



Social-Psychology of Vaccine Intentions: The Mediating Role of Institutional Trust in the Fight Against Covid-19

Aysenur Dal¹ · Efe Tokdemir²

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Abstract

This paper examines the social-psychological mechanisms behind how citizens deal with uncertainties stemming from the COVID-19 vaccine developments in societies with prominent social/political cleavages. We argue that existing social/political tensions influence individuals' trust in institutions that are responsible for coping with crises through a motivated reasoning mechanism, which eventually shapes citizens' COVID-19 vaccine intentions. Using a nationally representative face-to-face survey conducted in the pre-vaccination period in Turkey, we demonstrate that both self-identifying as a Kurd or feeling close to an opposition party are associated with lower trust in institutions actively dealing with the pandemic, which in turn, results in weaker intentions for getting vaccinated. Testing our full theoretical model reveals that while ethnic and partisan identities do not directly influence vaccine intentions, they exhibit an indirect negative effect via institutional trust impeding the fight against the pandemic. We show that it is difficult to tackle a sudden collective threat that requires public cooperation with health policies if the society is strongly polarized. Our findings offer key policy implications for the vaccination phase of the pandemic, and contribute to the domains of public health, conflict studies and individual judgment and decision-making about social risks.

Keywords COVID-19 · Vaccine intentions · Social/political identity · Motivated reasoning · Trust in institutions · Turkey

✉ Efe Tokdemir
efe.tokdemir@bilkent.edu.tr

¹ Department of Communication and Design, Bilkent University, Ankara, Turkey

² Department of International Relations, Bilkent University, Ankara, Turkey

Introduction

The COVID-19 pandemic has made its mark since 2020, claiming (so far) more than six million lives across the world. Despite the vaccines' arrival, their outright acceptance by the public seems to be in question even in places where the rising number of vaccinated individuals has already resulted in a significant decline in severe symptoms and death tolls among the vaccinated individuals. One of the key obstacles to widespread inoculation against the novel coronavirus is vaccine hesitancy, which stands for "the delay in acceptance or refusal of vaccines despite the availability of vaccination services" (WHO, 2014). Vaccine-hesitant individuals may have contrasting attitudes to vaccination based on various reasons including disease type, individual differences and contextual factors.

In this study, we investigate the social-psychological mechanisms that shape how citizens deal with uncertainties stemming from the recent COVID-19 vaccine developments in a society with prominent social and political cleavages, i.e., Turkey. Our starting point is that while individuals' social/political identities do not directly affect getting infected by the virus, the cleavages resulting from them may interrupt public health efforts by complicating individuals' collaboration. Accordingly, we draw on insights from the judgment and decision-making scholarship to understand the role domestic politics plays in how citizens experience the pandemic acknowledging that assessments about the sources, accessibility, implementation, and effectiveness of the vaccines are subject to biased information processing at the individual level.

We particularly study how social/political identities influence citizens' intention to get vaccinated for the novel coronavirus by exploring the mediating role of trust, which is fundamental for public cooperation with social policies targeted at mitigating health risks. Likewise, in light of the previously documented link between (dis)trust in institutions (or their representatives) and vaccine intentions, we emphasize the importance of studying the impact of existing social/political cleavages on citizens' response to available vaccination opportunities through shaping their perceptions about the performance of key institutions and actors in fighting against the pandemic.

To do so, we focus on partisanship and ethnicity in the polarized context of Turkey. Collecting data from a nationally representative sample of 1,816 people surveyed just before the official announcement of the vaccination plan, we test a mediation model where partisanship/ethnicity exhibits an indirect effect on vaccine intentions by way of trust in concerning institutions. We demonstrate that self-identifying as a Kurd and feeling close to opposition parties are associated with lower trust resulting in weaker intentions for getting vaccinated in the context of Turkey. More importantly, we observe that while ethnic and partisan identity does not directly influence vaccine intentions, they exhibit an indirect negative effect via trust as our mediation analysis shows.

Our contribution via this research is four-fold. First, we confirm that no matter how "novel" this coronavirus seemed at first, individuals' intentions about taking a step to lower the chances of sickness still relies on the "good-old," familiar

tensions in one's immediate political environment. Second, we offer a compelling explanation for understanding the public resistance to widespread vaccination observed in developing countries where concerning agencies often are simultaneously struggling with ongoing political and social conflict. We achieve this by focusing on the period that predates the Turkish government's official announcement of its vaccination program and procedures.

Third, our theoretical contribution offers a social-psychological framework for understanding why exogenous shocks, such as global health crises, fail to temporarily push aside existing unrests in societies. Although our study primarily focuses on ethnic tensions and political polarization in the Turkish case, our work offers generalizable insights for future comparative work on the Covid-19 pandemic. Moreover, as a key policy implication, our emphasis on the indirect effect of individuals' social/political identities via trust in institutions responsible for dealing with the pandemic, as opposed to a direct impact, on vaccine intentions, puts good governance and health communication in a strategic role especially in polarized contexts (Motta et al., 2021). Finally, we contribute to conflict and polarization studies via our interdisciplinary emphasis on social/political tensions' transformative impact on individuals' attitudes, beliefs, and behavioral responses in a health context. We show that this takes place in the form of threatening the functioning of social contracts in times of heightened need for social unity and in a domain that is not even deemed as hard politics.

Linking Social/Political Cleavages to Vaccine Intentions

Besides the vast medical research on the ongoing pandemic, there have been numerous attempts to study how this global health crisis is experienced in different political environments. For example, while some scholars focus on how states have responded differently to the pandemic as shaped by their regime type or government ideology (e.g., Frey et al., 2020; Toshkov et al., 2020), others study phenomena such as the discrepancies in the statistical information shared with the public (e.g., Adiguzel et al., 2020) or how COVID-19 interventions influence various social groups differently in terms of employment, psychological wellbeing, domestic violence, etc. (e.g., Copano et al., 2020; Kofman & Garmin, 2020; Zacher & Rudolph, 2020).

