)	21.2(28)	20.2(37)	32.6(14)	23.5(38)	0.0(0)	<0.001
Other contexts	1.4(31)	1.5(16)	0.9(3)	0.8(1)	0.5(1)	0.0(0)	1.9(3)	0.0(0)	
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?									
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)									
Strongly disagree	15.7(342)	6.9(73)	15.6(50)	15.9(21)	17.5(32)	20.9(9)	14.8(24)	0.0(0)	
Disagree	10.2(221)	6.0(63)	10.0(32)	7.6(10)	3.8(7)	11.6(5)	10.5(17)	0.0(0)	
Neither agree nor disagree	17.9(390)	10.8(114)	15.0(48)	24.2(32)	19.1(35)	23.3(10)	30.2(49)	0.0(0)	<0.001
Agree	24.8(539)	20.5(216)	24.4(78)	20.5(27)	20.8(38)	20.9(9)	22.8(37)	100.0(1)	
Strongly agree	31.4(682)	55.7(586)	35.0(112)	31.8(42)	38.8(71)	23.3(10)	21.6(35)	0.0(0)	

COVID-19 is a trivial disease that does not necessitate a vaccination certificate									
Strongly disagree	44.1(959)	66.5(700)	47.8(153)	43.2(57)	49.7(91)	39.5(17)	30.9(50)	100.0(1)	
Disagree	23.0(501)	11.0(116)	23.8(76)	22.0(29)	20.2(37)	18.6(8)	41.4(67)	0.0(0)	
Neither agree nor disagree	21.0(456)	9.0(95)	16.3(52)	23.5(31)	13.7(25)	20.9(9)	18.5(30)	0.0(0)	<0.001
Agree	8.4(182)	6.7(71)	8.4(27)	6.8(9)	9.8(18)	9.3(4)	5.6(9)	0.0(0)	
Strongly agree	3.5(76)	6.7(70)	3.8(12)	4.5(6)	6.6(12)	11.6(5)	3.7(6)	0.0(0)	
Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)									
Strongly disagree	8.9(193)	9.3(98)	10.0(32)	9.8(13)	14.8(27)	9.3(4)	8.6(14)	0.0(0)	
Disagree	8.8(192)	10.1(106)	12.5(40)	6.8(9)	8.7(16)	4.7(2)	11.1(18)	100.0(1)	
Neither agree nor disagree	20.4(443)	29.3(308)	20.6(66)	23.5(31)	21.9(40)	34.9(15)	12.3(20)	0.0(0)	<0.001
Agree	28.4(617)	24.0(253)	28.7(92)	26.5(35)	21.3(39)	18.6(8)	32.1(52)	0.0(0)	
Strongly agree	33.5(729)	27.3(287)	28.1(90)	33.3(44)	33.3(61)	32.6(14)	35.8(58)	0.0(0)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)									
Strongly disagree	7.4(160)	6.0(63)	8.4(27)	7.6(10)	14.2(26)	4.7(2)	8.0(13)	100.0(1)	
Disagree	6.9(150)	8.1(85)	9.4(30)	6.8(9)	8.2(15)	11.6(5)	6.2(10)	0.0(0)	
Neither agree nor disagree	16.3(354)	23.3(245)	20.6(66)	18.2(24)	16.4(30)	23.3(10)	14.8(24)	0.0(0)	<0.001
Agree	33.5(728)	29.4(309)	31.6(101)	31.1(41)	26.2(48)	20.9(9)	34.0(55)	0.0(0)	
Strongly agree	36.0(782)	33.3(350)	30.0(96)	36.4(48)	35.0(64)	39.5(17)	37.0(60)	0.0(0)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate									
Strongly disagree	17.4(378)	34.4(362)	21.6(69)	10.6(14)	21.9(40)	11.6(5)	13.6(22)	100.0(1)	
Disagree	16.4(356)	16.1(169)	14.7(47)	13.6(18)	13.7(25)	14.0(6)	15.4(25)	0.0(0)	
Neither agree nor disagree	22.0(478)	21.2(223)	23.1(74)	25.0(33)	24.0(44)	18.6(8)	27.8(45)	0.0(0)	<0.001
Agree	14.4(312)	10.2(107)	12.2(39)	17.4(23)	14.8(27)	16.3(7)	15.4(25)	0.0(0)	
Strongly agree	29.9(650)	18.2(191)	28.4(91)	33.3(44)	25.7(47)	39.5(17)	27.8(45)	0.0(0)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)									
Strongly disagree	8.6(186)	7.6(80)	9.4(30)	12.1(16)	12.0(22)	16.3(7)	9.9(16)	0.0(0)	
Disagree	9.9(216)	5.4(57)	7.5(24)	11.4(15)	8.2(15)	9.3(4)	14.2(23)	0.0(0)	
Neither agree nor disagree	22.4(486)	13.8(145)	19.4(62)	27.3(36)	22.4(41)	37.2(16)	29.0(47)	0.0(0)	<0.001
Agree	26.4(574)	22.2(234)	29.4(94)	19.7(26)	18.0(33)	16.3(7)	21.6(35)	0.0(0)	
Strongly agree	32.8(712)	51.0(536)	34.4(110)	29.5(39)	39.3(72)	20.9(9)	25.3(41)	100.0(1)	

