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# Decision-making on COVID-19 vaccination: A qualitative study among health care and social workers caring for vulnerable individuals

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## ABSTRACT

In January 2021, the Swiss government introduced the first COVID-19 vaccines and prioritized allocation to at-risk individuals and professionals working with them. Despite this opportunity, vaccine uptake among staff employed in retirement homes and institutes for people with disabilities was suboptimal. This study aimed to capture real-time decision-making about COVID-19 vaccine among staff employed in nursing homes and institutes for people with disabilities in Southern Switzerland. We conducted semi-structured phone-interviews with 25 staff employed in retirement homes and institutes for people with disabilities between February and May 2021, i.e., when participants had to decide whether they wanted to adhere to the priority vaccination programme. Among participants, 21 either signed up for the COVID-19 vaccination or were fully or partly vaccinated at the time of the interview. For most participants, the vaccination choice was a challenging process: information appeared to be lacking and conflicting; numerous moral principles were at stake and contradictory; the way vaccination was organized clashed with the health values to which respondents had been previously exposed; finally, the fear of discrimination for those who decided not to get vaccinated loomed over the vaccination choice. Participants decided for or against vaccination based on principles, traditions, emotions, and a reflexive assessment of the personal vs. collective benefit of the vaccination, the latter being the most common within the investigated sample. This study shows that deciding to get vaccinated against COVID-19 is a nuanced process and that individuals cannot simply be categorized as “novax” or “provax” based on their vaccination decision.

## 1. Introduction

Vaccines against COVID-19 were distributed worldwide since December 2020. At that time, many countries gave their staff working in health care facilities, particularly health care workers (HCWs), high priority in their access. Prioritizing HCWs to receive COVID-19 vaccines is ethically justified by their right to be protected from occupational infection, the need to maintain adequate healthcare staffing, and/or the protection of patients – particularly the vulnerable ones – from being infected by staff (Thorsteinsdottir & Madsen, 2021). In general, HCWs are sensitive to vaccination programs, as evidenced by studies showing that HCWs are more prone to get vaccinated against COVID-19 than non HCWs (Detoc et al., 2020; Yurttas et al., 2021). However, some studies found low acceptance rates among nurses (Dror et al., 2020; Kwok et al., 2021) and among HCWs in general (KabambaNzaji et al., 2020).

Vaccine hesitancy is defined as a “delay in acceptance or refusal of

vaccination despite availability of vaccines” (MacDonald & SAGE Working Group on Vaccine Hesitancy, 2015), and it represents a threat for the success of vaccination campaigns against COVID-19 and the achievement of high immunization coverage. Similar to other vaccinations, the individual decision process of whether to be vaccinated against COVID-19 is multifactorial (García & Cerda, 2020), and it is influenced by several and interacting drivers, including emotional, cultural, social, religious, logistical, political, and cognitive factors. Personal motivators, including the perception of the risk of being infected with COVID-19 (both in terms of susceptibility and severity) and of experiencing side effects after the COVID-19 vaccination, have the greatest impact on the decision (Prematunge et al., 2014). Secondary drivers include altruistic attitudes grounded in the desire to prevent the infection in loved ones, patients, and community, and believing in the collective responsibility of being vaccinated (Kwok et al., 2021). Beyond the importance of these drivers, COVID-19 vaccination entails unique challenges for vaccine

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acceptance among both the general population and HCWs, such as institutional pressure to be vaccinated to protect vulnerable patients, uncertainties regarding safety and effectiveness of the vaccine, and widespread anti-vaccination information across multiple channels (Fadda et al., 2020). In addition, HCWs – a highly health literate population with ethical and legal responsibilities towards patients – may have conflicting moral concerns and be pushed to ponder various ethical considerations as they make their choice about receiving the vaccine. Some vaccine hesitant HCWs may fear negative discrimination (loss of income or job), demand positive actions aimed at increased protection from the infection, or dread public allegations of making an irrational and/or immoral choice (Gur-Arie et al., 2021). Such concerns – which are not unique to HCWs – may result in social pressure, hindering self-directedness in their decision-making about vaccination. While respect for individual autonomy represents a priority in the Swiss government's rationale behind the COVID-19 vaccination policy, other countries placed the public health interest above individual interests and introduced forms of vaccination mandates.

The aim of this study was to understand the decision-making process regarding COVID-19 vaccination among a sample of staff employed in nursing homes and institutes for people with disabilities in Ticino, Southern Switzerland, shortly after the first COVID-19 vaccine was approved in the country in December 2020. In the first months of 2021, nursing homes and, later, institutes for people with disabilities were invited by the cantonal authorities to communicate the number of their staff, mainly (but not only) health care and social workers, wishing to be vaccinated as a priority. In the days following this communication, a mobile team was sent to these facilities to vaccinate those who had signed up. In this period (January to May 2021), staff employed in facilities catering for particularly vulnerable patients were solicited to make a decision and to communicate it to their directors, so that the exact number of doses could be ordered and delivered.

Several reasons suggest that the COVID-19 vaccination decision-making was a particularly challenging process in Southern Switzerland (i.e. the Canton of Ticino), thus making this region an interesting context for the aim of this study. First, a survey conducted in this area in March 2021 found higher vaccination intentions among healthcare and social workers compared to the general population (Fadda et al., 2022). Data presented by regional authorities in August 2021, however, showed that vaccination uptake among staff employed in the healthcare sector was 77% in nursing homes, 83% in hospitals and clinics, and 70% in home care and nursing services (Dettaglio comunicato - Repubblica e Cantone Ticino, 2022). Up to nearly one third of healthcare workers refused the vaccine in the early months of the vaccination campaign. Second, Southern Switzerland borders Lombardy, the Italian region epicentre of the outbreak in Europe during the first pandemic wave. The Canton of Ticino was hit harder and earlier than the rest of the country during the first wave of the pandemic, which contributed to increase the risk perception of COVID-19. Third, Southern Switzerland is an Italian-speaking region, and residents were exposed to the Italian extensive and often contradictory media coverage of the pandemic (Lovari, 2020), and were likely flooded by the Italian infodemic phenomenon. Fourth, this Canton is part of Switzerland, a country characterized by direct democracy, which gives citizens a high degree of political self-determination. Thus, a strong appeal to the general population's and HCW's individual responsibility was a major element of the vaccination campaign.

Investigating COVID-19 vaccination decision in such a context offers unique opportunities to further our understanding of this process and its challenges. New, highly infectious variants of concern are spreading, and vaccines against COVID-19 protect vaccinated individuals from severe courses of the disease but do not provide indirect protection to non-immunized individuals. Our study can lead to a better recognition of how the unfolding of the current pandemic may jeopardize current immunization efforts and may aid in the design of new communication and policy strategies to sustain and promote COVID-19 vaccine uptake.

## 2. Methods

### 2.1. Study design

This study is based on the comprehensive sociology of Max Weber which emphasizes the importance of subjective meaning attached to behavior and the necessity to understand it in the context of the actor (Weber, 1968). In accordance with this paradigm, we conducted a qualitative study using individual interviews with a selected sample of staff employed in residential institutions caring for at-risk individuals in the Canton of Ticino in Southern Switzerland. We included two types of institutions: nursing homes and institutes for persons with cognitive and physical disabilities. This choice was made to allow us to interview staff working in facilities caring for vulnerable patients and exposed to a strong pressure to adhere to vaccination not only in their personal interest, but also to protect others. The data collection took place between February 3 and May 15, 2021. This period corresponds to the very first months of the vaccination campaign in Ticino, which was initially aimed at at-risk individuals and the professionals assisting them. Therefore, it allowed us to capture participant's decision-making process *in vivo*, i.e., concomitantly with participant's engagement in this decision.