Now that vaccination has begun in many places around the world, studies on vaccine-related judgment and decision-making gain further significance with the concept of vaccine hesitancy taking the lead. Ranging from an active demand to complete refusal, vaccine hesitancy is a complex phenomenon, and is influenced by *complacency* about the vaccine, the *convenience* of vaccine-related information and services, and *confidence* in the reliability, competence, and motivations of institutions, policymakers, and professionals, as well as the safety and effectiveness of the vaccines (Dubé et al., 2015; MacDonald, 2015). Accordingly, vaccine-hesitant individuals may have contrasting attitudes to vaccination based on its targeted disease or type (e.g., influenza versus coronavirus), individual differences (e.g., knowledge, perceived risk/benefit, trust in health system, personal experience), and the contextual factors (e.g., domestic politics, health policies, vaccine availability, geographic

barriers, media environment) that determine the level of acceptance a vaccine receives within the public (Dubé et al., 2014).

We suggest that in addition to the work examining individuals' hesitancy toward potential COVID-19 vaccines both before and after one could access a tested and authorized vaccine (e.g., Chou & Budenz, 2020; Salali & Uysal, 2021; Wong & Jensen, 2020), it is of great importance to unpack how individuals respond to the available vaccination opportunities in light of their immediate social-political environments. After all, vaccine hesitancy is a multifaceted and ambiguous concept that requires considering not only individual but also historical, sociocultural, and political factors (Peretti-Watel et al., 2015).

Previous research demonstrates that differences in the perceived availability and implementation of vaccines not only in different countries but also within the same one may result in negative perceptions about vaccination (see Larson et al., 2018). In this regard, (dis)trust in health professionals and concerning institutions receives further attention in explaining how individuals perceive and respond to health-related risks, such as diseases with available vaccination opportunities. Likewise, while some researchers study trust in terms of individual differences, such as the general willingness to trust in other members of one's society (Bjørnskov, 2006), others investigate its links to domestic politics or the historical mistreatment of a particular group of people based on race, ethnicity, etc. (Boulware et al., 2003; Jamison et al., 2019).

Within the framework of dealing with health risks, *trust* informs us about the relational practices between individuals, or between individuals and a system, in which one party exhibits greater vulnerability and assumes the other party's benevolence as well as competence in addressing a problem within a particular sociopolitical context (Brownlie & Hanson, 2005; Larson et al., 2018; Mishler & Rose, 2001). On the one hand, the citizen-centric concept of risk is defined as a situation whereby something of human value is in jeopardy, and there is high uncertainty about the outcome (Rosa, 2003). In this sense, risk perceptions are *subjective* interpretations of the potential danger of objects, events, or behaviors, and they rely on individuals' biased assessments of complex and vague risk "signals" found in their social environment (Slovic, 1992; Tversky & Kahneman, 1974). On the other hand, trust-related concerns depend on people or institutions that we cannot directly scrutinize or systematically assess their performance/competence or lack thereof. Given that psychological, social, institutional, and cultural processes eventually amplify or attenuate the responses the public gives to risk events, as outlined by the social amplification of risk framework (Kasperson et al., 1988), examining the contextual predictors of trust allows for a more systematic examination of individuals' risk judgment and decision-making processes.

Trust often requires a "leap of faith," given the overspecialization and potential conflicts of interest in risk societies (Beck, 1992; Giddens, 1991). Institutional trust, which stands for the extent to which people are confident that institutions will operate in their interest (Hardin, 1999) or under individuals' normative expectations about the institution (Warren, 1999), such as impartiality (Rothstein & Teorell, 2008), may refer to different domains including trust in political actors or science in general (e.g., Nisbet et al., 2015). In this regard, previous research has shown that

institutional trust is associated with factors including but not limited to values, ethnicity, and ideology (e.g., Citrin & Luks, 2001; King, 1997).

To this, recreancy theory brings trust and risk together by emphasizing the importance of individuals' perceptions about institutions' *competence* in performing tasks associated with a given social risk and the extent to which they hold on to their *fiduciary responsibility* to do so (Barber, 1983; Freudenburg, 1993). Here, while evaluations on institutional performance can be considered as having confidence in institutions' ability to fight against health risks appropriately, fiduciary responsibility is more about the extent to which institutions maximally and impartially seek citizens' best interests (Slovic, 2000).

Considering the importance of ensuring states' legitimacy in the eyes of the public when suggesting public health interventions (e.g., wearing masks, maintaining social distance) or carrying out vaccination programs (as in the case of the current pandemic), institutional recreancy is key to understand what goes into citizens' vaccine-related decision-making (Llewellyn, 2020; Siegrist & Zingg, 2014). Likewise, an examination of vaccine hesitancy around the 2009–2010 H1N1 pandemic demonstrates that trust in the national government's ability to deal with an outbreak by way of its technical and organization skills is an essential factor in understanding citizens' willingness to get vaccinated (Mesch & Schwirian, 2015). Then, an important question arises: What is the theoretical mechanism in which perceptions about responsible institutions' crisis management shape our vaccine intentions in a polarized sociopolitical context?

Ideally, public policies are most effectively implemented when citizens consider the state's actions as legitimate and worthy of being accepted by the public (Shao & Hao, 2020). In this regard, when taken to the extreme, a recreant system is one that not only negligently underperforms in delivering otherwise promised services but also works against the best interests of society (Sapp & Downing-Maribag, 2009). Such negligence serves as a source of perceived susceptibility to facing negative consequences that shape subjective evaluations of, and response to, perceived threats (Witte, 1994). The mechanism that drives this subjectivity is called *motivated reasoning*. According to this perspective, individuals tend to process information and reach conclusions consistent with their predispositions, resulting in the validation of their goals as set by their social identities (Kunda, 1990; Lodge & Taber, 2013). In other words, individuals do not approach the evidence in front of them even-handedly in light of their predispositions; this results in biased judgments and decision-making that favors evidence that confirms their existing beliefs and attitudes and skepticism toward evidence that does not conform with their personal beliefs.

To illustrate, a tree metaphor suggested by Hornsey and Fielding (2017) can be useful in understanding the role of motivated reasoning in human judgment and decision-making in the case of vaccines. While the articulated belief- or myth-based concerns around vaccines are comparable to the leaves and branches of a tree, elements such as underlying identities (i.e., political orientation, ethnicity), emotions (e.g., fear), or worldviews (e.g., individualism, egalitarianism) serve as the unobservable roots of the tree, which ensure the trunk is sturdy enough to stand on its own (Hornsey et al., 2018). Therefore, elements underneath the surface provide the power above-the-surface elements need to survive. In the face of uncertainties

(such as evaluations of governments' competence for or holding onto their fiduciary responsibility in dealing with an emerging public health crisis), strongly held political beliefs or attitudes that lie beneath the surface drive motivated reasoning, which may either amplify or attenuate the perceived risk and shape the behavioral responses that we observe above ground accordingly.

