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# The Intergroup Nature of COVID-19 Vaccine Hesitancy and Refusal: A Qualitative Study

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### **Abstract**

The current study aimed to examine intergroup dynamics in the context of the COVID-19 vaccination debate. Specifically, it was investigated (1) whom unvaccinated individuals perceive as their ingroup, (2) whom unvaccinated individuals perceive as their outgroup, (3) with which group(s) they feel in conflict with, and (4) how these intergroup dynamics influence their vaccination decision. To examine these questions, semi-structured interviews were conducted with unvaccinated individuals from the Netherlands and Germany, with N = 16 interviews being included for the thematic analysis of transcripts. It was found that the social identity of unvaccinated individuals is based on values and opinions rather than on a vaccination status per se. Even though some conflicts existed between unvaccinated individuals and vaccinated and unvaccinated subgroups, the main conflict was with the government – the main outgroup. The latter had the strongest and a negative influence on participants' vaccination decision. Theoretical implications for research on intergroup relations and societal implications for this and other societal debates are discussed.

*Keywords:* COVID-19 vaccine, vaccine refusal, intergroup conflict, social identity, social categorization

## **The Intergroup Nature of COVID-19 Vaccine Hesitancy and Refusal: A Qualitative Study**

With the approval and introduction of the vaccine against the COVID-19 virus at the beginning of 2021, a debate about vaccination evolved, eventually resulting in a polarized society. Specifically, two opposing opinions – that is, a majority of the population being in favor and a minority being against a vaccination (ECDC, 2022) – evolved within society, and seem to have intensified into respective directions after the introduction of strict policies that favored the vaccinated over the unvaccinated (Tirone et al., 2021). As a result, conflicts about getting vaccinated between family members (Burkhardt, 2021) or protests on part of the unvaccinated against the government (Ellyatt, 2021b) unfolded. This division of society alludes to the intergroup nature of (non-) vaccination intentions, where the unvaccinated group stands in conflict with the vaccinated group and/or the government.

One established explanation of intergroup conflict is Social Identity Theory (SIT; Tajfel, 1978; Tajfel & Turner, 1979), positing that the sense of belonging to one group (the ingroup) could increase antipathies towards another group (the outgroup), thereby fueling intergroup tensions. Being aware of one's group membership through the salience of an intergroup context can result in polarizations of opinions and thus, a stiffening in beliefs and behaviors that make one's ingroup distinctive from outgroups (Price, 1989). Indeed, using a vaccine refusal-related social identity increased denial of scientific information on vaccination safety (Prot, 2017), which may be a sign of polarization. However, there seem to be various ideas and motivations of unvaccinated individuals to not get vaccinated, such as uncertainty in whom to trust or believing in conspiracy theories (Razai et al., 2021), questioning the idea that unvaccinated people view others with the same vaccination status as their ingroup. Subsequently, it is also unclear who unvaccinated people view as their outgroup or who they feel in conflict with.

In order to understand what motivates people to not get vaccinated, and if this motivation is related to perceived group membership, it is important to establish how unvaccinated people think about different groups in the vaccination debate. Accordingly, the current study aims to investigate what role perceived group membership and perceived conflict between one's ingroup and another potential outgroup (and perhaps even also between different groups of unvaccinated people) play in the decision to not get vaccinated. This knowledge could contribute to a better understanding of what motivates people to not get vaccinated and who they see as a reliable source regarding vaccination information.

### **The Social Identity of Unvaccinated Individuals**

According to the social identity perspective, including SIT and self-categorization theory (SCT; Turner & Hogg, 1987), humans define themselves either on an individual basis (personal identity) or categorize themselves as part of an inclusive group (social identity). The characteristics and norms of the group we (choose to) belong to, including prescribed attitudes and behaviors, are adopted as part of the social identity, and thus, also become part of one's personal identity. Therefore, if one decides to not get vaccinated and others share a negative attitude towards the vaccine, an opinion-based social identity is formed, which prescribes the group norm of not getting vaccinated. This norm can then also become part of one's identity and can motivate individuals to stick to that opinion.

So far, research on social categorizations within the unvaccinated (and vaccinated) population is scarce. Previous descriptive research demonstrated that specific social categories do predict anti-vaccination intentions. That is, strong religious affiliations (Callaghan et al., 2021), low levels of income and education, or being an ethnic minority (Allington et al., 2021). However, those categories describe the background of people prone to not getting vaccinated and imply little in regard to what unvaccinated people think of the vaccine and to which group they would self-categorize. This could vary depending on each demographic

category. Indeed, unvaccinated individuals seem to range from extreme thinking conspiracy theorists (Allington et al., 2021) to ambivalent individuals that are unsure which opinion is correct (Lockyer et al., 2021), all with varying reasons for not being vaccinated (Allington et al., 2021; Uslu et al., 2021). Therefore, there appears to be a heterogeneity in the group of unvaccinated individuals. This poses the question of whether not being vaccinated is sufficient to create a social identity at all, and hence, whether unvaccinated individuals categorize themselves as one social group altogether or if unvaccinated individuals categorize themselves as part of a specific group in the vaccination context. Based on different attitudes and opinions about the vaccine, it is also possible that various social identities within the group of the unvaccinated exist. To establish the influence group membership has on vaccination decisions, understanding how unvaccinated individuals categorize themselves in the first place seems essential.

### **Intergroup Conflict and Unvaccinated Individual's Outgroups**

A social group seldomly exists in its own sphere, but is seen in the context of other groups. This is especially the case when intergroup contexts are made salient, where two or more groups stand in conflict with each other and where ingroup attitudes or beliefs are threatened by the outgroup (i.e., intergroup threat; Tajfel & Turner, 1979). A situation arises in which people think in “us” versus “them” terms. Even though it is not clear yet how unvaccinated individuals assign themselves into social categories, intergroup conflicts based on differing attitudes between unvaccinated and vaccinated individuals seem to exist within society. For example, workplaces in the U.S. report increasing hostility between unvaccinated and vaccinated individuals that lead to (physical) separation of the two groups at work, protests, and angry arguments online (Ellyatt, 2021a). Conflicts within families about the vaccine also seem to be the standard rather than a rarity, with 71% of German citizens having disagreements about the current vaccination situation with family members (Zeit Online,

2021). Moreover, protests on part of the unvaccinated against corona measures, especially potential compulsory vaccination mandates in Germany, are increasing in frequency and number of protesters, showing the aggravation of the polarization between groups (rbb24, 2022). Therefore, conflicts between the unvaccinated and vaccinated appear in all kinds of settings, but it is still unclear whether unvaccinated individuals perceive those conflicts as being of interpersonal or intergroup nature and how those conflicts influence their decision to not get vaccinated.

Furthermore, the protests demonstrate that unvaccinated individuals do not only seem to stand in conflict with vaccinated individuals, but also with the government. Indeed, vaccination-hesitant citizens in the Netherlands show less trust in the government (Yousuf et al., 2021) and higher dissatisfaction with the introduced vaccination measures (BBC, 2021). Therefore, unvaccinated individuals seem to have multiple conflicts, of which the antagonist seems to vary. Correspondingly, it is so far unclear who unvaccinated individuals perceive as their outgroup, and whether they feel in conflict with multiple outgroups. Only the specific understanding of the parties involved can lead to insights of the underlying mechanisms of conflict in the vaccination debate and a reduction in societal polarization.

### ***Ingroup and Outgroup Bias***

In the face of intergroup conflicts and intergroup threats, such as within the vaccination debate, cognitions and behaviors towards in- and outgroup members change. Specifically, ingroup members come to see themselves as superior to the outgroup and favor members of their own group (Hornsey, 2008). This ingroup bias or ingroup favoritism usually shows itself by favoring ingroup members when allocating resources (Hornsey, 2008), higher trust in members belonging to the ingroup and increased conformity to ingroup norms (Spears, 2021). Positively biased cognitions, emotions and behaviors are adaptive in intergroup conflicts, as they help to uphold ingroup interests and to defend group-contingent

self-esteem and self-worth that is threatened by the outgroup (Hornsey, 2008). In the context of the vaccination debate, one's vaccination status indeed seems to influence attitudes and behaviors into the direction of the group norm, resulting in psychological reactance or the stiffening in beliefs (Henkel et al., 2022). Thus, unvaccinated people who identify with this category seem to strengthen their beliefs and behaviors into the direction of the group norm, that is, being highly conforming to ingroup norms by fully resisting a vaccination. In contrast, Korn et al. (2020) found that only vaccinated, and not unvaccinated individuals differentiated between groups when allocating monetary rewards, hence showed ingroup favoritism. This could suggest that "the vaccinated" were not perceived as an outgroup that unvaccinated people felt in conflict with. It needs to be kept in mind though, that ingroup favoritism was only measured by allocating resources and not by other indicators such as trust or conformity to group norms.

Given the little evidence, contradictory results, and the different measures of ingroup favoritism, the question arises whether unvaccinated individuals as a group perceive a conflict and if so with whom (e.g., with the vaccinated group or with another unknown group), and whether unvaccinated people indeed show signs of ingroup bias. Insights into how unvaccinated individuals think and feel about other ingroup members can contribute knowledge on whether this group experiences conflict, how exclusive they perceive their group to be, and thus, how identifying with this group influences their decision to not get vaccinated.

### ***Outgroup Bias***

Furthermore, in the face of intergroup conflict ingroup members contrast their attitudes and behaviors to that of the outgroup to demonstrate which group one belongs to and to differentiate oneself from the outgroup (Spears, 2021). This kind of reactance to outgroup's opinions and behaviors also hints at ingroup members' negative biases towards the outgroup –



or outgroup bias - in the face of intergroup conflicts. In particular, perceived threats can elicit negative emotions such as frustration, anger, fear, and in general negative attitudes or hostility towards the outgroup (Tajfel & Turner, 1979). Indeed, violent or hostile behaviors of unvaccinated individuals towards people representing a pro-vaccination opinion were observed within society: Insults, violence, and property damages by unvaccinated people on vaccine centers were registered across Germany (BR24, 2021) and vaccine opponents' verbal and physical attacks on doctors and scientists, including death threats, are increasing in frequency (Nogrady, 2021; Tagesschau, 2021). Nevertheless, the majority of anti-vaccine protests turn out to be peaceful (Wilms, 2022), bringing the generalization of hatred against the vaccinated, scientists, and the government on part of the unvaccinated into question. Thus, how people who have not been vaccinated feel and think about their outgroup, and whether a bias exists, still needs to be investigated. The presence or absence of outgroup bias by unvaccinated individuals may provide insights on whom unvaccinated people perceive as their outgroup, how strong they perceive the conflict to be, and if an attempt to differentiate one's group from the outgroup affects anti-vaccination intentions.