Overall the study was informed by the general principles of Grounded Theory (Strauss & Corbin, 1990, p. 270): data collection and analysis were conducted simultaneously, the sample was progressively selected based on the emergent results, and the data analysis was realized through the constant comparative method. The approach was mainly inductive, however we used a set of sensitizing concepts from symbolic interactionism to guide the data collection and analysis, including, for instance, the concept of social norms, social worlds (Strauss, 1978), role, identity, stigma (Goffman, 1968), rationales, strategies (Crozier & Friedberg, 1977), and legitimization (Caiata-Zufferey, 2015).

### 2.2. Recruitment and sample

Recruitment of the sample took place through purposive and snowball sampling methods. To enroll in the study, participants had to be employed in a nursing home or a facility for individuals with disabilities in Ticino and have no contraindications to the COVID-19 vaccination. As our research question aimed to investigate the decision-making process, we included individuals with different vaccination decisions, not least those who were still making a decision. Therefore, the study was advertised to all staff, without first checking whether people were vaccinated or not. This had a significant ethical advantage, as it allowed us to respect the privacy of participants at the time of recruitment, but also increased the probability to investigate a wide variety of individuals and thus decision-making processes. We selected several institutions with the help of cantonal authorities to maximize variance in size and geographical location within the Canton. Directors of the selected institutions received an invitation letter signed by the cantonal authorities which asked them to promote the study among their staff. Subsequently, directors sent an invitation email to all their staff, inviting those interested in taking part to the study to make direct contact with the study team via e-mail, phone, or WhatsApp. We enclosed an information leaflet to the invitation e-mail explaining the nature and scope of the study, and providing instructions on how to participate. Once they confirmed their intention to participate in the study and provided oral informed consent, participants were asked to suggest a preferred date and time and were later contacted by phone for an interview. Beyond the recruitment through the institutions, we employed snowball sampling among the participants to diversify the recruitment process. No incentives were offered for participation.

### 2.3. Data collection

Semi-structured telephone interviews were conducted due to COVID-19 restriction. The date and time were decided based on participant's

convenience. Interviews lasted between 30 and 80 min, were audio-recorded, after explicit consent from participants, transcribed, and anonymized. Collected data included gender, age, education, profession, years of work experience, and flu and COVID-19 vaccination status. We developed an interview grid based on the Vaccine Hesitancy Determinants Matrix proposed by MacDonald and the SAGE Working Group on Vaccine Hesitancy (MacDonald & SAGE Working Group on Vaccine Hesitancy, 2015), the literature, researcher's experiences, current vaccination recommendations, and informal conversations with prospective participants. Topics included the decision-making process regarding the vaccination and, in particular, key moments that shaped their choice; attitudes towards the vaccination with concerns and thoughts; motives and goals behind their decision; direct and indirect experiences with vaccination; social norms and social relationships involving colleagues, patient's and patient's family; the trust of sources regarding vaccination; risk management and finally suggestions for a communication intervention (see Appendix 1). The interviews were conducted by a trained, female research assistant, and two more senior qualitative researchers with experience in remote qualitative research on sensitive issues, including COVID-19 vaccination (Caiata-Zufferey & Aceti, 2022). Regular feedback sessions took place among the interviewers shortly after the interviews. All the interviews and debriefing meetings were conducted in Italian. This study did not fall within the scope of Art. 2 and Art. 3 of the Swiss law on human research and did not require ethics approval. The study was conducted in accordance with the Declaration of Helsinki (World Medical Association, 2013).

## 2.4. Data analysis

An inductive approach was used to analyse the data, enriched with abductive and deductive reasoning (Caiata-Zufferey, 2018). The analysis included reading the transcripts multiple times to familiarize with the content and identify themes and sub-themes. In turn, one of the interviewers presented their interview analysis to the group. The group discussion allowed for enriching reading and interpretation. A form for each interview was then drafted by the researcher and validated by colleagues. Every 3–4 interviews, a senior researcher developed a transversal analysis and submitted it to the group. At this stage, codes were linked and grouped into larger categories and more abstract concepts were identified, around which to organize the extracted themes. Literature was used throughout the analysis as a means of questioning and interpreting the data. Tables and conceptual maps were progressively created to organize the material. We resolved disagreements in the interpretation of the findings through discussion and by making constant reference to the transcripts. We reached theoretical saturation after 15 interviews (i.e. the point at which additional data continued to confirm what we had already extracted from the previously analyzed data rather than yielding new insights), and continued the analysis to check the redundancy of the emergent themes and to identify disconfirming cases. After 25 interviews we considered the analysis sufficiently robust and we suspended the recruitment. We thus used the developed codebook to recode all the transcripts with the qualitative research software NVivo. This allowed to check the relevance and the comprehensiveness of the results, and to identify meaningful quotes. Finally, the selected quotes were translated from the original language (Italian) to English. A validation of the English translation of the quotes was conducted as follows: the first author translated the quotes from Italian to English, and the last author checked the translations against the original quotes favoring semantic equivalence. Finally, another author (SS, native English speaker) verified them again and interacted with the first author (MF, native Italian speaker and proficient in English) to confirm that the original meaning was retained.

## 3. Results

The final sample was composed of 25 participants from 11

institutions, and was diversified in terms of gender, age, and vaccination choice. Slightly more than half were men ( $n = 13$ ), and the average age was 43.7 (SD = 8.3; range = 26–61). Thirteen participants were employed in four institutes for people with disabilities, 12 in seven nursing homes. The majority of participants were resident in Ticino ( $n = 20$ ) while a small number were resident in Italy ( $n = 5$ ). The sample included 10 health care workers (nurses, physiotherapists, auxiliary nurses), nine social workers/socio-educational instructors, four administrative staff (directors, administrative assistants), and two domestic services staff (cooking, laundry and cleaning staff). For the purpose of this paper, we refer to them as “health care and social workers”, emphasizing the sector of activity in which they work. Regarding vaccination status, 14 participants reported to never get vaccinated against the flu, and 21 either signed up for the COVID-19 vaccination or were fully or partly vaccinated at the time of the interview. See Table 1 for participants sociodemographic characteristics.

The analysis yielded two themes: the first refers to the contextual challenges of the vaccination decision, while the second refers to four patterns of decision-making in such a context. Concerning this second point, we found that participants grounded their vaccination decision on principles/values, traditions/habits, emotions, and the reflexive assessment of personal and collective relevance of the vaccination. Quotes from participants are provided in Table 2. Identification numbers allow the text to be linked to the respective citation. In order to ensure greater respect for privacy, each quote states gender, age and vaccination status of the participant, but only the general area of work (health and social sector vs. administrative and domestic services sector).

