Understanding the trouble spot: Does vaccination status identification fuel societal polarization?

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Abstract

As vaccination campaigns for COVID-19 fail to achieve sufficient immunization rates, public discord between the vaccinated and the unvaccinated has intensified globally. To explore the idea that identifying with one's vaccination status plays a key role in this societal polarization, the study draws on unique survey data from large samples of vaccinated (n = 3,275) and unvaccinated (n = 2,042) respondents in Germany and Austria. The findings confirm that vaccination status identification (VSI) explains substantial variance in a range of polarizing attitudes and behaviors, indicating its importance for increasing conflicts between vaccinated and unvaccinated individuals. VSI was also found to relate to higher psychological reactance toward mandatory vaccination policies among the unvaccinated and to their intention to resist and evade such regulations. The results highlight a need to de-escalate this polarized situation as a prerequisite for discussion and implementation of more widely accepted and effective vaccination strategies to mitigate the pandemic.

Introduction

While COVID-19 vaccines have been generally available in many countries for some time now, a significant proportion of people remain unvaccinated because of vaccine hesitancy (1). As uptake slowed despite the availability of vaccines, public discourse around the issue intensified, prompting calls for mandatory vaccination in many countries. Thousands demonstrated publicly for or against vaccination and, in particular, for or against mandates (2). As this situation is unfamiliar, little is known about what causes people to join one of these polarized camps.

According to social identity theory (3, 4), individuals strive for positive self-esteem by establishing a positive social identity, typically by viewing one's own social group (ingroup) as distinctive and superior to another (outgroup). Thus, strong group identification can fuel intergroup conflict. On that basis, the present study tested the fundamental idea that the identification with one's vaccination status is a crucial factor in the polarization of attitudes and behaviors. Using survey data collected in Germany and Austria in December 2021 on vaccinated (n = 3,275) and unvaccinated individuals (n = 2,042), we investigated the correlates and consequences of vaccination status identification (VSI), and its role in individual-level polarization during the pandemic. Ethical clearance was obtained from the University of Erfurt's institutional review board (#20211215), and all participants gave informed consent prior to data collection. (See online supplement for further demographic details.)

Correlates of VSI

To measure VSI, we adapted five items from established group identification scales (e.g., *I am proud (not) to be vaccinated against COVID-19*; 7-point-scales, Cronbachs's α = .68). Mean identification was medium to high and varied considerably, with somewhat higher levels among the vaccinated (M = 4.74, SD = 1.36) than among the unvaccinated (M = 4.36, SD = 1.25, d = 0.29). Importantly, VSI proved sufficiently distinct from vaccination intention

and vaccine-related feelings and beliefs. The latter were measured using the 7C scale of vaccination readiness (5), which includes confidence in vaccines, complacency, calculation, constraints, collective responsibility, compliance, and conspiracy thinking. Among unvaccinated individuals, correlations between VSI and the 7C ranged between -.28 and .39; the correlation with vaccination intention was -.26. Among vaccinated individuals, correlations between VSI and the 7C ranged between -.64 and .58, and the correlation with intention to receive a booster shot was .50.

Correlates of VSI were explored separately for vaccinated and unvaccinated participants by regression on socio-demographic variables, news consumption behaviors, trust in the government, and perceptions of social norms around vaccination. These included both descriptive norms (*People who are important to me are vaccinated*) and injunctive norms (*People who are important to me think one should be vaccinated*). Among the vaccinated, individuals identified more strongly with their vaccination status when they were older (b = 0.011, CI = [0.008,0.013]), trusted the government more (b = 0.166, CI = [0.141,0.191]), when they aligned strongly with descriptive norms (b = 0.085, CI = [0.035,0.135]) and even more so in the case of injunctive norms to be vaccinated (b = 0.247, CI = [0.199, 0.296]). VSI was also stronger among those who reported searching more frequently for COVID-19-related information (b = 0.138, CI = [0.108, 0.168]). Left-wing voters identified less with being vaccinated than centrists (b = -0.104, CI = [-0.210, 0.001]), and the same was true of right-wing voters (b = -0.296, CI =[-0.414,-0.117]), and nonvoters (b = -0.329, CI = [-0.430,-0.228].

The unvaccinated identified more strongly with being unvaccinated when they did not align with descriptive norms (b = -0.082, CI = [-0.126,-0.038]), when they trusted the government less (b = -0.145, CI = [-0.198,-0.092]), when they claimed to vote for right-wing parties rather than centrist parties (b = 0.364, CI = [0.173,0.556]), and when they consumed less information from traditional news sources like TV, radio, newspapers, or government websites (b = -0.457, CI = [-0.670,-0.244]), but more information from alternative sources like social media and messaging (b = 0.621, CI = [0.403,0.840]). Importantly, the results of both regressions remained qualitatively unchanged when additionally controlled for vaccination intention and the 7C (see online supplement).