Previous research has shown that salient social/political identities activate motivated reasoning processes, especially when dealing with controversies such as political misinformation, evaluation of scientific claims, or responses to environmental, as well as health-related risks (e.g., Hart & Nisbet, 2012; Nyhan & Riefler, 2010; Sylvester, 2021). Humans are cognitive misers, and they often rely on the heuristics (i.e., mental shortcuts) available in their social surroundings (Popkin, 1991). Especially when the issue at hand is difficult for ordinary citizens to make sense of or act upon due to either a lack of expertise or heightened uncertainty, motivated reasoning provides a way out of such complexity with the familiar means of problem-solving.

Social identity is one of the most accessible tools in providing people with lenses through which they can perceive and interpret complex issues, such as politics (as suggested by social identity theory) (Herrmann, 2017; Tajfel, 1981). Defined as a "common form of group identification that involves the incorporation of group membership into the self-concept" (Huddy, 2013, p. 737), social identity refers to the group(s) to which the individual belongs (Tajfel, 1981). Identity salience often depends on the racial, religious, or ethnic ties that make them politically relevant (Turner et al., 1987). In this regard, social/political identities help individuals' self-conceptualization by allowing them to redefine themselves as part of a politicized group to which they feel they belong (Tajfel, 1981) and make sense of the world in line with group interests (Brewer, 2011). In other words, an individual's social/political identities are provided with heuristic value in helping them assess the competence and intentions of institutions in dealing with complex issues, such as fighting a global health crisis that has immediate local repercussions.

Put together, we build our theoretical framework within the boundaries of social/political identities and confidence in institutions' fight against the pandemic by studying citizens' vaccine intentions in political contexts with existing cleavages. After all, individuals' social/political identities take part in their expectations of institutions and provide guidance as they reach conclusions about the institutions' competence and performance accordingly. In this paper, we apply this to the case of the struggle against the COVID-19 pandemic, arguing for the role ethnicity and partisanship plays in forming attitudes and beliefs that trigger motivated reasoning and shape perceived crisis management.

Hence, we hypothesize that social/political identities as made salient by existing cleavages in a given society will shape individuals' perceptions about institutions struggling with the pandemic (H1), which in turn will influence their vaccine intentions with greater trust resulting in greater intention to get vaccinated (H2). Further, we propose that identities will exhibit an indirect effect on vaccine intentions by way of trust in key institutions (H3) in the form of mediation, as illustrated in Fig. 1. In the next section, we justify the relevance of Turkey as our study context and elaborate on our expectations of how ethnicity and partisanship play a particular role in individuals' trust in institutions actively fighting against the pandemic, as well as

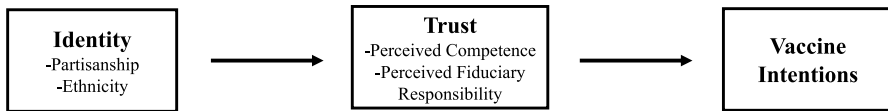


Fig. 1 Proposed theoretical mechanism

vaccine intentions in Turkey’s ongoing controversial efforts to fight the pandemic. We explain how these hypotheses should be adapted to the context of Turkey.

Study Context: Turkey

A long-lasting conflict history along with high polarization within society have turned Turkey into a country where social/political identities drastically influence people’s attitudes, beliefs, and behaviors on issues, including those outside the realm of hardcore politics (Erisen, 2016). In this paper, we focus on two salient identities relevant to the ongoing cleavages in the Turkish context: ethnic and partisan identity.

We begin with the salient ethnic cleavage between Turks and Kurds. Turkey has experienced a “Kurdish problem” since the early republican era, which continues as a low-intensity conflict with Kurdistan Workers’ Party (PKK). Following the emergence of PKK, the “Kurdish problem” was defined as a “terrorism problem” by the military intelligentsia during the 1990s (Criss, 1995). Most governments have granted limited concessions to Kurdish people living in Turkey until the 2000s, and have largely neglected the social, cultural, political, and economic dimensions of the “Kurdish problem” (Karakoc & Ozen, 2020). The major political shift of Turkish politics with the rise of Justice and Development Party (AKP) has paved a bumpy road in the resolution of the issue. Then-Prime Minister Erdogan initially redefined the issue as a “Kurdish problem” by emphasizing the *brotherhood* between Kurds and Turk and openly recognizing the Kurdish identity (Tezcür, 2009). The initiation of indirect talks and negotiations with PKK for a ceasefire and permanent peace were welcomed in the region. Yet, the deadlock in negotiations in the early 2010s, the emergence of Kurdish insurgent group Democratic Union Party (PYD/YPG) in Syria as a threat to Turkey, and the drastic decrease in nationalistic votes for AKP along with the failure to compensate it from Kurdish votes resulted in the reconsideration of the “Kurdish opening up” process. Following the June 7th, 2015 general elections, the AKP, under Prime Minister Davutoglu, embraced a more hawkish stance, and ended the “peace process”, initiated military and police operations against PKK, and sealed an alliance with the Nationalist Movement Party (MHP).

Given the arrest of the major Kurdish political party’s (Peoples’ Democratic Party, hereafter HDP) leader and the re-initiation of the military operations, the ethnic identity cleavage has once again become prominent in Turkish politics (see Karakoc & Ozen, 2020 for a review). The long-lasting conflict and accumulated political, social, economic, and ideational grievances have resulted in the erosion of Kurdish citizens’ beliefs in governments’ best intentions (Karakoc, 2013; Karakoc & Sarigil, 2020). According to the European Social Survey conducted in 2008, Kurds have significantly lower trust in domestic institutions, including parliament,

legal institutions, and police than Turks (Karakoc, 2013). Along similar lines, even an ungrounded claim like the family planning policy being adopted all over Turkey in the 1990s was perceived as an attempt to suppress the fertility of the Kurdish population demonstrates the erosion of trust in state institutions.¹

Besides the ethnic fault line as a salient cleavage in Turkish politics, another long-lasting political cleavage is the secular-conservative one (see Somer, 2007; Cizre, 2008 for a review). Within the last decade, this secular-conservative cleavage has been transformed into a discussion over the regime's fate. Opposition parties, including ones splintered from AKP, claim that the democratic regime is under serious threat with the emergence of authoritarian institutions and intentions (see Esen & Gumuscu, 2016 for a review). In contrast, government supporters argue that Turkey has just returned to its social and cultural roots while enjoying the benefits of an advanced democracy. This resulted in a political cleavage broadly defined by the extent to which citizens either supported or opposed President Erdogan's position (Erisen, 2016).