**Table 1**  
Participants' characteristics (N = 25).

	Type of institution		Total (N = 25)
	Institute for people with disabilities (N = 13)	Nursing home (N = 12)	
	n	n	n
Gender (female)	4	8	12
Age	M = 39.7 (26–51)	M = 48.1 (40–61)	
Years of experience	M = 14.2 (2–26)	M = 21.4 (7–36)	
Job sector <sup>a</sup>			
Health care	3	7	10
Social	8	1	9
Administrative	2	2	4
Domestic services	–	2	2
District/country of residence			
Bellinzona	1	2	3
Lugano	7	5	12
Locarno	1	2	3
Mendrisio	2	–	2
Italy	2	3	5
Seasonal flu vaccination			
Usually gets vaccinated	5	6	11
Does not usually get vaccinated	8	6	14
COVID-19 vaccination			
Booked the vaccination	10	–	10
Received at least one dose	2	9	11
Received no doses and has not booked vaccination appointment	1	3	4

<sup>a</sup> Job sectors: health care (nurses, physiotherapists, and auxiliary nurses); social (social workers and socio-educational instructors); administrative (managers, administrative assistants); domestic services (cooking, laundry and cleaning staff).

**Table 2**  
Exemplary quotes from participants.

Themes	Quote #	Supporting quotes
The contextual challenges of the vaccination decision		
	1	<i>The media aspect certainly doesn't help ... all the things you hear, you read ... it certainly doesn't help the undecided to change their minds, that's it. (Male, 61, vaccinated, administrative and domestic sector)</i>
	2	<i>I have well informed myself for months now, and there are too many contradictions, that's it. There are doctors who want to talk, and they won't let them talk. (Female, 57, not vaccinated, health and social sector)</i>
De-personalization of the vaccination	3	<i>Maybe there is too much information. They [government, media] say "get vaccinated, get vaccinated"! So they [people] say they won't do it because they feel pressured to do it, or because there are too many discordant voices. One you trust and the other you don't. So, eventually one tells you "I don't know what to do anymore and so I flip the coin". (Male, 32, vaccinated, health and social sector).</i>
	4	<i>Things like that, like standing in line to go ... my mom used to tell me that it is exactly how they used to go to pick up stamps to receive food or something like that during the war. (Female, 61, vaccinated, health and social sector)</i>
	5	<i>However, anyone who speaks out against the vaccine runs a risk now .... So as much as one says "No" against this vaccine, it's like being told "I'm in favor of this pandemic and therefore in favor of deaths." That's the kind of the mechanism that is developing now. (Male, 46, not vaccinated, health and social sector)</i>
Moralization of the vaccination decision	6	<i>If I did not work in the field, I would be for not doing it. In the sense that it's a vaccine that was done very quickly, and being a single person with no family, I don't see the utility of it for me, personally. But given where I work, I find it a moral duty to the users of the facility. So, if I generally decide not to do the flu shot, and they get the flu, that's one thing. If they get the coronavirus, that's another. We have really experienced it on our skin with extra deaths, it's really more the moral issue of saying "here, do it". Especially if you are in contact with fragile people. (Female, 51, vaccinated, health and social sector)</i>
	7	<i>It's the very fact of being considered not good professionals, right? Or being selfish. Because the fact of doing the vaccine ... we have it written all over the institution, even on the website, it really says: the fact of getting vaccinated together, the fact that this allows a return to a normal life ... And so the fact that you don't adhere or if you express a doubt, that makes the management ... that everybody is judged by the management ... as a not so good professional. (Male, 46, not vaccinated, health and social sector)</i>
	8	<i>Because sometimes even at work you try to say, "Geez here it was your fault, maybe it was that one who came in [to bring the COVID-19 virus], it was those ones, it was that other one ... "I don't want to have these issues, because I guarantee you that being in the middle of the maelstrom is not nice! (Female, 48, vaccinated, health and social sector)</i>
Fear of discrimination	9	<i>And I would say in a sense, maybe it's a bit of a strong word to say stigmatized .... But actually he [the non vaccinated] is the only one ... he has a lot of responsibility, in the sense that he is the only one [to not get vaccinated] ... there are only a few anyway ... and so the moment you can't make an exit, the moment there are restrictions,</i>

**Table 2 (continued)**

Themes	Quote #	Supporting quotes
Patterns of decision-making		
	10	<i>you are considered the reason for that. (Female, 31, vaccinated, health and social sector)</i>
	11	<i>Some people ask "but are you vaccinated?" or even precisely when it happens that someone is not well they "blame" the workers who were not vaccinated. "Surely it was you who brought this [virus]". (Female, 40, vaccinated, health and social sector)</i>
Principle-driven	12	<i>There are some who already had to stay home in quarantine because they were not vaccinated, because if they had been vaccinated they could have easily come to work, and that weighs. (Male, 61, vaccinated, administrative and domestic sector)</i>
	13	<i>Another thing that is an ethical aspect, since I am a practicing Christian believer, I also hang out with people who are both doctors and believers anyway, and they have pointed out that there are studies where they have shown that this vaccine was made quickly and because of the affinity of the RNA with some placenta or with fetuses obtained I don't know how, or not lawfully from abortions and the rest ... just to always use human DNA in the easiest stage of replication. That aspect alone for me would be out! Because it's out of question, abortion is out of question, in this case, then especially exploiting abortion for scientific research even more so to produce something that is supposed to help us (...). From this point of view ... from the point of view of faith and so even on this alone, I say "No!" I am not against vaccinations. Because vaccinations have saved many people anyway and changed the way we live. (Male, 46, not vaccinated, health and social sector)</i>
	14	<i>I have a Western scientific background. I rely on, with respect to my expertise, expert guidelines ... it wouldn't make sense for me to doubt now about the vaccine. I don't have any kind of doubt about the vaccine (Female, 41, vaccinated, health and social sector)</i>
Tradition-driven	15	<i>I joined because I trust vaccines. (...) I have always got vaccinated. (...) I come from a family where everyone has always got vaccinated. (Female, 42, vaccinated, health and social sector)</i>
	16	<i>I started absolutely against this vaccination. Absolutely against, I mean, when they started talking I would say, 'but you're crazy, I will never get vaccinated, everything was done too fast, there was no experimentation, 'what everybody thinks a little bit, that then in two months you get Dr. Spock's ears. (...) Then when it was time to order the vaccines the director asked who wanted to vaccinate, and I said no again. (...) On the day of vaccination in the nursing home then I went in at 8 a.m. convinced not to get vaccinated ... and I came out at noon vaccinated! (...) You have to understand the context: we were coming from a really difficult month, and coming from this really bad month ... I can't explain what was in the air that day there: there was enthusiasm, there was hope ... We all know it's not going to be the one to save us, but after you've lived through a month like that, and you see the death records coming through your office, you're shocked. We saw the bodies go by in the black bags, know that even the relatives haven't seen them anymore ... it hits you. (...) You could breathe in the air that day there, as if there was a light at the end of the tunnel. I came in saying I wasn't taking the vaccine. And then ... a little bit this air that I was breathing (...) By the way the media were there,</i>

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Table 2 (continued)