### **The Present Study**

Despite the missing evidence of ingroup favoritism by unvaccinated individuals during the COVID-19 pandemic (Korn et al., 2020), multiple findings highlight that intergroup processes within the vaccination debate, such as conflict and polarization, do occur. The strong opinions of some unvaccinated individuals, such as believing in conspiracy theories or the high dissatisfaction with being patronized by the government might bear the risk that unvaccinated individuals may feel isolated from mainstream society or become pessimistic about the future of society, and distance themselves from it – also known as societal discontent (Gootjes et al., 2021). As this phenomenon is related to higher voting intentions of extreme parties (van de Bles et al., 2018) and thus, intensified polarizations of

society, the intergroup conflicts might prompt more severe societal consequences than already known. Hence, it is important to understand intergroup tensions surrounding the vaccination debate.

Therefore, the current study aims to unravel intergroup aspects of the vaccination debate by conducting semi-structured interviews with unvaccinated individuals that allow to explore subjective thoughts and beliefs of unvaccinated individuals. Specifically, this study wants to contribute to a better understanding of the social categories the unvaccinated identify with, who they perceive as their outgroup, whether they perceive a conflict with this outgroup, and whether the intergroup dynamic influences their decision to not get vaccinated. Along with these questions, constructs of SIT that help identify specific intergroup mechanisms will be highlighted, such as intergroup threat, “us” versus “them” thinking, and intergroup biases.

### **Methods**

This qualitative study was part of a larger project and used semi-structured interviews to explore the subjective experience of German and Dutch citizens who were not vaccinated against COVID-19, and how this decision relates to intergroup relations. Correspondingly, this study was conducted during the COVID-19 pandemic, from January 27 until March 10, 2022. During this point of the pandemic, the Omicron variant prevailed to a strong extent, the reason why both countries were in a lockdown. In the Netherlands, a 3G policy was at place, that is, a proof of vaccination, a COVID infection, or a PCR test was required at all locations for food and drinks, all cultural and recreational activities, and in indoor sport facilities (Government of the Netherlands, 2022). Further, one was allowed to see a maximum of four people a day. Whereas Dutch citizens could still take part in social life to some extent, Germany’s regulations were much stricter, using a 2G approach nationwide (Die Bundesregierung, 2022). Except for shops of daily needs, the entry into all other stores required proof of full vaccination or recovery (the definition of full included booster

vaccinations). Additionally, whereas the number of contacts was restricted to 10 people for vaccinated individuals, unvaccinated people were only allowed to see the people they lived with and two other people. This means that at the time of data collection, unvaccinated citizens in Germany were excluded from social life completely.

### **Participants and Recruitment**

Participants were recruited by two researchers involved in the larger project, using snowball sampling methods. Given the recommendations on qualitative analyses (Crouch & McKenzie, 2006), a sample of 16 participants was aimed for, with each researcher recruiting eight participants. To be eligible for the study, participants had to be unvaccinated and at least 18 years old. The age restriction was chosen, because at the time of data collection in the Netherlands and Germany, people below 18 had less opportunities to get vaccinated, and because their decision to get vaccinated might be influenced by their parents. To recruit participants, both researchers involved asked acquaintances to contact unvaccinated individuals they knew and to asking them to reach out to the researchers if they were willing to participate. By not interviewing individuals known through personal relationships, conflicts of interest were avoided. In total, the sample consisted of 16 participants with nine males (56.25%) and seven females (43.75%), aged between 21 and 65 ( $M_{\text{age}}= 37.25$ ,  $SD_{\text{age}}= 14.24$ ). Half the participants were German, and the other half were of Dutch nationality. Participation was voluntary, and no rewards were granted. A summary of participant characteristics, including their occupation can be found in Appendix A.

### **Interviews**

Interviews took place online via Google Meet and were conducted in either German or Dutch, depending on the native language of the interviewer and interviewee. After receiving informed consent, participants were asked about their personal reflection of why and how they decided to not get vaccinated and their perceptions of interpersonal and intergroup

conflicts. In particular, interview questions aimed to answer the following research questions: (1) Who do participants perceive as their ingroup? (2) Who do participants perceive as their outgroup? (3) With whom do they perceive themselves in conflict with? (4) How does the intergroup dynamic influence participants' decision to not get vaccinated? The focus of questions lied on social environment compositions of participants ("How many people in your close environment agree with you? Who does not agree?"), their categorizations of groups perceived (in conflicts) within society ("Who or which groups do you perceive as being part of the current debate about the vaccine?", "Do you perceive that there is a conflict between any of these groups?") and their affiliations with and attitudes towards these groups ("How do you feel about people who are part of that group you feel in conflict with?"). Finally, demographic data and information on whether participants would like to receive their transcript and/or the study were collected.

After interview one, some interview questions were omitted, adjusted, or added. This decision was either made because questions were not understood, did not elicit any new content, or because information necessary to answer the research questions was missing. For example, the question "How similar or different do you feel to each of these groups of people?" was omitted, as before the participant categorized people into groups based on her affiliations with or distance to others already and thus, this question did not add anything new. Nevertheless, interview one provided sufficient data for an analysis and was therefore still considered. Both the previous and final interview guide can be found in Appendix B.

Overall, interviews were designed for a length of approximately one hour and eventually ranged from 38.43 to 111.10 minutes ( $M_{minutes} = 63.44$ ,  $SD_{minutes} = 16.41$ ), with words varying from 4,374 to 13,156 words ( $M_{words} = 8,178$ ,  $SD_{words} = 2,434.27$ ). However, audio recordings and transcripts of interviews with German participants included the informed consent and thus, were longer than the Dutch interviews.

## **Analysis**

The analysis of interviews was executed by utilizing thematic analysis (Braun & Clarke, 2006), as the subjective experiences and opinions of participants were of interest and patterns in the participant's narratives were sought. Details of the analysis process are provided in the following sections.

### ***Transcription***

Audio recordings of participant's answers were used as a basis for the analysis. Given the different languages the interviews were conducted in, the audio recordings were transcribed by the researcher with the according native language. Full stops and commas were added manually, as well as verbal filler words. As the focus of the interview was solely on the content of interviews, pauses and speech sounds were not transcribed, and semantics not analyzed. Identifiable information, for example names and locations, were removed from the transcript, hence, all transcripts were pseudonymized. Further, statements of participants were marked with the abbreviation 'P' (participant) and the number the participant was assigned to, followed by either a 'G' (German) or 'D' (Dutch), depending on the participants' nationality. Afterwards, transcripts were translated into English by the same author, in order to be used by both researchers. Given the limited time frame and resources of the project, transcripts and translations were not verified by another researcher. In the result section, round brackets indicate the omission of words or sentences, and square brackets mark an inclusion or exclusion of letters or words for readability in the context of the sentence.

### ***Coding***

All interviews were analyzed with ATLAS.ti (Scientific Software Development GmbH, 2022) and coded using a combination of a deductive and inductive coding approach. Deductive codes used identified the aspects of the research questions. Namely, sentences that provided information on a) ingroup, b) identity aspects of the ingroup, c) outgroup, d)

conflict, or e) group-based influence were coded accordingly. The specific content of each code was written down as a comment and used as an inductive code, which aimed to answer the following: (1) Who do participants (not) affiliate with, based on which identity aspects? (2) Which conflicts are present, between whom, and do they feel part of it? (3) How do other groups contribute to the decision to not get vaccinated? For example, quotes coded with *identity aspect* revealed inductive codes like *being critical/questioning*, *freedom as high good*, and *being opposing*. Hence, while deductive codes were used to provide structure and ensure that the research questions were answered, inductive codes contained the content of the codes, that is, the information this study aimed for. A full presentation of initial codes and example quotes can be found in Table C1 in Appendix C.

### ***Theme Development***

Themes were created based on the inductive codes for one category. For instance, all codes created from the deductive code *ingroup* were compared and codes with similar content were merged into one theme. Further, themes were based on general patterns across all interviews, so similarities in content of participants were utilized to show the overall trend of data, not individual experiences. All themes aimed to answer who participants perceive as their ingroup and outgroup, with whom they perceive themselves in conflict with, and how the intergroup contexts influence participants' decision to not get vaccinated. Information on which initial codes created which theme (see Table C2) and which participant contributed to each theme (see Table C3) can be found in Appendix C.

### **Ethical Considerations**

Given the current polarization of the vaccination topic and the chance that the researchers with their position would be perceived as an outgroup, participants were ensured that the purpose of the study is limited to the understanding of their subjective experiences and that researchers conducting the interviews would remain as objective as possible. The

same was applicable for the analysis and interpretation of results. However, it needs to be emphasized that the authors were vaccinated themselves and thus, generally were in favor of the COVID-19 vaccination. Given the personal decision in this debate and that thematic analysis requires the judgement of the author and thus, is of subjective nature, the interpretation of results is also prone to biases.

As the sharing of certain experiences can be sensitive, the interviewees were told that they could choose not to answer questions and proceed with subsequent questions or could refrain from the interview entirely at any time during the interview. Furthermore, participants were guaranteed that their identities would remain anonymous. The study was approved by the Ethics Committee of the University of Groningen on January 18, 2022.

## **Results**

The broad themes were based on the research questions, namely perceptions of ingroups, outgroups and intergroup conflict, and the influence of group dynamics on their vaccination decision. A summary of each theme with all subcategories can be found in Appendix D.