	Occupational position							
	Unskilled workers	**Skilled workers**	**Highly skilled workers**	**Professional-Managers**	**Independent workers**	**Other**	**Not available**	**P-value**
	%(N)	%(N)	%(N)	%(N)	%(N)	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:								
If working in a job where others would be at risk (for ex. in nursing homes)	58.6(224)	56.4(566)	56.4(588)	67.4(938)	55.3(21)	63.9(133)	0.0(0)	<0.001
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	57.9(221)	54.1(543)	55.0(573)	65.3(909)	50.0(19)	59.1(123)	0.0(0)	<0.001
If working in a job where employees have to share the same open workspace	25.7(98)	19.6(197)	17.9(187)	24.9(346)	26.3(10)	16.8(35)	0.0(0)	<0.001
To visit high risk individuals (for ex. in nursing homes or hospitals)	47.4(181)	45.2(454)	42.0(438)	53.5(744)	57.9(22)	47.1(98)	0.0(0)	<0.001
To cross national borders	38.7(148)	30.7(308)	27.4(285)	35.2(489)	31.6(12)	31.7(66)	0.0(0)	<0.001
To take a plane	43.7(167)	41.4(416)	39.5(412)	50.0(696)	47.4(18)	43.8(91)	0.0(0)	<0.001
To be exempt from quarantine when travelling abroad	50.0(191)	51.6(518)	51.5(537)	64.1(892)	73.7(28)	53.4(111)	0.0(0)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	33.5(128)	32.5(326)	32.6(340)	43.6(607)	47.4(18)	38.9(81)	0.0(0)	<0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	35.1(134)	34.0(341)	30.7(320)	40.4(562)	47.4(18)	32.7(68)	0.0(0)	<0.001
There is no context where a certificate should be presented	23.0(88)	24.8(249)	25.3(264)	16.7(232)	18.4(7)	17.3(36)	100.0(2)	<0.001
Other contexts	1.8(7)	1.1(11)	1.2(13)	1.4(20)	0.0(0)	1.9(4)	0.0(0)	