Themes	Quote #	Supporting quotes
		<i>RSI [regional TV station] was there, then they broadcasted the service on TV, and I could hear these operators talking to our health and social workers (...) Then I went up ... and I can't explain. They told me: extra doses were prepared. And I said to myself: somebody has to start. And I got vaccinated. (...) It's hard to explain, the day of vaccination ... I have a hard time telling, it's an internal feeling that enters you ... like a brightness, like a light at the end of the tunnel. I can't explain it in words, it's something you feel inside. There was an atmosphere of ... but I don't know, happiness is a big word, however that day ... yes, because even though we all know that maybe it doesn't do any good, after all the pain we felt that month there, for us it was like a liberation. It cannot be explained in words. Relief, light ... I can't find the words, I don't know. (Female, 55, vaccinated, administrative and domestic sector)</i>
The reflexive pattern based on the assessment of personal relevance vs. collective importance		
Detached - Altruistic	16	<i>Not just thinking about the seniors in the nursing home, so my working place, but also a little bit thinking about my parents who are in their eighties and my in-laws who live on the top floor of my house. So a protection almost "for them". (Female, 48, vaccinated, health and social sector)</i>
	17	<i>Let's say yes also because, when there was the first wave of Covid, basically at the end of March, I got it. So I got sick with Covid. And so here, having had it, I actually felt quite protected personally. So I got the vaccine later on more to protect let's say the people around me who have this higher risk. (Female, 48, vaccinated, health and social sector)</i>
	18	<i>Unfortunately, we are responsible for the people, the users we work with. We have responsibility for them, not just ourselves. If my actions, the fact that I don't get vaccinated only affects my personal life, I say, "Fine, do what you want." But you have a responsibility to the other people because of the job you do. If you don't want to do it, change your job, go somewhere else. (Female, 40, vaccinated, health and social sector)</i>
	19	<i>I told myself: "I am going to do it! I will do it". Because I think it is a common responsibility that we all have, not only as health and social workers, as people working in social facilities, but as citizens. It is how this new pandemic has been handled that I don't agree with. However, I think we need to do it (get vaccinated). (Male, 35, vaccinated, health and social sector)</i>
	20	<i>But I decided to do it more as a matter of responsibility to the people I work with and my relatives. (Female, 40, vaccinated, health and social sector)</i>
	21	<i>As I say to everyone who asks me, with respect to vaccination and the fact that it is something uniquely for me, I would not do it but I do it for others. (...) being a disease that for me could be potentially harmless, whereas for the people around me not only at work but also in my private life it could be much more dangerous. (Female, 38, vaccinated, health and social sector)</i>
Detached - Selfish	22	<i>Oh well, one says "I don't know. I'm still not enough ... I don't feel the need yet, I don't get vaccinated for now." (...) Right. Plus one says "I never get vaccinated, I don't feel the need, I've never had a problem and I don't feel the need to get vaccinated, I don't need it." (Male, 43, vaccinated, health and social sector)</i>
Supportive - Convinced	23	

Table 2 (continued)

Themes	Quote #	Supporting quotes
	24	<i>[I think it's] definitely a protection towards us, I had the vaccine last week and so I think first of all it protects me. (Male, 26, vaccinated, health and social sector)</i>
	25	<i>It has to be done! Already in the institute where I work they are promoting it a lot, but even before, we say it is the only way to get out of it and back to a pseudo-normality and so I am in favor of it. Also, from what I understand, they have not skipped the steps of verification and control and therefore the vaccine is safe, I am confident. Then I am not completely knowledgeable about this area but I choose the news to rely on. So, premised that I choose to get vaccinated and I agree with respect to the coronavirus vaccination precisely because I think it was the only strategy we have, that we know, to be able to, if we can say, solve the situation. (Female, 31, vaccinated, health and social sector)</i>
	26	<i>I welcome that there is one [vaccine], I do it because I don't want to get it [Covid], I want to be safe. (Female, 43, vaccinated, health and social sector)</i>
Supportive - Patient	27	<i>So by protecting me, I also protect others. Or at least that is what I have been told. (Female, 38, vaccinated, health and social sector)</i>
	28	<i>Since we were the first ones, [my initial position was to] let the others [do it first]. I am not an at-risk person, let the others get vaccinated, I wanted to see the side effects from this vaccine and then possibly at a later time to get vaccinated. (Male, 48, vaccinated, health and social sector)</i>
	29	<i>Basically they compare us to those who get two shots without having had Covid, and so I chose to do just one [shot]. In part to leave the second dose for those who really need it, maybe even more than me, not having got the disease yet. (Female, 43, vaccinated, health and social sector)</i>
Interested - Pragmatic	30	<i>Then one says "I want to get vaccinated because I also want to ....". There is this freedom because of this vaccination passport, right? And one says "so at least I'm free to travel. (Male, 43, vaccinated, health and social sector)</i>
	31	<i>Without vaccination passport, in a while, you won't go anywhere, you'll need it to go to summer concerts, to go abroad, a little bit for everything, and so one starts to say "but if after that I can't go there, I can't go there ... then I get vaccinated". (Male, 61, vaccinated, administrative and domestic sector)</i>
Interested - Discriminated	32	<i>Why, especially if there are people who say "I have the relative who has been vaccinated ...", how come some of us [health and social workers caring for people with disabilities] are still waiting, how come our children are still not vaccinated? (Female, 31, vaccinated, health and social sector)</i>
Skeptical - Submitted	33	<i>I finally got vaccinated because I was working there in the home for the elderly but I was not 100% convinced about this vaccine. (Male, 48, vaccinated, health and social sector)</i>
Skeptical - Resistant	34	<i>Then maybe I'll be proven wrong, but if what I know now has been based on this [information, referring to the use of stillbirth fetuses to produce vaccines] ... there are a whole series of pieces that I presented to you earlier [referring to information on how vaccines are manufactured], with lack of clarity ... now I'm sorry, I say "No!" (Male, 46, not vaccinated, health and social sector)</i>
		<i>No, no. I am sure not to get vaccinated. (Female, 57, not vaccinated, administrative and domestic sector)</i>

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Table 2 (continued)

Themes	Quote #	Supporting quotes
Watch-and-wait	35	<i>Some colleagues were saying “No, right now I don't do it, I'm waiting ... having had the disease right now I don't feel like doing a vaccine, it seems early”. (Female, 33, vaccinated, health and social sector)</i>

### 3.1. The contextual challenges of the vaccination decision

The data show how the context of participant's decision was crossed by four main challenges hampering a rational, balanced, well-founded, and informed choice. These challenges introduced normative pressure and conflicting interests for the individual deciding what was right and what was most convenient to do with regards to the COVID-19 vaccination.

First, most participants reported they felt overwhelmed by the information regarding this vaccination (#1–3). In particular, they mentioned that the information they were exposed to was often contradictory or incomplete. Some of them referred to a fictionalization of the vaccination into extremist narratives as either a conspiracy or a miracle. As a result, participants reported confusion and emotion during their efforts to understand true facts about the efficacy of the vaccine, its safety (e.g., secondary effects), the morality of its production (e.g., whether fetuses from stillbirths were involved) and distribution (e.g., whether doses were shared with poor countries in a fair way).

Second, some participants reported that they perceived the COVID-19 vaccination as highly depersonalized (#4) in terms of both the vaccinator (a health care professional who knows little or nothing about the individual being vaccinated) and the vaccinated (a member of a “herd” rather than a single individual). The relational dynamics characterizing this mass vaccination approach were perceived as being against the logic of individualization which had been valued by both preventive and personalized medicine in recent years. Participants reported that they were informed by their directors that COVID-19 vaccines would have arrived soon, and they were asked to decide whether they wanted to get vaccinated or not within a few hours or a few days, with no individualised communication from their employing institutions. Some of them felt the need to consult with their general practitioner to make a decision.