### **Ingroups of Unvaccinated Individuals**

With respect to the question of whom unvaccinated individuals perceive as their ingroup, interviews showed that not the vaccination status itself is the underlying identity aspect of unvaccinated individuals, but specific values and behaviors related to it. Thus, the broader category of “the unvaccinated” could be separated into non-conforming critics versus freedom-fighters. Identity aspects of these groups show that they have emerged in response to the conflict within the vaccination debate and did not exist before. Further, a third group was found that did not identify with any group.

#### ***Ingroup: The Non-Conforming Critics***

One social identity unvaccinated individuals either explicitly or implicitly categorized themselves as was the “non-conforming or the critical” (P5-G), by highly valuing these traits in themselves and other people. Interviews demonstrated this by signs of ingroup bias, equating being critical with being non-conforming, integrating these traits in one’s personal identity, and using it for self-enhancement strategies.

All participants reported to *value and trust people who are informed*, who “thought (...) for themselves” (P10-D), question every information presented to them, are objective in their way of thinking, and are critical and non-conforming towards the vaccine and related policies. In particular, one could identify with “when such a [critical] question is raised” (P2-G), and one “would (...) ask someone [for advice on the vaccine] who also sees the whole thing more critically, yes” (P7-G) and has a “critical eye” (P14-D). Therefore, being critical and objective was considered a trait necessary for a positive evaluation of and higher levels of trust in others, or in other words, there was a *positive bias towards ingroup members*.

Further, being critical towards policies was equated with being *non-conforming with governmental instructions or the majority’s opinion*. This highlights that it is not the way of thinking in general that makes participants feel like belonging to this group, but rather the critical stance and attitude towards the government. Thus, this social identity seems to build on a conflict with the government. To specify, some participants explicitly categorized themselves based on being non-conforming and appraised others who critically evaluate and oppose the status quo as “brave” or “intelligent” (P4-G). Therefore, a few participants assumed that all people who do not conform with the government – that is, being unvaccinated - also share their trait of being critical and thus, that all unvaccinated were homogenous in terms of this trait.

This is in line with those participants who labeled their ingroup in general terms of “the unvaccinated”, but actually referred to identity aspects of being non-conforming or



critical. This indicates that the category of “the unvaccinated” was used as a generalizing label to describe their group of non-conforming critics. Specifically, some participants felt a sense of belonging to other unvaccinated individuals, but only because being unvaccinated indicated a critical stance towards the government and being non-conforming. They mentioned to feel “happy” when meeting someone who is “also not vaccinated, who then share[s] exactly my opinion” (P3-G). However, most participants did not identify with the broader category of “the unvaccinated” or highlighted that the vaccination status “does not have to coincide with the so-called vaccine opponents” (P4-G), thereby *differentiating between non-conforming critics and the people who only base their decision on the vaccine itself*.

Moreover, participants indicated *that both traits – being critical and non-conforming – are considered a group norm*, by setting expectations for other people and conceiving the opposite behavior by other ingroup members as a norm violation. In particular, participants wished others to “at least be a bit critical, at least stumble over some things” (P4-G), “don't just believe everything. Blindly believe that all is well” (P12-D), and “do a little research (...) and broaden your horizon” (P11-D)”. Further, another participant reported: “As a human being I have to think about it somehow and slowly get behind it” (P3-G), suggesting that those who do not cannot hold up to standards of a “normal” human being, do not fulfill an important group norm, and are viewed negatively (i.e., outgroup bias). In addition, a few participants negatively judged ingroup members who were critical and non-conforming before, but would nevertheless decide to get vaccinated. Specifically, participants mentioned that this behavior would “have a certain taste” (P10-D), would be “a real flag-in-the-wind mentality” (P6-G) and would be “condemned” (P6-G). Another participant said he would be “curious how that is possible” (P14-D). Therefore, for some participants, conforming behavior was seen as inconsistent and a violation of their group norms.

In line with the notion that social identity aspects also become part of the self, participants not only evaluated other people based on being critical or non-conforming, but also *presented themselves as critical, informed, and disobedient* throughout the whole interview. Despite some deviations in opinions on specific matters, such as reasons for why the vaccination campaign was executed by the government, all participants coincided in the way one needs to approach the vaccination debate and how one wants to be perceived by others. Specifically, participants stated that “all the things that I believe, I’ve read myself, checked” (P6-G) or that one’s opinion was formed “only by numbers and only through papers” (P1-G). That participants perceive themselves and want their group to be perceived by others as critical, informed, and objective based on scientific findings emphasizes how essential these traits are for unvaccinated individual’s social identity.

Interestingly, even the small number of participants who were uninformed and uncritical themselves and thus, conformed to other people’s standards - for instance not being vaccinated only because close others told them not to – nevertheless presented themselves as such and treasured these qualities to a great extent. This supports the argument that being critical and objective constitutes an important group norm that one wants to conform to and further, these traits seem to be used to maintain a positive distinctiveness to other people and groups (i.e., ingroup bias). This was also demonstrated by participants who used these traits as a self-enhancement strategy on an individual level. For instance, one participant thought that being objective distinguished her from other unvaccinated individuals. Similarly, being non-conforming seemed to be a characteristic that some participants positively evaluated and felt proud of. One person stated, “sometimes I have the feeling that it was cool not to have jumped on the train” (P6-G) and another mentioned “I didn’t swim with the current, I swam against the current” (P3-G). Therefore, being critical, objective, and non-conforming emerged as an

identity aspect with which participants tried to differentiate themselves from other individuals, indicating a “us” vs “them” dynamic on a group level.

***Ingroup: The Freedom-Fighters***

A few participants explicitly categorized themselves as being a “freedom-fighter” (P11-D) or a “government-opponent” (P4-G). Their social identity was based on highly valuing freedom of choice regarding a vaccination decision, freedom of speech, the ability to peacefully protest and expressing their discontent with restrictions of these freedoms and thus, their basic human rights. For instance, one participant indicated:

“And if the demonstrators simply try to exercise their right, uh, to freedom of demonstration, then they are put under massive pressure. And that makes me very sad. And those are the reasons why I feel, um, yes, overall, very connected.” (P4-G).

Most participants that did not explicitly categorize themselves into this category still indicated the importance of maintaining freedom of choice by keeping vaccination a free and personal decision, stating that “it must be as it has always been. It must be a free choice” (P8-G). Thus, almost all participants either explicitly or implicitly felt an affiliation with this social identity. As one participant stated: “[the unvaccinated] are united by the fact that this [vaccination] must be a free decision.” (P7-G)

In line with this observation, most participants treasured tolerance for other opinions and mentioned to be indifferent to others around them who decide to get vaccinated, suggesting little importance of the vaccination status in categorizing others as in- or outgroup members. On the contrary, not judging one’s decisions and leaving freedom of choice to others was seen as a group norm and a determinant for categorizing someone as part of the in- or outgroup:

“I think when all the important people around me say, 'Yes, I really want you vaccinated and otherwise I can't deal with you anymore'. On the one hand I think, then I would say, “Well then not”, then I won't hang out with you, because I wouldn't find the way, so to speak. I mean that's not the way in a friendship you treat each other. You also have to set each other free.” (P9-D)

Hence, unvaccinated individuals expected others to share their attitudes and understanding of freedom.

Interestingly, the importance of tolerance and freedom of choice was not also mentioned as an answer regarding attitudes towards vaccinated individuals, but some participants also used such statements as a form of impression management. Specifically, some participants accentuated high tolerance for all people to neutralize expressions of negative attitudes towards people who act in accordance with governmental policies: “So I do not convert them, or I don't insult them or something, that's their business.” (P5-G). This indicates that tolerance, a form of freedom of choice, is not only seen as a group norm, but also as a quality with which one wants to be perceived by others.

### ***No (Explicit) Ingroup Identification***

A few participants did not identify with any groups at all by being ambivalent or by not explicitly self-categorizing themselves to any group. In particular, some participants were ambivalent or had mixed attitudes towards groups involved in the vaccination debate, including the government and other unvaccinated subgroups, or were indifferent towards them. Even though these participants also shared some values consistent with the ingroups of the “freedom-fighters” or “non-conforming critics”, they found themselves “floating in between” (P12-D), thinking that “we are all kind of right” (P9-D), and not being part of any group related to the COVID-19 vaccine.

Other participants did not explicitly self-categorize into any group, despite the fact that they implicitly showed signs of group membership. They emphasized that they do not feel like belonging to any group, saying: “I just want to be left alone for myself, have my freedoms and be able to decide for myself.” (P6-G), or not feeling “part of a movement” (P5-G). Yet, these participants advocated the same values of the freedom-fighters and non-conforming critics, showed strong negative attitudes towards groups involved in the conflict, were in conflict with another group which was connected to the vaccination, or talked about conflicts in the plural. For example, participant P5-G stated: “I don’t feel part of a movement. I have my own opinion.”, but at other times said, “we as the unvaccinated”. This finding seems important as the vaccination debate appears to put forth mechanisms, where some unvaccinated individuals consider themselves to be alone in a conflict that seems to be of intergroup nature, despite a connection to other individuals that share the same values, goals, and identity.

### **Outgroups of Unvaccinated Individuals and Their Conflicts**

Pertaining to the question of whom unvaccinated individuals perceive as their outgroup and who they feel like being in conflict with, the analysis revealed the following outgroups: the government and media, uncritical and conforming vaccinated individuals, and unvaccinated radicals and conspiracy theorists. Although subgroups of the vaccinated and the unvaccinated were also considered an outgroup to some extent, the government and media was the most explicit and essential outgroup. Each outgroup and their conflicts will be described below.

#### ***Outgroup: The Government and Media***

The outgroups mentioned most frequently were the government, politicians in general, and the media. This was mainly illustrated based on the conflicts participants had with these

groups. Namely, conflicts resolved around threats to important ingroup values – freedom or critical thinking – and social identity threats by being categorized negatively by this outgroup.