Regardless of their positions and arguments, most scholars would agree that Turkish society has been experiencing a drastic increase in partisanship and polarization that spills over to various realms of politics, from economic policy to the health policies implemented during the COVID-19 pandemic. Empirical findings show that 73% of Turkish citizens openly indicate a strong party identification (Cakir, 2020). According to recent field research examining the dimensions of polarization in Turkey in 2017, individuals' partisan identities influence their attitudes and beliefs in a wide range of issues, resulting in AKP and MHP supporters' perception of CHP (Republican People's Party—major opposition party) and HDP supporters as “the most distant,” and vice versa. Likewise, supporters of one camp do not want their daughters to marry a supporter of the other or for their children to play with the others' children (Erdogan & Semerci, 2018).

Furthermore, high partisanship coupled with intense polarization shapes the relationship between social/political identities and trust in institutions. When it comes to attitudes toward institutions, almost half of HDP supporters indicate that they are treated worse in police stations, and more than one third are subject to poor treatment in government offices. In terms of trusting the office of the presidency and the government, while AKP supporters' trust is around 90% for each, it is below 10% for CHP supporters (Erdogan & Semerci, 2018). Hence, under these circumstances, one can imagine that these political identities serve as shortcuts to assess a multitude of complex issues (Erisen, 2013), such as emerging health policies in response to a pandemic. In fact, recent polls show that when citizens were asked about the validity of COVID-19 numbers as announced by government and the success of government policies in fighting the pandemic, partisanship largely predicted the responses.

¹ Please see Diken, S. (15 March 2008). Kürde Aile Planlaması Türk'e Çok Çocuk!. Retrieved from <https://m.bianet.org/bianet/siyaset/105626-kurde-aile-planlamasi-turk-e-cok-cocuk>.

Opposition party supporters mostly do not trust government institutions' precautions and numbers, whereas incumbent supporters demonstrate a relatively higher trust.²

To summarize, identity-based conflict and ideological polarization provide individuals with lenses to perceive and understand events consistent with their motivated reasoning. Likewise, they also shape people's trust in government institutions, which can be operationalized as the combination of perceived competence of these institutions and the belief that institutions hold onto their fiduciary responsibility to provide equal protection in the face of existing threats.

To reiterate our hypotheses pertaining to the Turkish context, we contend that self-identifying as a Kurd (H1a) or feeling close to an anti-government party (H1b) will be associated with lower institutional trust conceptualized as perceived competence and fiduciary responsibility of the institutions officially tackling the pandemic. This lower trust will then result in a weaker intention to get vaccinated (H2). Put together, the ethnic and partisan identities stemming from salient social/political cleavages in Turkey will have an indirect influence on citizens' intentions for vaccination through shaping their perceptions about key institutions' fight against the pandemic (H3a and H3b, respectively).

Research Design

Data Collection and Sampling

We conducted a face-to-face nationally representative public opinion survey with 1816 people in Turkey between November 7th, 2020 and December 29th, 2020. This time frame marks a period when pandemic-related interventions were salient for citizens due to weekend curfews, social restrictions, school closures, etc. Thus, it serves as a window of opportunity to empirically test our theoretical mechanism before the mass vaccination had begun and while the public was exposed to speculations and discussions regarding the immunization strategy of the government. To ensure the participation of enough Kurdish respondents representing the variation among Kurdish society, we oversampled from Eastern and Southeastern cities of Turkey and included 466 additional respondents in our study.

A national survey company, Infakto, administered the interviews to respondents over the age of 18. Our sample design is composed of a stratified random probability sample, and the distribution of the sample across geographical areas and provinces is based on the NUTS classification to cover urban and rural settlements. Based on the probability proportional to size method, first the metropolitan province, then the districts, and finally the neighborhoods were selected randomly by the date provided by TurkStat. Eight interviews were conducted in each neighborhood. In total we had 169 sampling units in our main sample of 1350 respondents (nationally representative), and 57 sampling units in our booster sample of 466 respondents from Kurdish majority cities. In each neighborhood, four streets were picked randomly from

² Please see Covid-19 Kamuoyu Algilari Arastirmasi (Aydın, 2020). Retrieved from <http://www.mustafaaydin.gen.tr/c/2381/covid-19-kamuoyu-algilari-arastirmasi-aciklandi>.

the alphabetical listing, and then buildings were selected randomly from each street according to the door/street numbers using a random selection table. In each house with more than one resident, the interview was conducted using the last birthday method. The average time for completing the survey was 37 min; this was in line with our expectations to maximize the attention span of respondents. Cross-validation checks by calling the respondents in the aftermath also ensured the quality of the data.

Although our data collection took place while there was still high uncertainty regarding the state's vaccination strategy against the pandemic, Turkey later on signed a contract for SinoVac and initiated a vaccination program mid-January 2021 with a priority list determined mainly based on age, health condition and employment sector. Though there have been some delays in vaccines' arrival,³ interruptions in implication vis-à-vis the vaccination calendar,⁴ and controversies around the endorsement of inactive shots over mRNA technology in the beginning phase,⁵ vaccination with an option for both Biontech and SinoVac shots became widely available from the Summer 2021 onwards. In addition to these vaccines, while Russia's SputnikV shots, whose emergency use was approved in late April 2021, have been received by authorities but never put in use, the Turkish Turkovac's mass production had begun in late December 2021 upon its approval. These developments were accompanied by the regular reports and updates by Fahrettin Koca, the Minister of Health, were disseminated via TV channels as well as social media platforms with no external authorities such as the European Union or World Health Organization intervening with how the vaccination program is being handled in the country. In other words, the overall communication around the safety, availability and implication of the vaccines was mainly handled locally.