Perceptions of public discourse and discrimination

According to previous research, vaccination is perceived as a social contract; as it has positive consequences for others, those who get vaccinated (and so comply with the contract) tend to treat others who also comply more favorably than unvaccinated (non-compliant) others. The vaccinated also tend to punish unvaccinated others (6), which can be interpreted as a manifestation of conflict and polarization. In line with this tendency, 86% of the unvaccinated perceived public discourse around vaccination as unfair, moralistic, and patronizing (Cronbach's α = .93) as compared to only 25% of the vaccinated. Importantly, this perception was moderated by VSI (Fig. 1A); higher levels of VSI were associated with more positive perceptions of public discourse among the vaccinated but more negative perceptions among the unvaccinated. The results were similar for general perceptions of being discriminated against as measured by a short five-item version of the Everyday

Discrimination Scale (Cronbach's α = .90; e.g., *Other people act as if I am not intelligent*) (7). Among vaccinated individuals, average perceived discrimination was low; among unvaccinated individuals, it was higher and increased with VSI (Fig. 1B).

To investigate whether perceived discrimination had any factual basis, participants were asked to play two dictator games. They were asked to distribute 100 EUR between themselves and a vaccinated person (game 1) or an unvaccinated person (game 2, randomized order; incentivized by random selection of one decision by one person for payout). Ingroup preference was measured as the difference between the distributed amounts. Ingroup preference among the unvaccinated increased with VSI, and this effect was even stronger among vaccinated individuals (Fig. 1C). This finding provides empirical confirmation of the perception among the unvaccinated that they are discriminated against by the vaccinated.