Related to the ingroup of freedom-fighters, the majority of participants saw their *freedom and thus, their fundamental rights threatened by the government and its policies.*

Participants disliked the “contemptuous measures” (P1-G), how “the state prescribes (...) and wants to regulate everything” (P6-G) and how governments “want to keep us all under control” (P15-D). Even though there is no compulsory vaccination in any of the sampled countries, participants felt restricted in their freedom by the current policies that disadvantage those who have not been vaccinated:

“The problem is that I, uh, that I wouldn’t call it freedom if I have to do something with my body in order to receive my freedom. This is my own decision (...) and I still want to participate in social life, even if I don’t let myself be injected.” (P2-G)

The consequences of these restrictions had severe negative psychological effects on participants’ psychological well-being: They felt like a “second-class person” (P7-G) and felt “discriminated” (P10)-D, “excluded” (P16-D), and “marginalized” (P4-G) by the government. Accordingly, participants experienced strong negative emotions like “dissatisfaction”, “anger” (P11-D), and something similar to “hatred” (P7-G). These emotions point to signs of outgroup biases, where ingroup members experience negative emotions towards their outgroup.

Moreover, the kind of policies the government introduced and the way the government and media communicated with the public, led many participants to believe that both parties are responsible for the polarization and that “the division is wanted in my eyes” (P6-G). Particularly, participants felt that the *categorization of groups of “vaccinated” and “unvaccinated” by the government facilitated antipathies and intergroup tensions:*

“The way politicians express themselves, um, I see very clearly that they are trying to solidify this division so that the unvaccinated get upset about the vaccinated and vice

versa. But actually, here, um, politics is being made against 80% of the people.” (P4-G)

The *media* was perceived as *equally accountable for the division in society* as they adopted the categorizations made by the government as well and created stereotypes about the group of “the unvaccinated”. Specifically, media was seen as blaming the whole group of the unvaccinated for the current situation of the pandemic, creating a situation in which unvaccinated individuals felt “agitated by the media” (P6-G). Further, media was perceived as “selective” (P4-G) in their reporting of protests against current policies, constantly portraying protestors as “screaming fanatically” (P14-D), right-wing extremists and conspiracy theorists, who are violent (P4-G) and stupid (P2-G). Thus, participants felt that unvaccinated people, including themselves, were lumped together with extreme opinions or groups within society, they themselves could not identify with. These evaluative categorizations were seen as unjust, “prejudice[d]” (P6) and “socially damaging” (P4-G). Given that most participants identify with being critical and smart and that the generalization of all unvaccinated individuals into this category elicited strong negative reactions in participants, it appears that *behavior by the government and media threatened their identity* and created a situation in which participants had to manage to maintain a positive self-view.

### ***Outgroup: The Uncritical and Conforming Vaccinated***

Although the main conflict was between the government and unvaccinated individuals, participants implied that uncritical and conforming vaccinated individuals were part of the conflict, threatened their social self-esteem and thus, were an outgroup. This was shown by signs of outgroup bias and descriptions of norm violations.

In line with the attempt to positively differentiate oneself and one’s group from others by being critical, objective, and non-conforming, people who lacked those traits were recognized as outgroup members. This was shown by signs of *outgroup bias*, where

participants had incomprehension for and negative attitudes towards people who “just retell[s] what [they] heard” (P15-D) and conform with the government or the majority of society. Whereas negative attitudes towards uncritical individuals were expressed by describing them as “naïve” (P10-D), “too influenceable” (P6-G), and “blind” (P14-D), conforming people were labeled as “stooges of the state” (P5-G) and were perceived as a “dangerous phenomenon socially” (P15-D). Others expressed their negative attitudes and incomprehension by having strong emotional reactions towards people with uncritical ways of thinking, stating that “then my hair stand straight up” (P15-D) or that “my stomach turns” (P4-G). Hence, participants felt negatively towards this category of people and thus, considered them as their outgroup.

Moreover, vaccinated individuals were also perceived as being uncritical and blind if they endorsed the negative stereotypes and generalizations portrayed by the media and the government, being a *threat to participant's identity*. Participants reported that people in their social environment adopted the opinion that the whole group of “the unvaccinated” is responsible for the pandemic: “And then it goes again and again, yes ‘The unvaccinated are to blame, because they infect us’” (P3-G). Most often though, participants said they were categorized as “stupid” (P13-D), right-wing extremists, or conspiracy theorists. They felt that “if you go against that, then you’re a ‘wappie’. Or then you’re a conspiracy theorist” (P10-D) or were “insulted (...) as a ‘Querdenker’ or far right” (P2-G). Thus, participants applied negative meta-stereotypes which were all associated with being unintelligent. This contradicts participant’s self-perception as informed and critical, and hence, such statements were considered as a threat to one’s self-concept. This was demonstrated by participant’s reactions to such insults: Participants engaged in discussions to show “that not all of the unvaccinated are stupid” (P2-G) and that instead the group consists of “highly educated” (P16-D) individuals “who really have something on the ball” (P4-G). Therefore, by defending



important aspects of their social identity and trying to not conform to the negative stereotypes about being unvaccinated, participants attempted to improve the status of their group, a strategy that seemed to be used to restore one's positive self-view in the face of identity threat.

Furthermore, even though participants' negative attitudes were directed towards people in society who were uncritical and conforming, and interpersonal conflicts sometimes existed, statements of participants indicated that the actual outgroup remained the government. For example, conflicts with this subgroup of vaccinated individuals were always related to the conflict with the government that restricts the freedom of unvaccinated individuals with their policies. As one participant complained: "And there are people who follow everything blindly, who think 'Oh well, just put it in, then I can go on holiday, then I can go to the pub (...)" (P12-D). Further, the negative attitudes participants had towards this group based on being uncritical and government-conforming seldomly resulted in the wish to distance themselves from these outgroup members. Often, the described interpersonal conflicts with vaccinated individuals were not even considered as such: Some participants stated to not have "any experience with exclusion" (P6-G) and that they were "socially accepted" (P8-G) and did not feel like being involved in any conflict. This might be the case because the majority of participants saw the conflict with this vaccinated group as sown by the government and public media, a theme touched upon before. Accordingly, participants advocated for togetherness and "consider[ing] all those who do, so the broad people so to speak, as my, um, comrades-in-arm." (P4-G). This is in line with predominantly maintained relationships with people participants knew before the pandemic and the wish to stay close to them. However, the negative experiences with some vaccinated individuals sometimes made it difficult to focus on one broad social identity:

“In reality, I don’t really do that (seeing all as comrades-in-arm), not always. Uh. I just notice that it makes me angry that people are willing to believe so much and to continue to trust so much in the news and the government and also follow all the rules so nicely.” (P4-G)

Therefore, even though participants knew that the essential conflict was between society and the government, they were not always able to keep a positive stance towards the group of vaccination and policy proponents.

### ***Outgroup: Unvaccinated Radicals and Conspiracy Theorists***

Some subgroups of the unvaccinated group were also perceived as an outgroup, since participants either explicitly or implicitly felt in conflict with them based on threats to their positive self-concept or self-esteem. In particular, some participants explicitly mentioned a conflict with unvaccinated conspiracy theorists and right-wing extremists as their behavior amplified the overall societal conflict by confirming the negative stereotypes about one’s own group imposed on by the government and media. It was described that “those people are very dangerous” (P11-D), because “these critics go so overboard with their opinions that it directly puts you in a corner you don’t really want to be in” (P6-G) and “stamps this whole group (the unvaccinated) with an incredibility. And there are really many who are super enlightened” (P6-G). Thus, there was a threat to one’s self-concept, which included being critical and informed, by being categorized as an unvaccinated and stupid conspiracy theorist or extremist. This was emphasized by stressing the importance of not conforming the stereotypes: “No, we have to do it all in a relaxed, very relaxed and above all always very polite way, because otherwise the others will be right when they push us into a corner.” (P2-G). The same conflict was not mentioned by others directly, rather they implied the threat of being categorized and stereotyped negatively by distancing themselves from such ideas and behaviors. For instance, some expressed that ideas surrounding conspiracy theories “go[es]

too far” (P13-D), are “unfounded” (P12-D) and that there was incomprehension for people who “exaggerate it so much” (P4-G). Likewise, participants indicated that they are “not a friend of fanaticism or radicalism” (P8-G) or that they want “to distance yourself from right-wing ideas” (P7-G). Other participants constantly clarified that they are no conspiracy theorists or ‘wappies’ and right-wing radicals throughout the interview, even though questions resolved around other topics. Inserted sentences such as “But what I just said, say, I’m not a conspiracy theorist” (P10-D) emphasized this. This behavior seems even more indicative of the fear of being associated with this category of unvaccinated individuals and being seen negatively by others. Interestingly, the strong urge to distance oneself was also shown by the few participants prone to conspiracy theories, like believing that President Trudeau is a dictator and part of “the great reset” (considered a conspiracy theory by research: Au & Christensen, 2021). This implies that an affiliation with this social category and hence, being viewed negatively by society would pose such a strong threat to one’s self-esteem that is it better to distance oneself from that group and label one’s social identity differently.

Lastly, it needs to be mentioned that many participants could still identify with conspiracy theorists and right-wing extremists based on the goal of changing the government’s actions and measures, but “the way in which they want to work it out” (P11-D) was perceived as a threat to that goal. Hence, they were not considered as ingroup members. Additionally, the conflict between participants and subgroups of unvaccinated individuals dissolved quickly and was only talked about when primed with interview questions. In contrast, the conflict with the government was readily available and was talked about automatically, indicating that the conflict with unvaccinated individuals was not as essential and that the main outgroup remained the government.

### **Intergroup Dynamics’ Influence on Vaccination Decision**

In regard to how group dynamics and connected conflicts might have influenced or will influence unvaccinated individual's decision to not get vaccinated, the interviews illustrate that there was a certain influence of ingroup members, but that the influence of outgroup members was much stronger for a future decision. Namely, the outgroups' behavior had a strong negative influence on the majority of participants who still do not want to get vaccinated against COVID-19.