Main Explanatory and Outcome Variables

For the two independent variables we suggest in H1a and H1b, we measure ethnicity and partisan identity. We use a self-reported ethnic identity question and generate the variable *Kurd*, coding it as 1 if the respondents' answer is Kurd, and 0 if otherwise. For partisan identity, we utilize the item asking respondents to which political party (from a list of political parties active in Turkish politics) they feel closest. Though our results are robust to other available measures such as which party they voted for in the 2018 general elections or are planning to vote for in the next election, we avoided using them in the main models; the electoral system in Turkey may incentivize individuals to vote strategically, and thus, potentially makes

³ See China has made big vaccine promises. When they come up short, nations struggle. (7 April, 2021). *The Washington Post*. https://www.washingtonpost.com/world/middle_east/china-sinovac-turkey-coronavirus-vaccine/2021/04/06/f87bc1bc-93cd-11eb-aadc-af78701a30ca_story.html.

⁴ See Covid-19 mücadelesi: Türkiye aşılama durma noktasına mı geldi?. (24 March, 2021). *Euronews*. <https://tr.euronews.com/2021/03/24/covid-19-mucadelesi-turkiye-as-lamada-durma-noktas-na-m-geldi>.

⁵ See Yeni aşı tartışması: İnaktif aşı mı, mRNA aşısı mı? Uzmanlar yanıtladı... (6 December, 2020). *Sözcü*. <https://www.sozcu.com.tr/2020/gundem/yeni-asi-tartismasi-inaktif-asi-mi-mrna-asisi-mi-uzmanlar-yanitladi-6153670/>.

voting measures misleading. Likewise, we code our *Anti-Government* variable 1 if respondents pick a party other than AKP or MHP, and 0 if AKP or MHP.

Next, we create a construct for trust, which serves as the dependent variable in H1, independent variable in H2, and mediating variable in H3. Institutional trust has two components as per recreancy theory's emphasis on citizens' perceptions about the competence and fiduciary responsibility of concerning entities (Freudenburg, 1993). Adopting this conceptualization considering its relevance to our study objectives and context, we test our hypotheses separately for perceived competence and fiduciary responsibility with our expectation directionality remaining the same for all hypotheses.

To measure perceived competence, the survey asks the respondents how well (a) the President's Office, and (b) the Ministry of Health have executed their tasks and duties during the COVID-19 pandemic, as the frontline institutions tackling the crisis, on a scale ranging from 0 to 10, higher scores indicating higher perceived competence. Using this item, we construct a continuous *perceived competence* variable by taking the average of these two items. As for our variable for *perceived fiduciary responsibility*, we use the item asking our respondents to what extent they agree with the following statements, measured in 5-point Likert scale, with higher scores indicating high agreement: (1) the state provides all citizens with equal rights and opportunities without any discrimination based on religious or ethnic identities, and (2) the state provides all citizens with equal rights and opportunities without any discrimination based on region or city. Following a similar operationalization strategy, we take the mean score of two items for each respondent to create a *perceived fiduciary responsibility* variable to measure to what extent respondents think citizens receive equal protection.

Finally, in order to measure vaccine intentions (i.e., the dependent variable for H2 and H3) given our data collection predates the actual vaccine implementation in Turkey, we ask respondents to report their willingness for getting the COVID-19 vaccine once it is ready for use. Our *Pro-Vaccine* variable is measured on a scale ranging from 0 to 10, with higher scores indicating a stronger intention for getting the vaccine. We report the item wording in Turkish for our main variables in Online Appendix A.

Control Variables

Our controls include various sociodemographic and COVID-19 related variables. To begin with the usual suspects, we control for our respondents' *age* (continuous), *gender* (1 = female), *income* (ordinal, higher score indicating higher income levels), *education* (ordinal, higher score indicating higher education levels), *unemployment* (binary), marital status (*couple* = 1), and *religiosity* (ordinal). Additionally, we take into account how knowledgeable respondents feel about COVID-19 (1 = not knowledgeable at all, 5 = very knowledgeable), how concerned they are about getting sick during the pandemic (0 = not concerned at all, 10 = very concerned), their perceptions about how threatening the pandemic is to the wellbeing of society (1 = not threatening at all, 5 = very threatening), and whether they, their family, or their close

Table 1 Summary statistics

Variable	Mean	Std. Dev	Min	Max	N
Pro-vaccine intention	5.731	3.43	0	10	1758
Perceived fiduciary resp.	3.371	1.306	1	5	1742
Perceived competence	6.022	2.947	0	10	1771
Kurd	0.341	0.474	0	1	1796
Anti-government	0.627	0.484	0	1	1600
Female	0.502	0.5	0	1	1816
Unemployed	0.207	0.405	0	1	1816
Income	2.823	1.362	1	7	1672
Age	38.571	13.715	18	87	1813
Education	4.55	1.616	1	9	1806
Religiosity	6.378	2.538	0	10	1700
Non-single	0.631	0.483	0	1	1808
COVID knowledge	3.94	0.972	1	5	1816
COVID concern	6.808	3.132	0	10	1804
COVID threat	4.545	0.77	1	5	1785
COVID experience	0.718	0.45	0	1	1811

friends were previously sick due to the coronavirus (1=yes). We report the summary statistics for all the variables used in the models in Table 1. Our correlations table can be found in Online Appendix B.

Lastly, it is also important to note that our survey included an experimental component as a robustness check for our theoretical mechanism, which resulted in the random assignment of our respondents to one of the four versions of the item used in the operationalization of our Pro-Vaccine variable (see Discussion). To account for this random assignment, we controlled for treatment groups by creating dummy variables for each treatment. Although this experimental component did not serve the primary goals of the current study, we employed post-hoc analyses to ensure the robustness of our findings in a manner that further highlighted the study context (see Online Appendix C and D for details).

Estimation Strategy

We predict models testing Hypotheses 1 and 2 using ordinary least square estimators, given that both of our dependent variables (*perceived competence* and *fiduciary responsibility* in Hypothesis 1 and *pro-vaccine* in Hypothesis 2) are continuous measures. Accounting for the fact that these are not “true” continuous measures but exhibit a rather ordinal nature, we have also run ordered logistic regression analyses to check the sensitivity of the measures. Since there are no statistical or substantive change in significance, we have decided to report the OLS models due to the simplicity of interpreting the results.