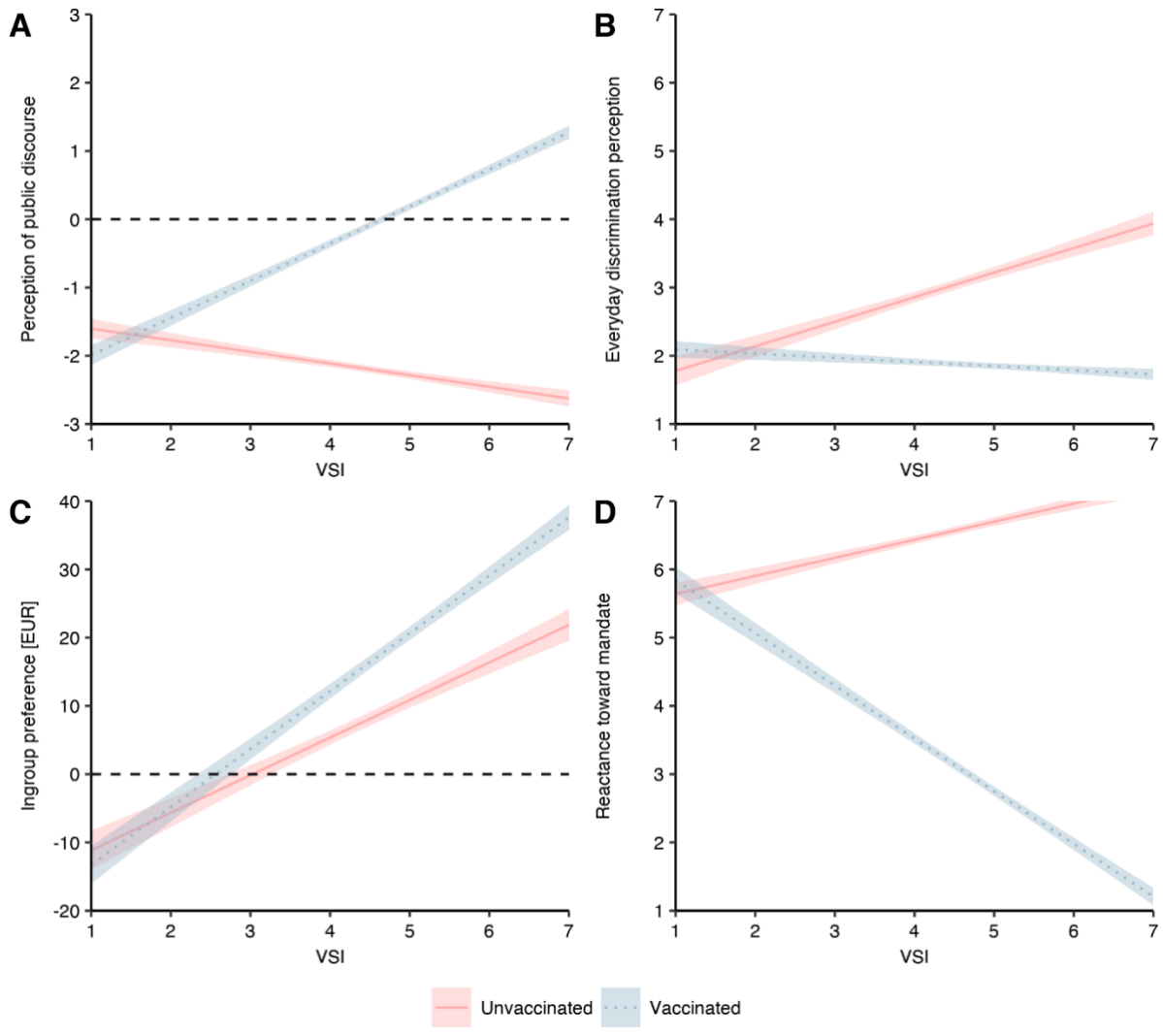

Figure 1. Effects of vaccination status identification (VSI)

Note: Linear regression analyses of VSI, vaccination status, and their interaction, predicting (A) perceptions of public discourse (7-point scale, ranging from unfair, moralistic, and patronizing to fair, objective, and respectful), R^2 = .46; (B) perceptions of everyday discrimination (measured on five 7-point scales; higher values indicate more discrimination), R^2 = .16; (C) ingroup preference in two dictator games (positive values indicate discrimination in favor of those with equal (vs. unequal) vaccination status), R^2 = .16; (D) psychological

reactance to a hypothetical vaccination mandate (measured by a 7-point anger item), R^2 = .56. Ribbons visualize 95% confidence intervals. The pattern of results did not change qualitatively when controlling for socio-demographic variables, or the 7C, or in the case of (D), for further experimental manipulations (see online supplement).

The role of VSI in vaccination policy reactance

Previous research suggests that low vaccination intention predicts psychological reactance to mandatory vaccination policies, in turn eliciting behaviors that oppose such regulations (8). However, some vaccinated people also oppose such mandates. To investigate the moderating role of VSI in the relation between vaccination status and reactance, we conducted an experiment in which participants were asked to imagine that a vaccination mandate would be enforced in the near future (note that such mandates were indeed discussed in both Germany and Austria at the time of the study). Depending on the experimental condition, the mandate referred to different age groups (*12 and older* vs. *18 and older*) and entailed different sanctions (*fine* vs. *fine and work ban*).

In line with previous research (8), regression analyses confirmed that vaccination status predicted reactance, but the effect was moderated by VSI (Fig. 1D). When VSI was low (i.e., people did not identify with their vaccination status), both vaccinated and unvaccinated individuals reported high levels of reactance. As VSI increased, reactance increased among the unvaccinated and decreased among the vaccinated. These results were independent of the manipulated factors (age group and sanctions). Reactance correlated strongly with intended behaviors opposing the mandate, including signing a petition (r = .81), joining a demonstration (r = .66), and mobilizing others to fight the mandate (r = .67), supporting the view that VSI plays an important role in societal polarization. Higher levels of reactance were also strongly related to the intention to avoid vaccination if it became mandatory (r = .76).

Discussion

Our findings indicate that vaccination status identification (VSI) is an important factor in the polarization of current debate around COVID-19 vaccination. VSI accounts for much of the variance between vaccinated and unvaccinated individuals' perceptions of public discourse, factual and perceived discrimination, as well as their responses to mandatory vaccination policies. While our results do not allow for causal interpretation, stronger VSI was associated with greater discrimination against people whose vaccination status differed (especially among vaccinated participants). Stronger VSI was also related to higher psychological reactance to mandatory vaccination policies among the unvaccinated and to their intention to resist and evade such regulations. As VSI also related to patterns of traditional and social media use, political preferences, and differences in perceived social norms, it seems plausible that the unvaccinated and vaccinated constitute coherent and distinct clusters (9), which can be seen as a further antecedent of group conflict.

While a shared social identity is known to buffer against stress from COVID-19-related threats (10), our findings highlight the negative consequences of identifying with

one's vaccination status. Accordingly, interventions to reduce polarization and potential conflict between vaccinated and unvaccinated groups might be derived from research on intergroup relations (11)—for example, *decategorization* (i.e., promoting perception of those whose vaccination status differs from one's own as unique individuals, e.g., by promoting contact and stress-free discussions among previously disconnected family members and friends) and *recategorization* (i.e., integrating vaccinated and unvaccinated individuals within a common group, e.g., by communicating similarities and common goals such as ending the pandemic). While such measures may not increase vaccination rates directly, they may help to de-escalate the situation and provide a new basis for discussing and implementing effective and acceptable vaccination policies in the future. In this vein, the rationale behind vaccination mandates could be revisited in the public disussion. While sanctions may increase vaccine uptake, mandatory regulations may also curb polarization by reducing VSI. This way, mandates could not only help to end the pandemic, but foster social cohesion.

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