### ***Ingroup Influence***

Overall, whether based on witnessed incidents or received sources from close others, ingroup members seem to have influenced participants' decision only to a small extent. Specifically, own experiences or those of close others perceived as ingroup members – whether vaccinated or not - seemed to have the strongest influence in participants' opinion-forming process, as the majority of participants pointed out: Whereas personal experiences in participants' social environments with side effects led them to see the vaccine as a risk, witnessing mild courses of COVID in others and high infection numbers despite a high vaccination rate was taken as a proof that the vaccine is ineffective and COVID is not really dangerous. For instance, one participant mentioned: "I have people from my direct circle of acquaintances who have just had bad experiences with the vaccine. For one my grandmother, who got vaccinated and then almost died" (P7-G).

In contrast, social influence by ingroup members, that is freedom-fighters or critical and non-conforming individuals, was only seldomly mentioned. One participant thought that his social ties "did have a reasonable influence on my choice" (P14-D), and another acknowledged that only by having received a documentary from a friend induced him to form an opinion about the situation: "That's how I came up with the topic of vaccination in the first place, before I didn't care about it at all" (P6-G). Hence, even though the whole sample indicated to be part of a minority with their vaccination status or opinion on the vaccination in

one's environment, a few close ties with the same opinion served as a source of information on the vaccine or governmental policies. For another minority, the input they received from their social environment was not seen as influential in their "opinion-forming, but rather in my consolidation of opinion" (P2-G). This is also in line with participants' illustration of spending most of their time with their COVID-related ingroup: "(...) maybe 10% or so share my opinion. Um. Interestingly, I now mainly spend my time with this 10%" (P2-G). Finally, others stated that there was no social influence at all and that "I really made that choice all by myself. Nobody influenced me" (P11-D).

### ***Outgroup Influence***

Whereas outgroups of the uncritical and conforming vaccinated people or extreme unvaccinated people seemed to have no influence on participant's vaccination decision, the government and media appeared to contribute to this decision to the greatest extent. This is in line with the government being the main outgroup for unvaccinated individuals in this sample. In particular, participants perceived the government and politicians to be inconsistent, nontransparent, and dishonest in their communication about the current status of the pandemic and policy making, which elicited distrust towards them. Specifically, politicians were seen as "jabberers" (P7-G) who "just say this today, that tomorrow" (P7-G) and official statistics by the federal research institutes and numbers by the media were said to be manipulated by some participants, or at least misrepresented by others. This assumption was based on the media being too closely affiliated with and "paid by the government" (P13-D), so that public media became "a mouthpiece of the federal government" (P2-G). Additionally, reports of the government and the media were considered "one-sided" (P4-G), also because media "massively controls and censors us" (P6-G). Participants mentioned that they felt "betrayed" (P5-G) or "lie[ed]" (P13-D) to by the government and media and that these actions strengthened their decision to not get vaccinated.

Others indicated that the way the vaccination was advertised was their determinant for not taking the vaccine:

“But I honestly have to say, above all, the way in which this vaccination was advertised - even in the city where I currently live - with posters, with actions (...), I don't want that, I don't understand that, that scares me, that's not true. Because if all this were so great and if all this was so medical (...) a conventional physician would never act like this.” (P8-G)

Overall, these statements imply that the way that the government introduced the vaccination campaign, including the way that division was sown in society, seem to have planted distrust and led participants to their decision in the first place.

With respect to potential future vaccination decisions against COVID-19, the governments' policies that restricted participant's freedom were an essential determinant, but with different effects on participants and mainly for German participants. This might be the case because of stricter restrictions in Germany and the potential vaccination obligation that was discussed at that point. Specifically, some participants indicated that with more social pressure and prolonging restrictions in freedom, they considered to take the vaccine at some point, even though it was something they did not want to do. That was because they were psychologically affected by either the consequences of freedom restrictions or the effort that they had to invest to resist the government and the status quo. As one participant indicated:

“If a general vaccination obligation were introduced, then I would not be one of those who, uh, continue to resist one hundred percent and do not. I just wouldn't have the strength to do that, I wouldn't put up with this resistance, even if it would be completely wrong to introduce this vaccination obligation.” (P4-G)

Whereas this participant speaks about a potential vaccination obligation, another participant mentions social exclusion, saying that “if this goes on and on, then I probably have to get vaccinated at some point, because otherwise I can't do too much anymore” (P7-G). Hence, these participants would feel forced to get vaccinated by the government through the strains it puts on them, but nevertheless would dislike it and identify with being critical about the vaccination. Yet, many participants reported that the freedom restrictions encouraged them to protest against the vaccination in any case. That is, even if a vaccination obligation would be introduced, participants said that a vaccination “will never happen” (P6-G) and that “I would probably emigrate rather than get vaccinated” (P2-G). This was motivated by resistance, as one participant indicated: “So then I honestly will especially not do it if they want it from me so badly” (P7-G). Hence, some participants experienced psychological reactance.

### **Discussion**

Since the introduction of the COVID-19 vaccine, conflicts between “the unvaccinated” and different groups were described in the media and polarization within society seems to have increased. Thus far, little is known about the intergroup dynamics within the vaccine debate, especially from the perspective of the group that has refused or was hesitant towards a vaccination. Therefore, the current study aimed to investigate the social categorizations and intergroup conflicts within society related to this issue. Specifically, through semi-structured interviews it was examined who unvaccinated individuals perceive as their in- and outgroup, who they feel like being in conflict with, and what influence these intergroup relations had on their decision to not get vaccinated. Results revealed that unvaccinated individual's group membership was based on high standards of freedom and on being critical and non-conforming towards the government. The government and media were also considered the main outgroup participants felt in conflict with. Actions by the

government and media seemed to negatively influence participant's decisions to get vaccinated.

### **Ingroup Identification and Main Intergroup Conflicts**

The interviews showed that group membership in the vaccination debate is not based on the vaccination status per se, that is, on being vaccinated or unvaccinated. Rather, it is based on shared values of freedom and tolerance, that one needs to be educated, objective, critical and non-conforming to the health policies of the government. Thus, social identities of unvaccinated individuals are opinion-formed identities, a finding congruent with the study by Maher et al. (2020), who found that groups in the vaccination debate are based on opinions and not behaviors. This might explain why unvaccinated individuals showed no ingroup bias when allocating monetary rewards to either vaccinated or unvaccinated people (Korn et al., 2020), as unvaccinated people rather seem to take other characteristics than a vaccination status into consideration when evaluating others.

The results on the identity aspects of unvaccinated individuals firstly imply that individuals of a broader social category (i.e., the unvaccinated) self-categorize differently than others would categorize them. This seems especially important for studying intergroup processes, as "true" social identities involved in a conflict may be unknown without examining the content of people's identities or what specifically constitutes this group. This result also highlights the drawbacks of quantitative research, where researchers often study groups based on their presumed understanding of group identity (e.g., Korn et al., 2020). Hence, qualitative studies - just like the current one - are of high value by adding information otherwise unknown and necessary for an in-depth understanding of the intergroup processes at hand.

Secondly, the found social identities of unvaccinated individuals in this study seem to help inform and predict how a group within society might react to future societal debates or



governmental decisions on affairs other than COVID-19. In particular, the social identity of an essential group in the vaccination debate is independent of the vaccination status, but is rather based on being critical towards all information, and particularly those expressed by the government (revealed as the main outgroup in this study). As a result, a group much bigger than just unvaccinated people might remain distrustful and skeptical towards decisions made by those in power. That is, also vaccinated individuals might belong to the group of the critics. Therefore, the ongoing societal polarization could take on a much larger scale than previously assumed.

Moreover, the interviews emphasized that social identities are not always self-chosen but can be forced on people. Despite an identification with groups that value freedom or a critical and non-conforming stance, all identities were related to the actions of the government, that is, the main outgroup. Additionally, these identities seem to have formed only because of the intergroup conflict with the government. This result questions previous findings that found trust in science and health officials, instead of trust in the government as the basis for opinion-formed social identities (Maher et al., 2020). It is possible that the lines between the government and health officials might be blurred and participants in this study may have implicitly included health officials when referring to the government. Alternatively, the inconsistency might be a result of country differences, as the study of Maher et al. (2020) was conducted in the U.K. Opinion-formed social identities in the vaccination debate might be based on trust towards different actors in different countries. Future research should address this inconsistency for a complete understanding of unvaccinated individual's social identifications.

The conflict with the government on which social identities were based especially included, next to threats to important values such as freedom, the imposition of a social identity. Actions by the government and the media, such as categorizing unvaccinated

individuals into a group of “the unvaccinated”, led participants to think that a group membership is forced on them and made them feel like being treated unjustly. Eventually this elicited a threat to one’s (new formed) social identity. This is consistent with previous research that demonstrated how the mere act of being categorized against one’s will creates a categorization threat. That is, people feel like a target for prejudice simply because they are not recognized with their unique individual traits but precondemned in terms of group membership (Branscombe et al., 1999). Further, in the face of a categorization threat, people often react by individualizing group members and distancing themselves from groups in general to restore a positive self-view (Branscombe et al., 1999). This explains why many participants implicitly stated to belong to a group, but nevertheless spoke about opinions and conflicts in individual terms and indicated to not feel part of any group. In contrast, some participants chose another strategy to manage their imposed social identity in the face of a categorization threat and the following perceived exclusion and discrimination. That is, a few participants did identify with the imposed category of “the unvaccinated”. This is in line with the basic premise suggested by SIT that characteristics of social identities (imposed or not) can become part of the self (Turner & Hogg, 1987). Indeed, the strategy of increased identification with one’s disadvantaged group membership has certain advantages (Schmid & Muldoon, 2015). For example, it has beneficial effects on people’s well-being as it is used as a coping strategy in the face of strong intergroup threats, especially when directly or indirectly exposed to political conflict. Taken together, these findings suggest that unvaccinated individuals differ in their way of managing a negative social identity, ultimately producing differences in how they self-categorize into groups. Future research could investigate which variables predict which identity management strategies, and hence, the perceived social identity.