Third, some participants reported that the COVID-19 vaccination decision had been invested of particularly strong moral significance: the issue of vaccination had become a moral matter (#5–7). In particular, they reported a number of principles that needed to be balanced against each other while evaluating one's vaccination decision. These include the health imperative, i.e., the duty to protect one's health, which can be further specified in the prevention (supporting the importance of the vaccination) or precaution (supporting the avoidance of the vaccination side effects) principles. Some participants referred to the idea of professionalism as a moral duty, which would mean putting patient's interests first and deciding to get vaccinated in order to protect them. Others cited their right to self-determination, which would mean honoring one's own values and preferences regarding this vaccination rather than follow health officials recommendations. And, finally, some participants referred to an injunctive norm for solidarity, i.e., making a vaccination decision for the sake of the public good.

Fourth, many participants had to make a vaccination decision while having to deal with the concern of being discriminated (#8–11). Discrimination was feared at various levels. A few of them were afraid of being discriminated in terms of access priority: they feared receiving the vaccine late due to the fact that certain groups came first, and being overtaken by those who “skip the line”. Many feared future discrimination for deciding to not get vaccinated (e.g., not having a vaccination certificate, or receiving formal and/or informal sanctions from their employer, especially in case they became ill with COVID-19 or

transmitted the disease to someone else at work). This fear was made even more vivid and realistic by the fact that, in little time, participants received the invitation letter to get vaccinated by their employer and, in a matter of 24–48 h, they had to declare what their decision was. Their vaccination choice being in the public domain within the institution (or, at least, at the managerial level of the institution) left in their opinion little room for privacy and ample space for personal consequences in case the decision was not welcome.

### 3.2. Patterns of decision-making

During the period in which the interviews were conducted, participants had to deal with the described contextual challenges and make a decision. The analysis of their reports allowed us to identify four main vaccination decision-making patterns, each resting on one specific decisional driver. Participants reported to ground their vaccination decision on principles/values, traditions/habits, emotions, and a reflexive assessment of the personal vs. collective relevance of the vaccination. Most of the time, these drivers interacted to influence the individual's choice, but for the sake of illustration, they will be presented separately.

#### 3.2.1. The principle-driven pattern

For few participants, deciding whether or not to get vaccinated depended on their personal principles and their overall world view (#12). These principles were often described as non-negotiable, strongly rooted in personal identity and in their value reference system. For some, the vaccination decision represented a way to affirm their identity: by deciding to get vaccinated or not, they made a statement regarding who they are. Since their choice was a principled decision based on strongly rooted positions, they reported to be scarcely influenced and unlikely to change their minds.

We were able to identify principle-driven decisions both for and against the COVID-19 vaccination. Among the participants who refused the COVID-19 vaccination based on their personal principles, we identified two subgroups: the extreme no-vax, which included those who were against all vaccines, and the selective no-vax, which included those who were specifically against the COVID-19 vaccine. These positions were often based on an attitude of distrust towards science and institutions in general or in the specific case of COVID-19. Through their no-vax position, these participants affirmed their critical thinking skills and positioned themselves in opposition to those who get vaccinated, whom they considered naïve and manipulated. For the selective no-vax participants, the morality of vaccine production seemed particularly important. One participant reported that, contrary to other vaccines, COVID-19 vaccines are produced with fetuses from abortions and by unethical multinationals. In contrast with the no-vax participants, the pro-vax reported to be in favor of all vaccines and to have a deep trust in science and institutions. They presented themselves as rational, and positioned themselves in opposition to those who did not plan to get vaccinated, whom they considered visionaries, paranoid, and fixated.

#### 3.2.2. The tradition-driven pattern

Few participants reported that they made a tradition-driven decision when choosing whether or not to get vaccinated (#13–14). This decision-making approach is dictated by acquired and strongly-rooted habits: one does something because one has always done so. Most of these individuals reported that they regularly got vaccinated against influenza, and did not question vaccination or the science behind it.

#### 3.2.3. The emotion-driven pattern

A few participants reported to make an affective choice regarding the vaccination, i.e., driven by the thrust of the moment, the strength of the group and the urgency, the emotion of the circumstances (#15). One woman, in particular, was very clear in explaining how the impetus of emotions had influenced her vaccination decision. This participant had declined the first vaccination invitation from her employer. The day of

the vaccination in the institute, however, she was impressed by the organization and the joyful and solemn climate of the event. She had the feeling that she was witnessing a historic moment. Watching the patients and her colleagues flowing to the vaccination room, she felt the desire to be part of the group. That day, some more doses were available and finally she decided to accept the offer at the last minute. For those participants following this pattern, it was the group of (temporary) belonging, the ritual, the organization of vaccination in the facility of employment, the feeling of being part of something meaningful, and the need to be part of that flow and energy, that played a major role in their decision to get vaccinated.

### 3.2.4. The reflexive pattern based on the assessment of personal vs. collective relevance

The reflexive pattern was the most frequent and most complex pattern of decision-making found in this study. When asked about their COVID-19 vaccination decision-making process, a large number of participants took considerable time to explain how they weighed the individual against the collective relevance of their vaccination decision. Participants presented arguments grounded in both the individual and collective relevance of the vaccination, in neither the two, or only in one of the two. They presented their approach as reflexive and contextual. According to the recognition of individual or collective relevance of the COVID-19 vaccination, four positions emerged (see Fig. 1). These positions, however, did not necessarily determine the type of decision taken: within each position, we identified participants who decided either to get vaccinated or to not get vaccinated, under the pressure of contextual constraints or resources, social relationships or social norms. What is of particular interest, however, is that depending on the initial attitude, the final decision acquired a different meaning to participants.

The first position is shared by those who were “detached” regarding the vaccination: they believed in the collective relevance of the vaccination, but not in the fact that it applied to their specific case, for instance because they were young, healthy or particularly beware of preventive measures, or because they had already had COVID-19 with few or no symptoms. For all these reasons, they did not feel personally at risk. Participants holding this position could be further distinguished as *altruistic* (those deciding to get vaccinated despite believing they did not need it, #16–21) or *selfish* (those deciding to not get vaccinated despite the belief that the vaccine was beneficial to the community, #22).

The second position is that of those who were “supportive” of the vaccination: they believed the vaccination was relevant to both themselves and the public, thus embracing the public health tenets. Participants holding this position could be further distinguished as *convinced* (those deciding to get vaccinated out of a strong belief in the individual and collective importance of the vaccination, #23–26) or *patient* (those

deciding to patiently and temporarily forgo the vaccination despite having priority so that other vulnerable groups could have access to the vaccine first, #27–28).

The third position is that of those who were “interested” in the vaccination: they did not acknowledge any collective importance to the vaccination, because they believed that vaccines had been developed too quickly, by questionable means, and there was no certainty about their safety. However, they recognized that it could be relevant to themselves as it would grant them some sort of individual benefits (e.g., vaccination certificate to travel or have access to restaurants). Participants holding this position could be further distinguished as *pragmatic* (those deciding to get vaccinated to obtain practical, personal advantages, #29–30) or *discriminated* (those who felt they had not been granted sufficiently priority access to the COVID-19 vaccine; this was the case for those participants working in facilities – especially institutes for people with disabilities – that had not yet been solicited for the vaccination programme at the time of the interview, #31).

The fourth position is that of those who were “skeptical” about the vaccination: they believed the vaccination had neither individual nor collective relevance to them. Participants holding this position could be further distinguished as *submitted* (those deciding to get vaccinated despite being against it because of the strong social pressure exerted towards them or of the fear of being stigmatized, #32) or *resistant* (those deciding not to get vaccinated under any circumstances, #33–34).