What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?								
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)								
Strongly disagree	18.1(69)	15.8(159)	14.8(154)	10.3(143)	5.3(2)	11.5(24)	0.0(0)	
Disagree	5.5(21)	10.2(102)	10.1(105)	7.5(104)	10.5(4)	8.2(17)	100.0(2)	
Neither agree nor disagree	19.9(76)	15.1(152)	19.0(198)	14.0(195)	13.2(5)	25.0(52)	0.0(0)	<0.001
Agree	19.4(74)	22.8(229)	22.2(231)	25.3(352)	28.9(11)	23.1(48)	0.0(0)	
Strongly agree	37.2(142)	36.1(362)	34.0(354)	42.9(597)	42.1(16)	32.2(67)	0.0(0)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate								
Strongly disagree	44.5(170)	47.0(472)	44.9(468)	57.9(806)	52.6(20)	44.2(92)	0.0(0)	
Disagree	13.9(53)	19.2(193)	22.7(237)	19.8(275)	21.1(8)	31.7(66)	100.0(2)	
Neither agree nor disagree	21.5(82)	20.3(204)	17.2(179)	14.2(198)	13.2(5)	14.4(30)	0.0(0)	<0.001
Agree	11.0(42)	8.3(83)	9.3(97)	5.8(80)	13.2(5)	6.3(13)	0.0(0)	
Strongly agree	9.2(35)	5.2(52)	5.9(61)	2.3(32)	0.0(0)	3.4(7)	0.0(0)	
Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)								
Strongly disagree	15.7(60)	10.1(101)	7.2(75)	8.8(123)	7.9(3)	9.1(19)	0.0(0)	
Disagree	7.9(30)	10.0(100)	8.1(84)	10.4(145)	10.5(4)	10.1(21)	0.0(0)	
Neither agree nor disagree	22.8(87)	21.7(218)	23.9(249)	22.8(317)	23.7(9)	20.2(42)	50.0(1)	<0.001
Agree	19.9(76)	24.7(248)	25.8(269)	30.6(425)	39.5(15)	29.8(62)	50.0(1)	
Strongly agree	33.8(129)	33.6(337)	35.0(365)	27.4(381)	18.4(7)	30.8(64)	0.0(0)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)								
Strongly disagree	12.8(49)	8.2(82)	6.2(65)	6.5(90)	5.3(2)	6.7(14)	0.0(0)	
Disagree	7.9(30)	7.8(78)	6.5(68)	7.8(109)	7.9(3)	7.7(16)	0.0(0)	
Neither agree nor disagree	20.4(78)	17.8(179)	19.1(199)	18.3(254)	26.3(10)	15.9(33)	0.0(0)	<0.001
Agree	25.1(96)	29.2(293)	31.2(325)	35.1(488)	39.5(15)	34.6(72)	100.0(2)	
Strongly agree	33.8(129)	37.1(372)	36.9(385)	32.4(450)	21.1(8)	35.1(73)	0.0(0)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate								
Strongly disagree	16.8(64)	18.2(183)	17.3(180)	29.8(414)	26.3(10)	19.2(40)	0.0(0)	
Disagree	11.3(43)	13.0(131)	14.8(154)	19.9(277)	18.4(7)	16.3(34)	0.0(0)	
Neither agree nor disagree	23.8(91)	24.1(242)	23.4(244)	18.8(261)	23.7(9)	27.4(57)	50.0(1)	<0.001
Agree	12.3(47)	13.9(140)	14.7(153)	12.1(169)	7.9(3)	13.5(28)	0.0(0)	
Strongly agree	35.9(137)	30.7(308)	29.8(311)	19.4(270)	23.7(9)	23.6(49)	50.0(1)	

It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)								
Strongly disagree	14.7(56)	10.9(109)	7.7(80)	6.6(92)	2.6(1)	8.7(18)	50.0(1)	
Disagree	6.5(25)	8.7(87)	10.9(114)	7.6(106)	7.9(3)	8.7(18)	50.0(1)	
Neither agree nor disagree	22.8(87)	21.8(219)	22.3(232)	17.0(237)	10.5(4)	26.0(54)	0.0(0)	<0.001
Agree	19.4(74)	24.0(241)	24.0(250)	27.3(380)	26.3(10)	23.1(48)	0.0(0)	
Strongly agree	36.6(140)	34.7(348)	35.1(366)	41.4(576)	52.6(20)	33.7(70)	0.0(0)	

	Past SARS-CoV-2 infection		
	Yes	No	P-value
	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:			
If working in a job where others would be at risk (for ex. in nursing homes)	54.5(421)	62.2(2,049)	<0.001
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	51.3(396)	60.5(1,992)	<0.001
If working in a job where employees have to share the same open workspace	18.0(139)	22.3(734)	0.010
To visit high risk individuals (for ex. in nursing homes or hospitals)	40.4(312)	49.3(1,625)	<0.001
To cross national borders	28.2(218)	33.1(1,090)	0.010
To take a plane	39.0(301)	45.5(1,499)	0.001
To be exempt from quarantine when travelling abroad	47.5(367)	58.0(1,910)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	31.0(239)	38.3(1,261)	<0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	29.7(229)	36.8(1,214)	<0.001
There is no context where a certificate should be presented	27.8(215)	20.1(663)	<0.001
Other contexts	1.6(12)	1.3(43)	
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?			
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)			
Strongly disagree	16.2(125)	12.9(426)	
Disagree	11.5(89)	8.1(266)	
Neither agree nor disagree	19.9(154)	15.9(524)	<0.001
Agree	22.8(176)	23.3(769)	
Strongly agree	29.5(228)	39.8(1,310)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate			
Strongly disagree	42.4(327)	51.6(1,701)	
Disagree	22.2(171)	20.1(663)	
Neither agree nor disagree	20.3(157)	16.4(541)	<0.001
Agree	10.1(78)	7.3(242)	
Strongly agree	5.1(39)	4.5(148)	

Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)			
Strongly disagree	9.8(76)	9.3(305)	
Disagree	8.5(66)	9.7(318)	
Neither agree nor disagree	19.6(151)	23.4(772)	0.116
Agree	27.8(215)	26.7(881)	
Strongly agree	34.2(264)	30.9(1,019)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)			
Strongly disagree	8.3(64)	7.2(238)	
Disagree	6.2(48)	7.8(256)	
Neither agree nor disagree	17.0(131)	18.9(622)	0.052
Agree	29.8(230)	32.2(1,061)	
Strongly agree	38.7(299)	33.9(1,118)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate			
Strongly disagree	19.3(149)	22.5(742)	
Disagree	14.0(108)	16.3(538)	
Neither agree nor disagree	19.4(150)	22.9(755)	<0.001
Agree	14.8(114)	12.9(426)	
Strongly agree	32.5(251)	25.3(834)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)			
Strongly disagree	7.9(61)	9.0(296)	
Disagree	11.3(87)	8.1(267)	
Neither agree nor disagree	23.3(180)	19.8(653)	0.006
Agree	23.3(180)	25.0(823)	
Strongly agree	34.2(264)	38.1(1,256)	

	Did you or will you get vaccinated?			
	Yes	**No**	**Does not know**	**P-value**
	%(N)	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:				
If working in a job where others would be at risk (for ex. in nursing homes)	70.0(2,157)	24.2(136)	41.6(177)	<0.001
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	67.7(2,084)	24.0(135)	39.8(169)	<0.001
If working in a job where employees have to share the same open workspace	27.6(850)	0.9(5)	4.2(18)	<0.001
To visit high risk individuals (for ex. in nursing homes or hospitals)	58.3(1,796)	9.4(53)	20.7(88)	<0.001
To cross national borders	40.8(1,256)	2.7(15)	8.7(37)	<0.001
To take a plane	55.6(1,711)	5.0(28)	14.4(61)	<0.001
To be exempt from quarantine when travelling abroad	68.6(2,112)	11.4(64)	23.8(101)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	46.1(1,420)	5.2(29)	12.0(51)	<0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	45.0(1,386)	3.6(20)	8.7(37)	<0.001
There is no context where a certificate should be presented	10.9(336)	66.0(371)	40.2(171)	<0.001
Other contexts	1.2(37)	2.0(11)	1.6(7)	
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?				
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)				
Strongly disagree	6.3(195)	45.7(257)	23.3(99)	
Disagree	5.4(166)	19.9(112)	18.1(77)	
Neither agree nor disagree	14.4(442)	20.6(116)	28.2(120)	<0.001
Agree	26.7(823)	7.5(42)	18.8(80)	
Strongly agree	47.2(1,454)	6.2(35)	11.5(49)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate				
Strongly disagree	60.9(1,877)	11.9(67)	19.8(84)	
Disagree	20.0(616)	21.2(119)	23.3(99)	
Neither agree nor disagree	10.6(328)	35.2(198)	40.5(172)	<0.001
Agree	4.7(144)	21.9(123)	12.5(53)	
Strongly agree	3.7(115)	9.8(55)	4.0(17)	
Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)				
Strongly disagree	9.2(283)	10.7(60)	8.9(38)	
Disagree	11.0(338)	4.1(23)	5.4(23)	
Neither agree nor disagree	26.5(815)	9.1(51)	13.4(57)	<0.001
Agree	28.4(876)	19.4(109)	26.1(111)	
Strongly agree	24.9(768)	56.8(319)	46.1(196)	

Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)				
Strongly disagree	6.6(203)	11.0(62)	8.7(37)	
Disagree	8.1(251)	5.2(29)	5.6(24)	
Neither agree nor disagree	20.7(637)	8.4(47)	16.2(69)	<0.001
Agree	34.8(1,072)	20.3(114)	24.7(105)	
Strongly agree	29.8(917)	55.2(310)	44.7(190)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate				
Strongly disagree	27.1(835)	6.4(36)	4.7(20)	
Disagree	19.3(593)	3.4(19)	8.0(34)	
Neither agree nor disagree	24.5(754)	10.9(61)	21.2(90)	<0.001
Agree	12.5(386)	14.8(83)	16.7(71)	
Strongly agree	16.6(512)	64.6(363)	49.4(210)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)				
Strongly disagree	4.8(147)	26.0(146)	15.1(64)	
Disagree	5.0(153)	21.0(118)	19.5(83)	
Neither agree nor disagree	16.9(519)	32.2(181)	31.3(133)	<0.001
Agree	27.4(845)	12.6(71)	20.5(87)	
Strongly agree	46.0(1,416)	8.2(46)	13.6(58)	

	Is vaccination an important step to surmount the current COVID-19 pandemic?		
	Yes or rather yes	**No or rather no**	**P-value**
	%(N)	%(N)	
Select the context(s) in which a vaccination certificate should be presented:			
If working in a job where others would be at risk (for ex. in nursing homes)	64.5(2,422)	15.3(48)	<0.001
If working in a job where the employee is at high risk of infection (for ex. in hospitals)	62.2(2,335)	16.9(53)	<0.001
If working in a job where employees have to share the same open workspace	23.2(871)	0.6(2)	<0.001
To visit high risk individuals (for ex. in nursing homes or hospitals)	51.1(1,919)	5.7(18)	<0.001
To cross national borders	34.7(1,302)	1.9(6)	<0.001
To take a plane	47.7(1,791)	2.9(9)	<0.001
To be exempt from quarantine when travelling abroad	60.1(2,254)	7.3(23)	<0.001
To participate in large gatherings (for ex. concerts, matches etc.)	39.7(1,490)	3.2(10)	<0.001
To participate in collective social activities (for ex. cinemas, theater, sports clubs)	38.3(1,437)	1.9(6)	<0.001
There is no context where a certificate should be presented	17.0(637)	76.8(241)	<0.001
Other contexts	1.4(53)	0.6(2)	
What is your opinion about the following statements on a scale of 1 (Strongly disagree) to 5 (Strongly agree)?			
A vaccination certificate should be necessary in certain contexts (for ex. to travel, take care of vulnerable individuals)			
Strongly disagree	9.9(373)	56.7(178)	<0.001
Disagree	7.9(298)	18.2(57)	
Neither agree nor disagree	16.7(628)	15.9(50)	
Agree	24.9(934)	3.5(11)	
Strongly agree	40.5(1,520)	5.7(18)	
COVID-19 is a trivial disease that does not necessitate a vaccination certificate			
Strongly disagree	53.3(2,001)	8.6(27)	<0.001
Disagree	20.8(781)	16.9(53)	
Neither agree nor disagree	15.9(595)	32.8(103)	
Agree	6.4(241)	25.2(79)	
Strongly agree	3.6(135)	16.6(52)	

Individuals without a vaccination certificate could be victims of discrimination (for ex. employment opportunities, participating in activities)			
Strongly disagree	9.1(343)	12.1(38)	<0.001
Disagree	9.9(372)	3.8(12)	
Neither agree nor disagree	23.8(892)	9.9(31)	
Agree	27.7(1,039)	18.2(57)	
Strongly agree	29.5(1,107)	56.1(176)	
Individuals without a vaccination certificate risk losing certain rights (for ex. crossing borders)			
Strongly disagree	7.0(262)	12.7(40)	<0.001
Disagree	7.7(289)	4.8(15)	
Neither agree nor disagree	19.1(716)	11.8(37)	
Agree	33.0(1,239)	16.6(52)	
Strongly agree	33.2(1,247)	54.1(170)	
Personal medical data belongs to the individual and should not be the object of a vaccination certificate			
Strongly disagree	23.5(881)	3.2(10)	<0.001
Disagree	17.1(640)	1.9(6)	
Neither agree nor disagree	23.4(877)	8.9(28)	
Agree	13.4(502)	12.1(38)	
Strongly agree	22.7(853)	73.9(232)	
It is easier to accept a vaccination certificate than the measures imposed by the pandemic (for ex. partial lockdown, business closures)			
Strongly disagree	6.6(249)	34.4(108)	<0.001
Disagree	7.7(289)	20.7(65)	
Neither agree nor disagree	19.6(737)	30.6(96)	
Agree	26.0(977)	8.3(26)	
Strongly agree	40.0(1,501)	6.1(19)	