### **Outgroups and Side Conflicts**

As already mentioned, the main outgroup considered by unvaccinated participants was the government, including the mainstream media, which was seen as connected to the government. To a certain extent, however, “the vaccinated” were also perceived as an outgroup, but only in the sense that some of them obeyed the commands of the main outgroup - the government - making them seem uncritical and government-conforming. Despite these conflicts and negative attitudes towards those vaccinated individuals, the conflict with the government seemed far more relevant. That is, the government was perceived to restrict participant’s freedom and was seen as responsible for the conflicts within society. This finding is in line with research by Korn et al. (2020) who found that unvaccinated individuals do not favor unvaccinated over vaccinated people, indicating that the vaccinated are not necessarily perceived as an outgroup they are in conflict with. Likewise, Bor et al., (2022) showed that unvaccinated individuals show no signs of antipathy towards vaccinated people and that unvaccinated people’s level of content and happiness was unrelated to other people’s vaccination status. The current research supports this finding, as participants regularly stressed their tolerance, acceptance, and feelings of belonging to other vaccinated individuals.

Moreover, given the finding that the main outgroup and conflict of unvaccinated individuals is the government, this study sheds light on why the vaccination status of others is irrelevant to unvaccinated individual’s happiness (Bor et al., 2022). Namely, it is likely that the psychological well-being and content is rather influenced by the government and its actions, as participants in this sample were not only practically, but also mentally affected by the government’s policies and categorizations. This is a novel finding, as the main outgroup of unvaccinated individuals has not really been mentioned in research, and this knowledge seems essential for a reduction of intergroup conflict in society.

### **Influence of Intergroup Conflict on Vaccination Decision**

In regard to the influence of the found intergroup dynamics on people's decision to get vaccinated or not, the current research suggests that the outgroup's actions and thus, the conflict that is experienced seems to negatively affect a vaccination decision. The aforementioned violations of participant's values by the government, such as freedom and tolerance, as well as the government being perceived as the source of the categorization threats and experienced prejudice led unvaccinated individuals to refuse a vaccination until now, but for the majority also in the future. For instance, being blamed for the current situation of the pandemic by the government and media, and being excluded and discriminated against by this outgroup as a consequence (and correspondingly also by the majority of society), evoked psychological reactance in some participants. Consistent with this finding, another study found that the communication by the government may have induced vaccination refusal in many individuals: Framing the vaccination as a moral obligation led unvaccinated individuals to think that they are perceived as immoral by most of the vaccinated, which in turn predicted vaccination refusal (Rosenfeld & Tomiyama, 2022). This has important implications for future societal crises, as those in power should choose different strategies other than highlighting moral obligations to influence society's behavior. At least, if societal polarizations and conflict are aimed to be prevented.

### **Limitations and Future Research**

This study was not without limitations. The most obvious drawback is the limited generalizability of the results to the whole population of unvaccinated individuals. This sample only consisted of unvaccinated individuals living in the Netherlands and Germany. Future studies should investigate whether country differences exist. For instance, different policies are likely to elicit different intergroup attitudes and behaviors (e.g., Austria which has a compulsory vaccination might show different results than this study). Additionally, participants were indirectly known through own acquaintances and hence, the sample might

be biased in terms of educational level and political preferences. Future research needs to investigate whether the same patterns of results are found in a more diverse socio-demographic sample, that is whether groups of unvaccinated individuals with a different education or political positioning would have different outgroups and conflicts.

Further, the risk of biased interpretations common to the method of thematic analysis was exacerbated with the lack of a cross-examination of analyses by another author. Other researchers should replicate the current findings by analyzing the same interviews again, thereby ensuring the result's validity.

In addition, even though most participants elaborated on their opinions and experiences extensively and with high trust, some comments suggested that a few participants did consider the researchers as their outgroup. For instance, one participant inserted sentences like "even if you will condemn the term". Thus, there is a chance that opinions were not described as freely and hence, the results might be biased to some extent. For that, future research could recruit participants through online and offline advertisements, so that participation is solely based on voluntariness and not on favors for acquaintances. Another strategy could be an unvaccinated interviewer themselves, as this person would be considered an ingroup member.

Lastly, the current results remain interconnected to the specific questions that were asked during the interviews. Different questions could have elicited different answers by participants and hence, different results to the research questions concerned. Future research should reconsider the interview questions and what answers they evoke, and if necessary, alter or add questions to potentially increase the interview's quality. Results then should be compared to the outcomes of the current study to examine how reliable and valid the current results really are.

## **Conclusion**

Taken together, this research contributed some novel insights about the intergroup dynamics surrounding the COVID-19 vaccination debate. In particular, semi-structured interviews revealed that unvaccinated individual's group membership is based on opinions, rather than the vaccination status per se. Further, these opinion-formed social identities are not always self-chosen but imposed on them through the conflict they experienced with their main outgroup: the government. This outgroup and intergroup conflict also negatively affected the vaccination decision of unvaccinated individuals. Therefore, this is one of the first studies to shed light on the specific groups involved in the vaccination debate, having implications for attempts to reduce or solve this and other societal conflicts in the future. Lastly, the intergroup dynamics found in this study can also inform social psychological research on how groups should be studied, thereby contributing to new theoretical insights on intergroup relations and its mechanisms.

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## Appendix A

### Participant Characteristics

**Table A1**

*Sociodemographic Characteristics of Participants*

| Participant | Nationality | Gender | Age | Occupation   |
|-------------|-------------|--------|-----|--|
| P1-G        | German      | Female | 21  | Photographer   |
| P2-G        | German      | Male   | 21  | Chemistry student                                    |
| P3-G        | German      | Female | 60  | Postwoman  |
| P4-G        | German      | Male   | 39  | Data manager and research assistant                  |
| P5-G        | German      | Female | 65  | Retiree (before farmer and university degree)        |
| P6-G        | German      | Male   | 27  | Student  |
| P7-G        | German      | Male   | 30  | Test engineer  |
| P8-G        | German      | Female | 52  | Therapist  |
| P9-D        | Dutch       | Female | 24  | Student Social Work                                  |
| P10-D       | Dutch       | Male   | 24  | Marine   |
| P11-D       | Dutch       | Female | 38  | n.a.   |
| P12-D       | Dutch       | Male   | 33  | Residential counselor for disabled care              |
| P13-D       | Dutch       | Male   | 56  | Product manager for a company that makes respirators |
| P14-D       | Dutch       | Male   | 32  | Commercial Director                                  |
| P15-D       | Dutch       | Male   | 30  | Swimming teacher                                     |
| P16-D       | Dutch       | Female | 44  | Clinical team manager in drug research               |

**Table A2***Sociodemographic Characteristics of Participants in Numbers*

| Characteristics | <i>n</i> | %     | <i>M</i> | <i>SD</i> |
|-----------------|----------|-------|----------|-----------|
| Nationality     |          |       |          |           |
| German          | 8        | 50    |          |           |
| Dutch           | 8        | 50    |          |           |
| Gender          |          |       |          |           |
| Female          | 7        | 43.75 |          |           |
| Male            | 9        | 56.25 |          |           |
| Employment      |          |       |          |           |
| Unemployed      | 0        | 0     |          |           |
| Student         | 3        | 18.75 |          |           |
| Employed        | 12       | 75    |          |           |
| Retired         | 1        | 6.25  |          |           |
| Age             |          |       | 37.25    | 14.24     |

*Note.* N = 16.

## Appendix B

Note: Questions that were deleted after the first interview are highlighted in blue and questions that were added after the first interview are highlighted in yellow. Most of the changes were done in terms of phrasing, not content.

### Views on Vaccine

- What is your view on the COVID-19 vaccines? (usefulness, necessity, safety)
- What are the reasons you are not vaccinated?
- What are your intentions with respect to getting vaccinated against COVID-19 in the future?
- What do you think vaccines do with the COVID situation? Do you think it would be wise for others to get a vaccination? Why?
- Why do you think the government wants people to get vaccinated?

### Getting Information

- How did you get your information for this decision? What do you read in the media? People close to you? What do these people say?
- When did you first start reading about it? What was the source? How did you proceed to find more information?
- Which role did your social environment play in regard to your decision to not get vaccinated?
- Who do you trust for information about COVID vaccination? To what extent do you trust information provided by the Dutch/German government and the RIVM/Robert Koch Institut? [if not, why not?]
- How do you determine which source of information about vaccination or what person to trust?

- How do you know you are making the right choice?
- Could someone change your mind, and if yes, who would that be?
- Is this view specific to the COVID-19 vaccine? Or also for other vaccines? [if only for COVID vaccine, why?]

### **Your Own Opinions versus Those of Others**

- How many people in your close environment agree with you? Who does not agree?
- Did relationships or your social environment change during the pandemic? Why?
- Do you discuss this topic with others? Why or why not?
  - Did discussions about getting vaccinated or not change something between you and people in your close environment? What? Why?
  - How did you react when you realized that someone close to you does not share your opinion?
- People may have different reasons for being in favor or against vaccinations. If you would group these people based on having similar ideas about the vaccine, which groups can you distinguish in society?
  - How similar or different do you feel to each of these groups of people?
  - Which groups do you agree or disagree with most?
  - How do you feel and think about the groups you disagree with most?
  - Are you in contact with people belonging to the groups you disagree with most? If yes, how is the relationship? If no, why not and would you be willing to be in contact?
  - In what way do the various groups influence your opinion about getting a vaccination?
- Who or which groups do you perceive as being part of the current debate about the vaccine?



- People may have different reasons for being against the vaccine. What differentiates you from other people who are against the vaccine? And what makes you similar to them?
  - Do you consider yourself as part of the anti-vaxx “movement” displayed in the media?
- How would you react if someone close to you who is also not vaccinated would decide to get vaccinated?

### **Conflict Between Societal Groups**

- Do you perceive that there is a conflict between any of these groups, including groups of unvaccinated and vaccinated people?
- Before, you told me which actors or groups you find relevant in the current vaccination debate. Do you perceive that there is a conflict between any of these groups? To what extent do you perceive conflicts between groups of unvaccinated individuals?
  - Which groups?
  - What are the conflicts about?
  - Which conflicts are you part of yourself (if there are any)?
  - What does this conflict look like specifically?
  - How does the conflict express itself?
- How do you feel about people who are part of that group you feel in conflict with?
  - Are you in contact with people belonging to the groups you are in conflict with? If yes, how is the relationship? If no, why not and would you be willing to be in contact?