A small group of participants reported having or having had a preference to the “watch-and-wait” position (#35). They engaged in weighing the pros and cons of the vaccination without being able to reach a final position, at least for a certain time, thus preferred to wait until they had more information. They reported that this was a psychologically and emotionally burdensome approach to assume, as they felt they could never relax and were always on the edge.

## 4. Discussion

This study aimed at understanding the decision-making process regarding the COVID-19 vaccination among a sample of staff employed in nursing homes and institutions for people with disabilities in Ticino, Southern Switzerland, shortly after the approval of the first COVID-19 vaccine in the country. Capturing reports from a unique set of participants (staff employed in nursing homes and institutions for people with disabilities) in the process of making or having just made a COVID-19 vaccination decision, we found that participants faced several contextual challenges during their decision-making process, and responded to these challenges by adopting four main decision-making patterns. These patterns have to be conceived as Weberian ideal types, that is, as conceptual tools that deliberately select and accentuate certain elements of

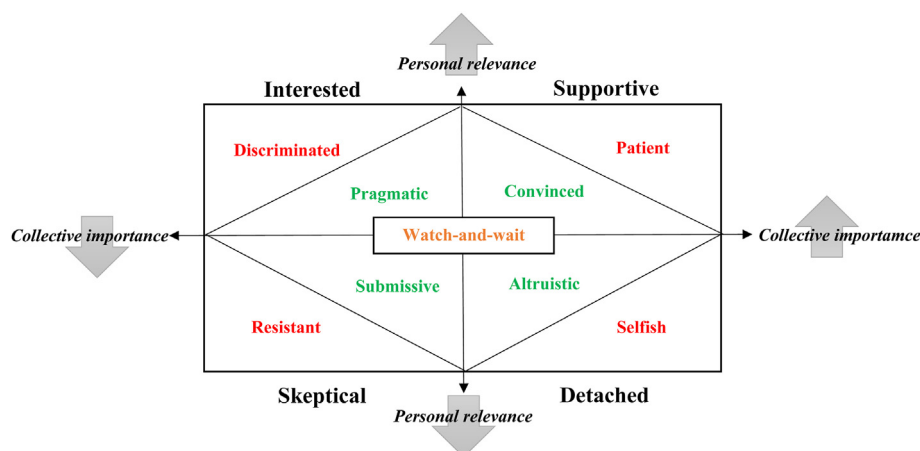


Fig. 1. The reflexive patterns based on personal relevance vs. collective importance.



the phenomenon for analytical and heuristic purposes (Weber, 1968). In the participant's narratives, vaccination choices were explained as being guided by several patterns at the same time, although some were predominant over others.

While several potential barriers to vaccine acceptance as an *outcome* have been documented in the literature, relatively few studies focused on the individual's vaccination decision-making *process* and internal and external factors that may constrain it. Known sources of constraint that may hamper individual's decision-making regarding whether or not to be vaccinated include language barriers and vaccination literacy (Betsch et al., 2018; Fadda et al., 2015; Ratzan & Parker, 2020), the desire to retain exclusive control over the vaccination decision (Fadda et al., 2015; Kaljee et al., 2017), uncertainty and negative emotions (Li et al., 2021), and a low trust in public health institutions and science, in general (Hornsey et al., 1982; Freeman et al., 2020; Justwan et al., 2019; Palamenghi et al., 2020; Deml et al., 1111). Our findings add to this body of literature by revealing informational (the feeling of being overwhelmed by the information regarding the COVID-19 vaccination), relational (the depersonalization of both the vaccinator and the vaccinated), moral (the particularly strong moral significance attached to the COVID-19 vaccination decision), and emotional (the fear of discrimination as a result of the vaccination decision) constraints to the COVID-19 vaccination decision-making process. First, while there is evidence that the vaccination decision-making process is shaped by one's information seeking behavior (de Munter et al., 2020), our results indicate that excessive information constitutes a challenge to the decision. This finding is not surprising. Studies have shown that information overload can be overwhelming and trigger people's concerns about vaccines and vaccination programs (Honora et al., 2022). Second, we found that the lack of a personalized approach to the COVID-19 vaccination campaign made the decision more difficult. The importance of individual's trust in institutions and health-care professionals during their vaccination decision-making process has been well-documented (Deml et al., 1111; Seddig et al., 2022; Shahbari et al., 2020; Wynen et al., 2022). The relational component of the vaccination decision-making is so crucial that it is not surprising that individuals have a preference for interacting with professionals (i.e., physicians or nurses) as “mediators of trust” than with faceless entities such as pharmaceutical companies or staff of mass vaccination facilities. Third, staff employed in the healthcare sector may experience a moral tension between their duty to maximize patient's health and wellbeing while preventing harm and reducing risks, and their right to make an autonomous decision by following their own preferences and life plans (Van Hooste & Bekaert, 2019). Our results show exactly how this moral conflict made the COVID-19 vaccination decision a taxing one: participants reported to be torn between their right to self-determination and the professional duty to get vaccinated in order to protect their residents. These expressions may evoke theory-laden concepts in public health ethics. Nonetheless, their content was directly mentioned by the participants themselves. All these informational, relational, moral and emotional constraints have vividly emerged from the collected data. These findings may be relevant – at least partially – for other professional groups than healthcare workers. School staff, for instance, may be exposed to the same kind of social pressure in terms of vaccination decision because of their status of state employees and of their educational role towards the young generations.

The second finding is that participants engaged in different types of decision-making processes, displaying a multitude of attitudes toward the COVID-19 vaccine and a multitude of choices with different nuances. Studies showed how individual perspectives on vaccination are neither permanent nor monolithic and that they may follow various “vaccination trajectories” in their decision-making process (Wiley et al., 1982). Our findings showed that vaccination decisions may have to do with identity claims, a preference for habits, affective forces, but most of all with a process of deliberation, whose outcome is temporary (i.e., apt to lead to change if the relevant circumstances change). The four patterns of decision-making may be aligned to the four types of social action

proposed by Max Weber (Weber, 1968): value-oriented (aiming at fulfilling a set of norms or values), traditional (directed at perpetuating the received ways of doing things), affectual (conceived to express feeling or emotions), and instrumental (intentionally directed towards the fulfilment of a goal). This Weberian typology appeared to be particularly appropriate to make sense of our data during the process of analysis, and offered a useful key to present them. That the majority of participants extensively deliberated on the pros and cons of accepting and refusing the COVID-19 vaccination echoes Romijnders's findings in the context of childhood vaccinations (Romijnders et al., 2019). Our findings are novel in that they show that an individual's decision to get vaccinated or not is not necessarily in line with the position they hold on the attitudinal continuum. It is possible that one makes a choice that goes against their position because of various reasons that may have nothing to do with health concerns, for example the desire to obtain a vaccination certificate to travel or the difficulty in facing the social pressure. From a public health perspective, this suggests that not only *whether* one gets vaccinated matters, but also *how they decide to or not*. For example, one can reasonably expect that individuals who have accepted to get vaccinated by “submitting” themselves may not necessarily accept again for new vaccines or vaccine doses without further deliberation. In conclusion, we argue that an exclusive focus on the outcome of the decision on the continuum is limiting, and that the position that is constructed through the decision-making process deserves ample attention.

This study was not without limitations. Since recruitment was done through directors of the institutions, we had no control over the process and thus cannot assume there is no selection bias. Despite the best efforts (11 institutions solicited), only 25 people made themselves available for research. However, the interviews showed clear redundancy. Nonetheless, it would have been useful to collect more data from unvaccinated individuals to deepen and enrich the analysis of their vaccination-decision process. It could have also been useful to include other types of health care workers, such as general practitioners, geriatricians, and hospital staff, each who also care for vulnerable patients.