Prior to the analyses, we defined our data as a survey data in our statistical software (i.e., STATA) to incorporate our oversampling strategy in our findings. We used our survey weights to balance out the predictions as we have more respondents from

Southeastern and Eastern cities of Turkey compared to a basic nationally representative survey. As explained previously, we oversampled from these regions to ensure enough variation in our data for subgroup analyses. Using the weights, we have corrected standard errors and estimations, improving our results' representativeness.

Results

In order to test Hypothesis 1, which predicts ethnic and partisan identity to shape individuals' trust in key institutions, we first run naive models with our independent variables as shown in Table 2 (Models 1, 2, 5, and 6). We then enter our sociodemographic variables (Models 3 and 7) and, finally, we run our full models upon introducing our control variables pertaining to COVID-19 (4 and 8). Our results demonstrate that both self-identifying as a Kurd and feeling close to an anti-government party are negatively associated with both components of trust confirming H1a and H1b, respectively. We report the substantive significance of ethnic and partisan identity in Fig. 2. Accordingly, there is close to a one-point difference (e.g., 8.2 vs. 7.6 on a scale of 10) among Turks and Kurds in their perceived competence of government institutions fighting COVID-19, and almost a half-point difference (e.g., 4.1 vs. 3.7 on a scale of 5) in their perceived fiduciary responsibility pursued by these institutions. Plus, we observe an even stronger pattern in partisanship: anti-government identity leads to a more than three-point decline (on a scale of 10) in perceived competence of government institutions and slightly more than a one-point decline (on a scale of 5) in perceived fiduciary responsibility.

Hypothesis 2 suggests that trust in institutions fighting against the pandemic is positively associated with one's intentions to get vaccinated. Similar to our investigation of H1, we first run empty models (Models 1 and 4). We then introduce our sociodemographic variables (Models 2 and 5) and finally run full models with COVID-19 controls present in the analysis (Models 6 and 7), as demonstrated in Table 3. To summarize, across all models, we show that the higher individuals' trust is, the greater their intentions to get vaccinated. Along with statistical significance, we observe a high substantive effect as well. As illustrated by the graph on the left in Fig. 3, we observe more than one and half-point increase (4.6 vs. 6.3 on a scale of 10) in pro-vaccine behavior between the minimum and maximum perceived competence of government institutions. Within the same range, low vs. high perceived fiduciary responsibility increases the pro-vaccine behavior by more than one point (4.9 vs. 6.1 on a scale of 10). In addition, we find that having higher religiosity, being non-single, being older, being concerned about COVID-19, and perceiving COVID-19 as highly threatening, as well as having COVID-19 infection experience (either personally or to someone close to them), significantly predicts one's intention to get vaccinated (see Table 3). As a robustness check, we run additional models to examine the impact of residing in the conflict zone for Kurdish citizens. We report our findings in Online Appendix F showing that geographical differences do not have a statistically distinguishable effect on the perceived trust in institutions fighting the pandemic or vaccine intentions; hence the results hold.

Table 2 Impact of identity on perceived competence and fiduciary responsibility

DV	Perceived competence			Perceived fiduciary responsibility				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Kurd	-1.178*** (0.162)	-0.359* (0.150)	-0.513** (0.157)	-0.497** (0.159)	-0.436*** (0.076)	-0.173* (0.074)	-0.215** (0.080)	-0.213** (0.081)
Anti-government		-3.720*** (0.130)	-3.311*** (0.153)	-3.273*** (0.154)		-1.252*** (0.061)	-1.040*** (0.072)	-1.035*** (0.072)
Religiosity			0.208*** (0.031)	0.211*** (0.032)			0.115*** (0.015)	0.115*** (0.015)
Non-single			-0.166 (0.160)	-0.145 (0.161)			0.158 (0.081)	0.171* (0.082)
Income			0.042 (0.052)	0.037 (0.052)			0.060* (0.026)	0.052* (0.026)
Unemployed			0.233 (0.204)	0.253 (0.203)			0.129 (0.099)	0.131 (0.100)
Education			-0.089 (0.047)	-0.076 (0.048)			0.000 (0.024)	0.000 (0.024)
Age			0.005 (0.006)	0.005 (0.006)			-0.005 (0.003)	-0.005 (0.003)
Female			-0.013 (0.134)	-0.063 (0.135)			-0.062 (0.065)	-0.079 (0.067)
COVID knowledge				-0.047 (0.079)				0.041 (0.037)
COVID concern				-0.000 (0.024)				-0.010 (0.012)
COVID threat				-0.001 (0.098)				0.005 (0.042)

Table 2 (continued)

DV	Perceived competence			Perceived fiduciary responsibility				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
COVID experience				-0.351*				-0.108
Constant	6.368*** (0.090)	8.352*** (0.089)	6.987*** (0.478)	(0.153) 7.343*** (0.621)	3.505*** (0.038)	4.183*** (0.042)	3.270*** (0.226)	(0.070) 3.228*** (0.297)
Observations	1751	1555	1356	1335	1723	1539	1342	1323
R ²	0.027	0.387	0.431	0.431	0.020	0.235	0.291	0.296