## Appendix C

### Code and Theme Development

**Table C1**

*Initial Codes*

| Initial codes                            | <i>n</i> of participants<br>contributing | <i>n</i> of quotes<br>contributing | Example quote   |
|--|--|------------------------------------|---|
| <b>Ingroup</b>                           |  |                                    |   |
| Critical, scientific, non-<br>conforming | 12                                       | 52                                 | “What unites us is certainly a critical attitude towards the measures and all the regulations that make the whole thing somehow unattractive.” (P6-G)             |
| Freedom                                  | 8  | 17                                 | “Then I see a little bit of the freedom fighters and I think I belong a little bit, but then in the silent background.” (P11-D)                                   |
| People who don’t judge                   | 5  | 5                                  | “And now I have friends who don't somehow turn me on so stupidly that I refuse a medical, a medical intervention in my body, yes.” (P2-G)                         |
| The middle                               | 4  | 14                                 | “I have friends close by that go both ways and I'm kind of floating in between.” (P12-D)  |
| People sharing opinion                   | 14                                       | 71                                 | “I'm not discussing it with that. The people with whom I can discuss it the most are precisely the people who do not get vaccinated. I find that easier.” (P15-D) |

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|----------------------------|----|----|--|
| No group identification    | 4  | 7  | “I just want to be left alone for myself, have my freedoms and be able to decide for myself.” (P6-G)   |
| No extremist               | 11 | 22 | “I don't think oh there are drugs in it or anything I'm not a conspiracy theorist.” (P10-D)  |
| Identity Aspects           |    |    |  |
| Being critical/questioning | 14 | 42 | “I constantly question everything, that's not only about the vaccination - but I think it's important that you question things that you don't believe everything these experts tell you on TV or on the radio.” (P1-G)             |
| Being objective            | 11 | 24 | “So, it certainly distinguishes me that I am of the opinion that I am looking relatively straight at the topic. There are many people who are very much influenced by other media branches.” (P8-G)                                |
| Being opposing             | 5  | 8  | “So, they can't do that, so my siblings, they have... So, I have several and two of them are convinced, so completely government-compliant.” (P5-G)  |
| Being scientific           | 10 | 40 | “But I'm also a scientist. So, you have to look at both sides, it's not black or white. It's so grey, actually. So where do you get your information from, that is very difficult. An ordinary layman does not know that.” (P16-D) |

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|-------------------------------|----|----|--|
| Freedom as high good          | 14 | 54 | “So, I am very clearly of the opinion that it must be as it has always been. It must be a free choice. A free decision presupposes that we do not get a compulsory vaccination, that people are free to decide how they live.” (P8-G)  |
| Group norm = favoring freedom | 8  | 13 | “I think when all the important people around me say, 'yes, I really want you vaccinated and otherwise I can't deal with you anymore'. On the one hand I think, then I would say, “Well then not”, then I won't hang out with you, because I wouldn't find the way, so to speak. I mean that's not the way in a friendship you treat each other. You also have to set each other free.” (P9-D) |
| Norm violation                | 7  | 12 | “Well, look, you have certain tastes, sometimes someone says no I'm not going to vaccinate, this and that. Well then, they want to go on holiday to Austria and then they do it. Then I think, well where's your spine.” (P10-D)   |
| Ingroup bias                  | 12 | 48 | “Most of them have been vaccinated in my environment, I have to say. All of them. So that didn't take the decision away from me, I have to say. I didn't swim with the current, I swam against the current.” (P3-G)  |
| Identity management           | 13 | 49 | “(…) but what I just said, say, I'm not a conspiracy theorist.” (P10-D)  |
| Outgroup                      |    |    |  |

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|---------------------|----|----|---|
| Conforming          | 9  | 19 | “Or at least look further, I think, than a lot of average Dutch people, who blindly trust what the government says. And just pick up that jab.” (P14-D)   |
| Unvaxxed extremists | 8  | 17 | “And there are also quite a lot of things, which is also a real problem in my eyes, that many of these critics go so overboard with their opinions that it directly puts you in a corner you don't really want to be in.” (P6-G)  |
| Government          | 15 | 86 | “Yes, so I see this primarily between us and the government, i.e., politics.” (P7-G)  |
| RKI/RIVM            | 9  | 16 | “When I see and hear such things I think "damn can I trust them?" No. So do I trust RIVM? No, I don't trust RIVM.” (P14-D)  |
| Media               | 10 | 38 | “Because I have the impression that the public media or the private media also spread a lot of disinformation, um, or are just one-sided, um, and also contribute massively to the division of society.” (P4-G)   |
| Uninformed          | 3  | 4  | “But everyone could actually check that, so I thought it was very stupid that people were so surprised about that. Hi, do a little Research, have a look and hey do your thing, instead of just watching TV. Broaden your horizon, as you probably do with your studies, I have also done that with a lot of things.” (P11-D) |

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|---------------------|----|----|--|
| Vaxxed w/ prejudice | 11 | 27 | “Because relatives of mine could almost get angry that I had not been vaccinated. I don’t like that. And yes, I notice that at school that people do differently to you or something. Like people who just move back or something and then don't come near you or something. That they will move any closer to you because you are not vaccinated.” (P9-D) |
| Vaxxed who exclude  | 8  | 14 | “I distance myself most from those who are vaccinated, who say 'You are unvaccinated and uh', so from those who exclude, who divide” (P1-G)  |
| Politicians         | 9  | 36 | “But I don't believe any of the politicians. Even Lauterbach, I mean he is a doctor, but I don't believe him either. So, this is just my opinion now (...).” (P7-G)  |
| Uncritical          | 9  | 14 | “But you get to other people who are just, uh, totally uncritical, right. You can at least be a bit critical, at least stumble over some things (...) but I just find that, when I sometimes follow too naïve trains of thought, my stomach turns.” (P4-G)   |
| The vaccinated      | 5  | 16 | “Those people who have been vaccinated, they think that they have done the absolutely right thing and cannot accept that there are also people who don't think so. I accept that people get vaccinated, okay, that's their decision, but that they don't let me make my decision, that's bad.” (P5-G)  |

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 Conflicts

|   |    |    |  |
|---|----|----|--|
| Being discriminated                     | 15 | 73 | <p>“On the other hand, you have people who say, well that bed shouldn't have been there. Well then, we are also very dangerous, because when did healthcare start to discriminate?” (P10-D)</p>  |
| Categorization threat                   | 10 | 29 | <p>“The people who weren't vaccinated right away... of course you were immediately dismissed as a wappie. Of course, they have framed that fantastically from the government. That everyone who also has more doubts, I think who thinks for himself, wants extra information, everyone was dismissed as wappie. Well, I don't feel like a wappie. So, I didn't feel addressed.” (P16-D)</p> |
| Critical voices missing                 | 7  | 15 | <p>“What you see on television is only the coalition parties. The opposition is almost not there, they are not invited. Critical people are not invited.” (P13-D)</p>  |
| Wrong behavior by media<br>& government | 13 | 75 | <p>“If it were more transparent with the vaccination campaign, if they had said 'Watch out, that's the benefit, that's the risk, everyone has to decide for themselves.', then I would face the matter quite differently, but by how politics was made and how people proceed, even with 2G/ 3G, that this social compulsion is not enough and the division is wanted in my eyes” (P6-G)</p> |

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|---------------------------|----|----|--|
| Identity threat           | 10 | 21 | “Um, if someone calls me stupid and I also know that he has much less knowledge than I do, um, then that's so condescending and arrogant of this person that I have to show him that not all the unvaccinated are stupid, also especially for the community of the unvaccinated.” (P2-G) |
| Incomprehension           | 8  | 16 | “it's a lot, a lot of incomprehension. It is, uh, many vaccinated people do not understand why we, the unvaccinated, have such a problem, they do not understand that, uh, many do not understand that we say we are restricted in our freedom” (P1-G)                                   |
| Conflicts made from above | 9  | 28 | “But I'm pretty convinced that this is a conflict that was made from above. Just like I, I have already said a lot about this, yes. "Pandemic of the unvaccinated. " This is simply a populist slogan that has not turned out to be true, but still, many believe it.” (P4-G)            |
| Meta-stereotypes          | 9  | 16 | “You become... they're just not going to listen to you anymore. They wave you away. They say, "you are stupid". Those kinds of things.” (P13-D)  |
| Polarization/division     | 12 | 30 | “The pressure that came somewhere in society. It's like shooting in one direction. So, the polarization is of course a phenomenon. That there was more and more resistance and that we noticed the consequences.” (P12-D)  |

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|-------------------------|----|----|---|
| Stirred up fear         | 7  | 15 | “And then this creating fear about long COVID, there is always, such a fear topic, that these people are then afraid. Fear is anyway something that is always constantly and endlessly stoked and uh.” (P5-G)   |
| Threat to freedom       | 14 | 63 | “Yes, of course you do feel disadvantaged, somehow as a second-class person. You can't do a lot of things, it's an enormous limitation.” (P7-G)   |
| Motives for vaccination | 11 | 25 | “Power. Greed, for the political party then. Just pure power and greed. It just goes to their heads. It's just not normal. How I find how certain political people express their political position, how they have dealt with it, how they have indoctrinated the people with it to make sure that people were just really afraid to go out. I think it's a bit of a puppet show actually.” (P11-D) |
| Interpersonal conflict  | 13 | 45 | “Of course, there also has been a bit of a fight. Because we have so different opinions. She always picks on it and thinks the unvaccinated would infect all of the vaccinated and every time.” (P3-G)  |
| Dealing with conflict   | 14 | 42 | “Uh, the problem is that this - that's what I just said - it's very difficult to talk about it objectively with people. Without someone becoming emotional, offensive or anything else. That's  |