Despite these limitations, findings suggest important practical implications and new research questions. From a practical point of view, our results argue that individuals create subjectively meaningful positions regarding the COVID-19 vaccination, not always in line with official recommendations. Thus, to encourage vaccination, public health institutions need to understand and address the existence of coherent and diverse rationales behind decisions. At the same time, and in light of the prevalence of the reflexive pattern of decision-making, they should consider that individuals observe, interpret, question, seek coherence, arbitrate between competing risks, and ultimately make complex decisions within a framework of uncertainty and plurality, torn between different knowledge, values, and cost/benefit calculations. In this context, it is important to recognize that the decision to vaccinate or not has to be *constructed*. Proximity communication may be crucial in this regard. This means providing quality information in the context where people live and work, offering dialogic spaces, and ensuring the presence of trustworthy interlocutors for a guided conversation (Caiata-Zufferey et al., 2021). And in general, institutions should promote critical thinking and science literacy to mitigate common barriers to informed and self-determined decision-making. This is all the more important with COVID-19 vaccination and others that are not one-shot vaccines, as they require multiple doses over time.

Regarding future investigations, this study has shed light on the multiple nuances that the vaccination choice can have; based not only on attitudes, but also on the pressure of contextual constraints or resources, social relationships, and social norms. Certain participant's choices appeared as being particularly challenging for them and would deserve careful exploration to understand their psycho-social implications. For instance, how do the “resistant” or the “selfish” deal with their professional identity and relationships as unvaccinated workers in contact with vulnerable patients? How do the “submitted” handle their personal identity as non-self-determined person? How do people make their

further COVID-19 vaccination choices (additional doses and different compounds), considering the previous decisions? On this last point, collecting data over time – as the burden of COVID-19, variants, and number of recommended doses and vaccine types changes – could provide rich information on the way that decision-making evolves under different conditions. Additionally, our study showed the importance of studying vaccination choices in specific professional groups. If healthcare workers deserved particular attention due to their assumed health literacy and their proximity to vulnerable individuals, other professionals groups, such as school staff, would require further in-depth analysis because of their particular social status and educational role. Finally, the study allowed us to develop a theoretical understanding of the vaccination choice. As qualitative research is context and case dependent (Mays & Pope, 1995), extending this study to different geographical contexts within and outside Switzerland could show if decision-making process about COVID-19 vaccination is similar or not across borders, thus improving the generalizability of the results.

## 5. Conclusions

To ensure staff employed in the healthcare sector are placed in the optimal circumstances to make an autonomous and informed COVID-19 vaccination decision, institutions should engage with their lived experiences, listen to their concerns at multiple levels, and provide appropriate decisional support in the context of a timely, open, and non-judgmental dialogue.

## Declaration of competing interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: L. Suzanne Suggs reports a relationship with MSD European Vaccines that includes: board membership.

## Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ssmqr.2022.100181>.