Standard errors in parentheses, *p < 0.05, **p < 0.01, ***p < 0.001

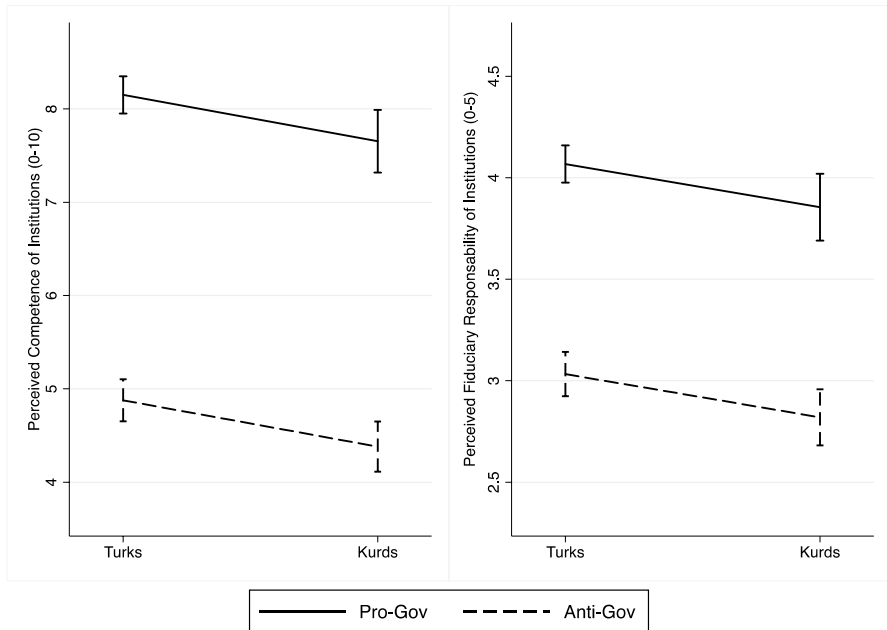


Fig. 2 The role of ethnicity and partisanship on perceived trust in institutions

Hypothesis 3 suggests that ethnic and partisan identity (H3a and H3b, respectively) will have a mediated effect on vaccine intentions by influencing citizens' institutional trust. To estimate ethnicity and partisanship's indirect effect on vaccine intentions and test their significance, we use SPSS PROCESS and employ its bootstrapping function (Hayes, 2018).⁶ The PROCESS macro tests each step via sequential regression analyses and bootstraps samples 10,000 times with 95% and 99% confidence intervals. The analyses we run separately for each independent variable reveal significant indirect effects. We show that the negative effect of self-identifying as Kurdish on the strength of respondents' intention to get vaccinated is mediated by lower perceived competence ($b = -0.04$, $p < 0.05$, one-tailed) and fiduciary responsibility ($b = -0.06$, $p < 0.01$) of the concerning institutions. Similarly, feeling close to an anti-government party also leads to weaker intentions to get vaccinated through lower perceived competence ($b = -0.54$, $p < 0.01$) and fiduciary responsibility ($b = -0.32$, $p < 0.01$). Hence, we demonstrate that while neither ethnicity nor partisan identity exhibits a significant direct effect on vaccine intentions, their negative effect is transmitted through institutional trust resulting in a mediated relationship (Hayes, 2018). We therefore provide empirical support for Hypothesis 3 (see Online Appendix G for the schematic demonstration of the mediation results). Indeed, the experimental component as reported in Online Appendix C and D also confirms the mediating role of institutional trust by showing how individuals'

⁶ See Online Appendix G for our justification for why we use this methods for our mediation analysis.

Table 3 Impact of institutional trust on pro-vaccine attitudes

DV: pro-vaccine intention	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Perceived fiduciary resp.	0.615*** (0.072)	0.325*** (0.094)	0.333*** (0.090)				0.205* (0.102)
Perceived competence				0.255*** (0.031)	0.171*** (0.046)	0.177*** (0.044)	0.147** (0.051)
Kurd		0.246 (0.221)	0.203 (0.213)		0.268 (0.223)	0.204 (0.215)	0.241 (0.215)
Anti-government		-0.378 (0.245)	-0.375 (0.240)		-0.136 (0.275)	-0.121 (0.268)	-0.010 (0.277)
Religiosity		0.177*** (0.051)	0.145** (0.049)		0.170*** (0.051)	0.144** (0.048)	0.118* (0.049)
Non-single		-0.184 (0.264)	-0.521* (0.256)		-0.180 (0.260)	-0.506* (0.249)	-0.552* (0.256)
Income		0.006 (0.087)	0.040 (0.085)		0.023 (0.088)	0.053 (0.085)	0.033 (0.085)
Unemployed		0.090 (0.296)	-0.105 (0.287)		0.116 (0.297)	-0.069 (0.290)	-0.134 (0.290)
Education		0.159* (0.074)	0.133 (0.073)		0.163* (0.074)	0.127 (0.073)	0.132 (0.073)
Age		0.037*** (0.010)	0.030** (0.009)		0.037*** (0.010)	0.030*** (0.009)	0.032*** (0.009)
Female		-0.193 (0.203)	-0.295 (0.196)		-0.207 (0.201)	-0.284 (0.194)	-0.299 (0.196)
COVID knowledge			0.198 (0.116)			0.220 (0.114)	0.203 (0.116)
COVID concern			0.299*** (0.037)			0.294*** (0.037)	0.296*** (0.037)
COVID threat			0.290* (0.123)			0.263* (0.119)	0.279* (0.124)
COVID experience			0.612** (0.222)			0.709** (0.219)	0.678** (0.221)
Constant	3.325*** (0.304)	1.449 (0.818)	-2.408** (0.900)	3.876*** (0.263)	1.372 (0.824)	-2.462** (0.909)	-2.889** (0.939)
Treatment controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1689	1317	1298	1719	1332	1312	1283
R ²	0.053	0.075	0.169	0.048	0.076	0.170	0.172

Standard errors in parentheses, *p<0.05, **p<0.01, ***p<0.001

vaccine intentions are conditioned by the institution responsible for the vaccination efforts.

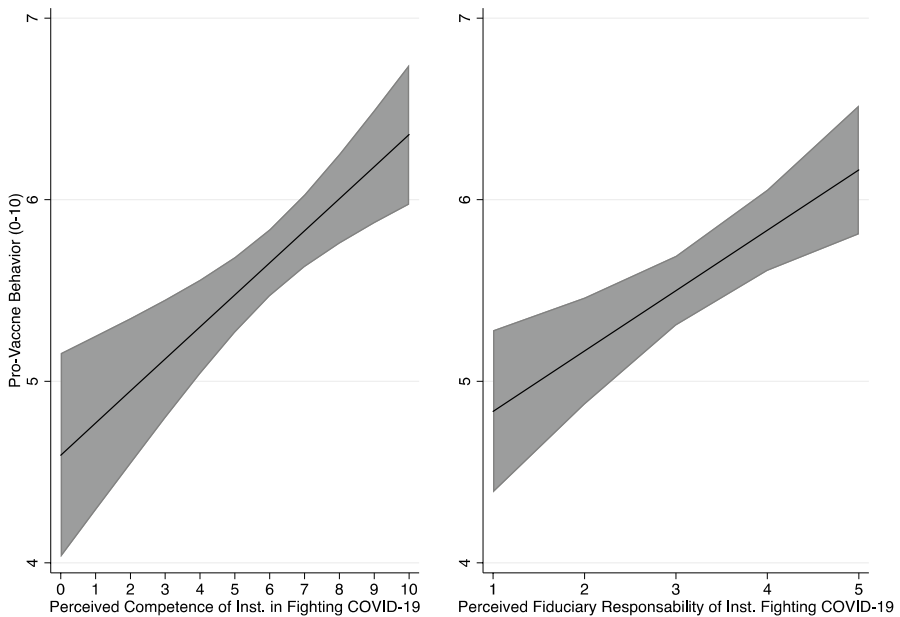


Fig. 3 Impact of perceived trust in institutions on pro-vaccine behavior

Conclusion

The concept of individuals with underlying health conditions has become one of the phrases that unexpectedly entered our lives in early 2020 based on the importance of determining high-risk groups in the face of the ongoing pandemic. In this paper, we take this concept further by unpacking the influence of societies' underlying conditions such as social and political cleavages instead and explore their role in citizens' intentions about getting the recently authorized coronavirus vaccines.