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|                                     |    |    |   |
|-------------------------------------|----|----|---|
|                                     |    |    | why I never start the topic myself, not at all, not even with my family and not with friends, um, exactly.” (P2-G)  |
| No conflict w/ vaccinated people    | 9  | 12 | “No. Have no conflicts. Almost everyone around me is vaccinated.” (P16-D)   |
| No conflict w/ unvaccinated people  | 7  | 10 | “I don't think there's a conflict among unvaccinated people.” (P16-D)   |
| Influence on vaccination decision   |    |    |   |
| Intentions to get vaccinated        | 12 | 19 | “That has decreased considerably. Never say never. I'm a guest, I'm 32 years old, I haven't been drinking alcohol for six months now. I exercise 4/5 times a week. I see absolutely little need for myself to take the vaccine, also for the future.” (P14-D)       |
| Psychological reactance             | 9  | 15 | “This pressure from politics has also led me to the fact that I will certainly not do it now.” (P2-G)   |
| Change in opinion about vaccination | 7  | 16 | “So apparently there were critical active ingredients, emulsifiers from the vaccination and they were removed for the vaccine for the politicians, and he found that totally funny and then said directly that he is the last to do that and he would wait and see. |

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|---|----|----|--|
|   |    |    | That's how I came up with the topic of vaccination in the first place, before I didn't care about it at all.” (P6-G)   |
| Outgroup influence                          | 11 | 37 | “Nu.nl who puts certain things on it. It was always slightly fewer infections, or a lot more. It was always amplified when it was worse, and when it went a little better it was very minimally put in the news. All in all, I think that has caused confidence in the government to shrink over the past two years.” (P14-D)                |
| Ingroup influence                           | 16 | 63 | “But you always hear stories via via, of course. So, I also have colleagues at work who have not vaccinated and some who have been vaccinated and they always have a lot to say about it. Even though I wasn't sure about their stories, that still influences you, so I still have those opinions and stuff in the back of my mind.” (P9-D) |
| Advertisement                               | 4  | 5  | “But I honestly have to say, above all, the way in which this vaccination was advertised (...) - I don't want that, I don't understand that, that scares me, that's not true. Because if all this were so great and if all this was so medical (...) - a conventional physician would never act like this.” (P8-G)                           |
| Policy = distrust tw/<br>government & media | 13 | 31 | “Not many promises were kept. So, I really see it as a corrupt mess actually in The Hague.” (P11-D)  |

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|--|----|----|--|
| Integrity/transparency                                   | 11 | 34 | “Always these Corona deaths, who then there were here in the community and then it was also said: We could have put anything on there, he was so seriously ill, so much, had so many cancers, but he's counted as Corona Dead. Why those? Right. And that makes you suspicious. If such a thing, such disinformation or such fake, yes, that is such dishonesty.” (P5-G) |
| Influence through<br>(witnessed) personal<br>experiences | 12 | 42 | “So basically, my personal experiences, which I know from people, now in this case it is negative, but who have personally had bad experiences. That always counts more for me than when someone says something else. So, that predominates for me.” (P7-G)  |

Note.  $N = 16$ . Deductive codes (ingroup, identity aspects, outgroup, conflict, influence on vaccination decision) were based on the research questions. All other quotes were coded inductively.

**Table C2***Grouping of Initial Codes to Themes*

| Theme                                | Initial Codes Used  | <i>n</i> of participants contributing |
|--------------------------------------|---|---------------------------------------|
| Ingroup                              |   |                                       |
| The non-conforming critics           | Critical, scientific, non-conforming; people sharing opinion; being critical/questioning; being objective; being opposing; being scientific; ingroup bias; identity management  | 15                                    |
| The freedom-fighters                 | Freedom; people who don't judge; people sharing opinion; freedom as high good; group norm = favoring freedom; norm violation; identity management   | 14                                    |
| No (explicit) ingroup identification | The middle; no group identification   | 8                                     |
| Outgroup & Conflict                  |   |                                       |
| The government & media               | Government; RKI/RIVM; media; politicians; critical voices missing; being discriminated; categorization threat; critical voices missing; wrong behavior by media & government; conflicts made from above; meta-stereotypes; polarization/division; stirred-up fear; threat to freedom; motives for vaccination | 16                                    |

|  |  |    |
|--|--|----|
| The uncritical and conforming vaccinated       | Conforming; uninformed; vaxxed w/ prejudice; vaxxed who exclude; uncritical; the vaccinated; being discriminated; categorization threat; identity threat; incomprehension; meta-stereotypes; polarization/division; interpersonal conflict; dealing with conflict; no conflict w/ vaccinated people; identity management | 16 |
| Unvaccinated radicals and conspiracy theorists | Unvaxxed extremists; no extremist; categorization threat; identity threat; meta-stereotypes; polarization/division; no conflict w/ unvaccinated people; identity management  | 12 |
| Influence on Vaccination                       |  |    |
| Decision                                       |  |    |
| Ingroup Influence                              | Change in opinion about vaccination; ingroup influence; influence through (witnessed) personal experiences   | 12 |
| Outgroup Influence                             | Intentions to get vaccinated; psychological reactance; outgroup influence; advertisement; policy = distrust tw/ government & media; integrity/transparency; wrong behavior by media & government   | 16 |

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Note.  $N = 16$ .



### Appendix D

| Theme                                | Summary  | Example Quote  |
|--------------------------------------|--|--|
| <b>Ingroup</b>                       |  |  |
| The non-conforming critics           | Being critical and non-conforming to the government and its health policies were traits participants highly valued in others and oneself. These traits were also considered to be a group norm ingroup members should adhere to and were used to positively differentiate oneself from other people or groups.                               | “Because I know I always have to question everything – with which I have no problem, I constantly question everything, that's not only about the vaccination - but I think it's important that you question things that you don't believe everything these experts tell you on TV or on the radio.” (P1-G)   |
| The freedom-fighters                 | This ingroup consisted of unvaccinated participants who highly valued freedom, including being tolerant to everyone’s (vaccination) decisions, and who felt restricted in their freedom by the government and its policies. Being tolerant was considered a group norm and a trait with which participants wanted to be perceived by others. | “I think when all the important people around me say, 'Yes, I really want you vaccinated and otherwise I can't deal with you anymore'. On the one hand I think, then I would say, “Well then not”, then I won't hang out with you, because I wouldn't find the way, so to speak. I mean that's not the way in a friendship you treat each other. You also have to set each other free.” (P9-D) |
| No (explicit) ingroup identification | A few participants had mixed attitudes towards groups involved in the vaccination debate, that is, were  | “I have friends close by that go both ways and I'm kind of floating in between.” (P12-D)   |



ambivalent and didn't belong to any group. Other participants explicitly stated no group membership, even though they shared values with the freedom-fighters and non-conforming critics and implicitly showed signs of group membership.

“I just want to be left alone for myself, have my freedoms and be able to decide for myself.” (P6-G)

### Outgroup & Conflict

#### The government & media

The government and media emerged as the most explicit outgroup, as they threatened important values of freedom and critical thinking with their actions and policies. Further, this outgroup elicited identity threats, especially in the form of categorization threats by lumping unvaccinated individuals together to one category. Consequently, this outgroup was seen responsible for the polarization and division in society.

“The way politicians express themselves, um, I see very clearly that they are trying to solidify this division so that the unvaccinated get upset about the vaccinated and vice versa. But actually, here, um, politics is being made against 80% of the people.” (P4-G)

#### The uncritical and conforming vaccinated

People who were uncritical and conforming with the government were perceived as an outgroup, indicated by negative attitudes towards such people. In general, those people were assumed to be vaccinated. This outgroup threatened participant's self-concept by adopting the categorizations by the government and

“And that's often the case that especially then the people think - how do you call something like that, this obedience – willingly obey, yes, and do things or to feel powerful, because the state then said so and they are then stooges of the state, what they would not have done otherwise.” (P5-G)

media, insulting participants as stupid and incredible.

Overall, the conflict with this outgroup was less relevant than the one with the government and media, as they were seen responsible for this conflict.

|  |  |  |
|--|--|--|
| Unvaccinated radicals and conspiracy theorists | Participants explicitly or implicitly felt in conflict with this subgroup of unvaccinated individuals, as they posed an identity threat by confirming the categorizations and negative meta-stereotypes existing about unvaccinated individuals. The government and media were also seen responsible for this conflict and thus, remained their main outgroup. | “Well, I do see a group that I think you guys are really clueless with each other. People who say that you then get such a chip injected or something. I think those people are very dangerous.” (P11-D) |
|--|--|--|

#### Influence on Vaccination

##### Decision

|                   |  |   |
|-------------------|--|---|
| Ingroup Influence | Only a small number of participants indicated that ingroup members influenced their decision to not get vaccinated. This was mainly done by other ingroup members being a source of information on the topic. Mostly, only witnessing negative experiences with the vaccine played a role in participant’s decision in terms of ingroup influence. | “I have people from my direct circle of acquaintances who have just had bad experiences with the vaccine. For one my grandmother, who got vaccinated and then almost died” (P7-G) |
|-------------------|--|---|

|                    |  |   |
|--------------------|--|---|
| Outgroup Influence | <p>Actions by the government and media increased distrust towards both actors, thereby negatively influencing participant's decision to get vaccinated. Actions included the health policies, their style of communication, the way of introducing the vaccination campaign, and being untransparent and dishonest with information on the virus or the vaccine. Many participants showed signs of psychological reactance, stating that the more they were restricted in their freedoms by the outgroup, the less likely they plan on getting vaccinated in the future.</p> | <p>“Gosh what have we actually done in the past year? Where have we all been sent? And what have we actually done consciously and what have we actually done unconsciously? So yes, all the more reasons not to vaccinate yet.” (P11-D)</p> |
|--------------------|--|---|

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*Note.* The table presents a summary of each theme and subtheme found in this study. The following research questions were answered by the themes: (1) Who do participants perceive as their ingroup? (2) Who do participants perceive as their outgroup? (3) With whom do they perceive themselves in conflict with? (4) How does the intergroup dynamic influence participants' decision to not get vaccinated?