## References

- Betsch, C., Schmid, P., Heinemeier, D., Korn, L., Holtmann, C., & Böhm, R. (2018). Beyond confidence: Development of a measure assessing the 5C psychological antecedents of vaccination. *PLoS One*, 13(12), Article e0280601. <https://doi.org/10.1371/journal.pone.0280601>
- Caiata-Zufferey, M. (2015). Genetically at-risk status and individual agency. A qualitative study on asymptomatic women living with genetic risk of breast/ovarian cancer. *Social Science & Medicine*, 132, 141–148. <https://doi.org/10.1016/j.socscimed.2015.03.037>
- Caiata-Zufferey, M. (2018). The abductive Art of discovery: Insights from a qualitative study on unaffected women managing genetic risk of breast and ovarian cancer. *International Journal of Qualitative Methods*, 24. <https://doi.org/10.1177/1609406917750973>. Published online January.
- Caiata-Zufferey, M., & Crivelli, L. (2021). La salute pubblica elvetica a fronte del coronavirus: Fragilità, opportunità, auspici. In S. Rossi, & O. Mazzoleni (Eds.), *In movimento, nonostante il lockdown. L'esperienza Svizzera del Covid-19* (pp. 21–41). Bellinzona: Armando Dadò.
- Caiata Zufferey, M., & Aceti, M. (2022). Loin des yeux, loin du cœur. *Socio-Anthropologie*, (45), 249–266. <https://doi.org/10.4000/socio-anthropologie.11762>
- Crozier, M., & Friedberg, E. (1977). *L'Acteur et le système*. Seuil.
- Deml MJ, Buhl A, Huber BM, Burton-Jeangros C, Tarr PE. Trust, affect, and choice in parents' vaccination decision-making and health-care provider selection in Switzerland. *Sociology of Health & Illness*. n/a(n/a). doi:10.1111/1467-9566.13388.
- Detoc, M., Bruel, S., Frappe, P., Tardy, B., Botelho-Nevers, E., & Gagneux-Brunon, A. (2020). Intention to participate in a COVID-19 vaccine clinical trial and to get vaccinated against COVID-19 in France during the pandemic. *Vaccine*, 38(45), 7002–7006. <https://doi.org/10.1016/j.vaccine.2020.09.041>
- Dettaglio comunicato - Repubblica e Cantone Ticino. [https://www4.ti.ch/area-media/comunicati/dettaglio-comunicato/?NEWS\\_ID=192009](https://www4.ti.ch/area-media/comunicati/dettaglio-comunicato/?NEWS_ID=192009). (Accessed 13 June 2022).
- Dror, A. A., Eisenbach, N., Taiber, S., et al. (2020). Vaccine hesitancy: The next challenge in the fight against COVID-19. *European Journal of Epidemiology*, 35(8), 775–779. <https://doi.org/10.1007/s10654-020-00671-y>
- Fadda, M., Albanese, E., & Suggs, L. S. (2020). When a COVID-19 vaccine is ready, will we all be ready for it? *International Journal of Public Health*. <https://doi.org/10.1007/s00038-020-01404-4>. Published online June 11.
- Fadda, M., Camerini, A. L., Fiordelli, M., et al. (2022). Why vaccinate against COVID-19? A population-based survey in Switzerland. *International Journal of Public Health*. <https://doi.org/10.3389/ijph.2022.1604226>, 0.
- Fadda, M., Depping, M. K., & Schulz, P. J. (2015). Addressing issues of vaccination literacy and psychological empowerment in the measles-mumps-rubella (MMR) vaccination decision-making: A qualitative study. *BMC Public Health*, 15.
- Freeman, D., Waite, F., Rosebrock, L., et al. (2020). Coronavirus conspiracy beliefs, mistrust, and compliance with government guidelines in England. *Psychological Medicine*, 1–13. <https://doi.org/10.1017/S003329720001890>. Published online May 21.
- García, L. Y., & Cerda, A. A. (2020). Acceptance of a COVID-19 vaccine: A multifactorial consideration. *Vaccine*, 38(48), 7587. <https://doi.org/10.1016/j.vaccine.2020.10.026>
- Goffman, E. (1968). *Stigma: Notes on the management of spoiled identity*. Penguin Books.
- Gur-Arie, R., Jamrozik, E., & Kingori, P. (2021). No jab, No job? Ethical issues in mandatory COVID-19 vaccination of healthcare personnel. *BMJ Glob Health*, 6(2), Article e004877. <https://doi.org/10.1136/bmjgh-2020-004877>
- Honora, A., Wang, K. Y., & Chih, W. H. (2022). How does information overload about COVID-19 vaccines influence individuals' vaccination intentions? The roles of cyberchondria, perceived risk, and vaccine skepticism. *Computers in Human Behavior*, 130, Article 107176. <https://doi.org/10.1016/j.chb.2021.107176>
- Hornsey, M. J., Lobera, J., & Díaz-Catalán, C. (1982). Vaccine hesitancy is strongly associated with distrust of conventional medicine, and only weakly associated with trust in alternative medicine. *Social Science & Medicine*, 2020(255), Article 113019. <https://doi.org/10.1016/j.socscimed.2020.113019>
- Justwan, F., Baumgaertner, B., Carlisle, J. E., Carson, E., & Kizer, J. (2019). The effect of trust and proximity on vaccine propensity. *Angelillo IF. PLoS One*, 14(8), Article e0220658. <https://doi.org/10.1371/journal.pone.0220658>
- Kabamba Nzaji, M., Kabamba Ngombe, L., Ngoie Mwamba, G., et al. (2020). Acceptability of vaccination against COVID-19 among healthcare workers in the democratic republic of the Congo. *Pragmatic and Observational Research*, 11, 103–109. <https://doi.org/10.2147/POR.S271096>
- Kaljee, L. M., Kilgore, P., Prentiss, T., et al. (2017). You need to be an advocate for yourself: Factors associated with decision-making regarding influenza and pneumococcal vaccine use among US older adults from within a large metropolitan health system. *Human Vaccines & Immunotherapeutics*, 13(1), 206–212. <https://doi.org/10.1080/21645515.2016.1228503>
- Kwok, K. O., Li, K. K., Wei, W. I., Tang, A., Wong, S. Y. S., & Lee, S. S. (2021). Influenza vaccine uptake, COVID-19 vaccination intention and vaccine hesitancy among nurses: A survey. *International Journal of Nursing Studies*, 114, Article 103854. <https://doi.org/10.1016/j.ijnurstu.2020.103854>
- Li, J. Y., Wen, T. J., McKeever, R., & Kim, J. K. (2021). Uncertainty and negative emotions in parental decision-making on childhood vaccinations: Extending the theory of planned behavior to the context of conflicting health information. *Journal of Health Communication*, 26(4), 215–224. <https://doi.org/10.1080/10810730.2021.1913677>
- Lovari, A. (2020). Spreading (Dis)Trust: Covid-19 misinformation and government intervention in Italy. *Media and Communication*, 8(2), 458–461. <https://doi.org/10.17645/mac.v8i2.3219>
- MacDonald, N. E., & SAGE Working Group on Vaccine Hesitancy. (2015). Vaccine hesitancy: Definition, scope and determinants. *Vaccine*, 33(34), 4161–4164. <https://doi.org/10.1016/j.vaccine.2015.04.036>
- Mays, N., & Pope, C. (1995). Qualitative research: Rigour and qualitative research. *BMJ*, 311(6997), 109–112. <https://doi.org/10.1136/bmj.311.6997.109>
- de Munter, A. C., Ruijs, W. L. M., Ruiter, R. A. C., et al. (2020). Decision-making on maternal pertussis vaccination among women in a vaccine-hesitant religious group: Stages and needs. *PLoS One*, 15(11), Article e0242261. <https://doi.org/10.1371/journal.pone.0242261>
- Palamenghi, L., Barello, S., Boccia, S., & Graffigna, G. (2020). Mistrust in biomedical research and vaccine hesitancy: The forefront challenge in the battle against COVID-19 in Italy. *European Journal of Epidemiology*, 35(8), 785–788. <https://doi.org/10.1007/s10654-020-00675-8>
- Prematunge, C., Corace, K., McCarthy, A., et al. (2014). Qualitative motivators and barriers to pandemic vs. seasonal influenza vaccination among healthcare workers: A content analysis. *Vaccine*, 32(52), 7128–7134. <https://doi.org/10.1016/j.vaccine.2014.10.023>
- Ratzan, S. C., & Parker, R. M. (2020). Vaccine literacy-helping everyone decide to accept vaccination. *Journal of Health Communication*, 25(10), 750–752. <https://doi.org/10.1080/10810730.2021.1875083>
- Romjinders, K. A. G. J., van Seventer, S. L., Scheltema, M., van Osch, L., de Vries, H., & Mollema, L. (2019). A deliberate choice? Exploring factors related to informed decision-making about childhood vaccination among acceptors, refusers, and partial acceptors. *Vaccine*, 37(37), 5637–5644. <https://doi.org/10.1016/j.vaccine.2019.07.060>
- Seddig, D., Maskileyn, D., Davidov, E., Ajzen, I., & Schmidt, P. (2022). Correlates of COVID-19 vaccination intentions: Attitudes, institutional trust, fear, conspiracy beliefs, and vaccine skepticism. *Social Science & Medicine*, 302, Article 114981. <https://doi.org/10.1016/j.socscimed.2022.114981>
- Shahbari, N. A. E., Gesser-Edelsburg, A., & Mesch, G. S. (2020). Perceived trust in the health system among mothers and nurses and its relationship to the issue of vaccinations among the arab population of Israel: A qualitative research study. *Vaccine*, 38(1), 29–38. <https://doi.org/10.1016/j.vaccine.2019.10.002>
- Strauss, A. (1978). A social world perspective. *Studies in Symbolic Interaction*, 1(1), 119–128.

- Strauss, A., & Corbin, J. M. (1990). *Basics of qualitative research: Grounded theory procedures and techniques* (p. 270). Sage Publications, Inc.
- Thorsteinsdottir, B., & Madsen, B. E. (2021). Prioritizing health care workers and first responders for access to the COVID19 vaccine is not unethical, but both fair and effective – an ethical analysis. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine*, 29(1), 77. <https://doi.org/10.1186/s13049-021-00886-2>
- Van Hooste, W. L. C., & Bekaert, M. (2019). To Be or not to Be vaccinated? The ethical aspects of influenza vaccination among healthcare workers. *International Journal of Environmental Research and Public Health*, 16(20), E3981. <https://doi.org/10.3390/ijerph16203981>
- Weber, M. (1968). *Economy and society: An outline of interpretive sociology*. Bedminster Press.
- Wiley, K. E., Leask, J., Attwell, K., et al. (1982). Parenting and the vaccine refusal process: A new explanation of the relationship between lifestyle and vaccination trajectories. *Social Science & Medicine*, 2020(263), Article 113259. <https://doi.org/10.1016/j.socscimed.2020.113259>
- World Medical Association. (2013). World medical association declaration of Helsinki: Ethical principles for medical research involving human subjects. *JAMA*, 310(20), 2191–2194. <https://doi.org/10.1001/jama.2013.281053>
- Wynen, J., Op de Beeck, S., Verhoest, K., et al. (2022). Taking a COVID-19 vaccine or not? Do trust in government and trust in experts help us to understand vaccination intention? *Administration & Society*, 14, Article 00953997211073459. <https://doi.org/10.1177/00953997211073459>. Published online February.
- Yurttas, B., Poyraz, B. C., Sut, N., et al. (2021). Willingness to get the COVID-19 vaccine among patients with rheumatic diseases, healthcare workers and general population in Turkey: A web-based survey. *Rheumatol Int. Published online*, 1–10.