To do so, we focus on Turkey, whose underlying conditions mostly boil down to salient cleavages around ethnicity and partisanship and test our theoretical mechanism using an extremely timely dataset collected at the onset of public vaccination. Our findings indicate that the social/political identities that are salient in the Turkish context matter when it comes to vaccination intentions as they shape citizens' trust in institutions responsible for actively tackling the problems arising from the pandemic. To be more precise, both self-identifying as a Kurd and feeling close to an anti-government party are associated with lower institutional trust resulting in weaker intentions for getting vaccinated. Moreover, while ethnic and partisan identities do not directly influence vaccine intentions, they exhibit an indirect negative effect via institutional trust.

We show that it is difficult to tackle a sudden collective threat such as the COVID-19 pandemic that requires public cooperation with health policies if the society is strongly polarized. Moreover, contrary to studies documenting a direct link between political/ethnic identity and vaccine intentions (e.g., Latkin et al., 2021; Ruiz & Bell, 2021), we suggest that it occurs via how identity shapes perceptions about

concerning institutions' competence for and intentions in addressing the pandemic. At this point, we should warn our readers that our analysis relies on attitudinal data collected prior to vaccination period. Although the theory of planned behavior proposed by Ajzen and Fishbein (1977) shows that intended behavior, measured via the attitudes of individuals, can be a successful predictor of actual behavior, a follow up research must also address the gaps between attitudes and behaviors towards vaccination (e.g., Gerend & Shepherd, 2012). As a preliminary finding in line with ours, medical experts recently investigating the vaccination progress in cities with high Kurdish majority report that it is low trust in institutions offering the health services that seems to be the reason behind the low vaccination numbers particularly in Eastern and Southeastern parts of Turkey rather than citizens being anti-vaccine or not having access to vaccines or services (Özdemir, 2021).⁷

Our work brings together insights from different scholarships, including social psychology, judgment and decision-making, perceiving and responding to risk, public health, and conflict studies. By focusing on underlying societal conditions in Turkey (along with those at the individual level), we offer a theoretical framework that considers contextual dynamics such as ongoing clashes in the society accompanying citizens' vaccine intentions. We show that existing unrests in societies are not robust to exogenous shocks such as global health crises. That is, even in a situation where the issue at hand involves a contagious virus that is blind to ethnic or partisan identities, salient cleavages can still bias individuals' decision-making processes. Given the ongoing controversies based on the Turkish government's choice of the Chinese vaccine SinoVac over others during the data collection, the Turkish case provides an appropriate context to study how citizens deal with the uncertainties associated with COVID-19 vaccines in a highly polarized environment. Moving forward, we suggest future studies investigate factors like the vaccine type or origin with a focus on the actual vaccine behavior in polarized contexts instead of behavioral intentions during periods with relatively less uncertainty.

Another area for future research is how vaccine-related uncertainties or attempts at reducing them are communicated with the public. In the Turkish case, the Ministry of Health has played a central role in steering the overall health communication about the pandemic; however, experimental manipulation of vaccine related-information sources may reveal key insights about individuals' experience with pandemic-related uncertainties especially in polarized contexts. Likewise, such research designs can inform us about how trust in sources of specific messages (e.g., global actors such as the World Health Organization versus government officials) or relevant institutions in general (e.g., science) influence individuals' navigation of uncertain information environments in ways that the current study does not cover.

Considering our findings, we identify several policy implications as well. Although this study focuses predominantly on the ongoing pandemic, the findings shed light on other contested policy areas, such as climate change, environmental issues, natural disasters, and human rights. Since citizens' assessments of

⁷ See Appendix E for Turkey's per city vaccination rates for the first dose measured in July and August 2021.

the competence and benevolence of key institutions are shaped by their predispositions, in contexts like Turkey where society is highly polarized, it is crucial to earn citizens' trust when it comes to introducing policies that require mass cooperation to be effective. Likewise, regarding major public health crises such as the current one, we suggest short- and long-run solutions. In the short run, it is important to make sure that citizens are well-informed that the assigned institutions can undertake the vaccination properly and willing to impartially seek citizens' best interest, besides having confidence in the safety of the vaccine. Given the global struggle against vaccine hesitancy, health communication strategies regarding vaccines—especially new ones—are in a critical position regardless of the level of expertise these institutions can deliver per se. However, considering such efforts would not remove the influence of societies' underlying conditions when the crisis at hand is time-sensitive, in the long run governments should focus on designing policies that target salient cleavages in the society and address the causes of disadvantaged and marginalized groups' feelings of vulnerability to systemic negligence.

To conclude, we believe that controversies involving vaccination policies are here to stay even after the current pandemic settles down, similar to the social/political cleavages resulting in social unrest around the world. Acknowledging the context-dependent nature of the discussion around COVID-19 vaccines, we take a close look at the extent to which underlying societal conditions shape citizens' intentions to get vaccinated in the highly polarized context of Turkey and argue for the significance of institutional trust. Even though the data availability limits us to testing our theoretical mechanism only in Turkey, we believe that the results are generalizable to multiple countries and contexts that suffer from high polarization and deep social/political cleavages such as the US. Likewise, the findings stemming from our systematic investigation provide evidence for our proposed theoretical mechanism, bringing together insights from multiple disciplines and pointing to promising future research of making sense of the post-corona era in Turkey and elsewhere.

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Data Availability Replication materials are available at <https://doi.org/10.7910/DVN/S1ULGB>.

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