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Attitudes moralization and outgroup dehumanization in the dynamic between pro- vs. anti-vaccines against COVID-19

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Abstract

Attitudes towards socially sensitive topics tend to be polarized and moralized. Literature showed that in the political arena people tend to consider their group different from the outgroup in moral terms, and how this perceived distance is capable of producing discrimination against the outgroup. In light of this evidence, the aim of this study ($N = 234$) was to examine the dynamics between Pro-vaxers and No-vaxers in relation to the SARS-COV-2 vaccine. Participants evaluated the strength of their attitude towards the COVID-19 vaccine, and the extent to which this attitude was moralized. They reported the perceived moral distance between the ingroup and the outgroup and completed a scale of outgroup animalistic dehumanization. Results showed a positive association between the strength of the attitude towards the vaccine and its moralization. The tendency to moralize the attitude was positively associated with the perception of moral distance between ingroup and outgroup, and this positively associated with the outgroup dehumanization. A sequential mediation model showed an indirect effect that links attitude strength to dehumanization through attitude moralization and the perception of moral distance between groups. Results are

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discussed in the light of recent theories on the moralization of attitudes and its importance in institutional communication. Please refer to the Supplementary Material section to find this article's [Community and Social Impact Statement](#).

KEYWORDS

dehumanization, moral convictions, moral distance, moralization, vaccines

I propose a collection to pay the no-vaxers for Netflix subscriptions for when from August 5th they will be under house arrest locked like mice.

(Roberto Burioni, virologist; tweet July 23, [2021](#))

If you become an alligator it's your problem, if you become a superman it's your problem, if a woman grows a beard it will be her problem.

(Jair Bolsonaro, President of Brasil; source; ANSA, December 18, [2020](#))

1 | INTRODUCTION

In the last 2 years, the world has witnessed an unprecedented global pandemic. Researchers so far have deeply investigated how individuals reacted to such a pandemic in terms for instance of compliance with the governmental recommendations and prescriptions (van Bavel et al., [2020](#); Pagliaro et al., [2021](#); Paolini, Maricchiolo, Pacilli, & Pagliaro, [2022](#)), the consequences of the pandemic on citizens' mental health (Vindegard & Benros, [2020](#)) or adoption of a conspiracy view to look at the event (Douglas, [2021](#); Gkinopoulos, Truelsen Elbæk, & Mitkidis, [2022](#); Imhoff & Lamberty, [2020](#)). Another crucial challenge that emerged during pandemic was related to mass vaccination against COVID-19 and as Heidi Larson ([2020](#)) argued, immunization has become a test of our cooperation, since the quality of our lives today depends on vaccines. As a result, the social dynamic that arose between two social groups, namely those who were willing to get vaccinated against the COVID-19 virus – who we will refer to as the pro-vaxers – and those instead who advocated a counter position – who will be referred to as no-vaxers – is a crucial and study-worthy phenomenon with relevant implications for public health management. Indeed, the social debate between representative members of these two sides has been growingly exacerbated in the media, and an overt conflict between them has been visible almost every day. As in the case of many sensitive issues, this conflict appeared frequently with a moral base (Leach, Bilali, & Pagliaro, [2014](#)), although the two opponent groups referred to different shades of it: whereas the pro-vaxers mainly focused their arguments on the social responsibilities and collective wellbeing, the no-vaxers based their arguments on the preservation of the individual freedom.

In the present paper, we aimed to examine the intergroup nature of the conflict between pro-vaxers vs. no-vaxers against COVID-19 as well as the pivotal role of moral considerations in this conflict. In particular, we aimed to show that the alleged moral superiority of the ingroup drove a blatant form of dehumanization towards the outgroup (Pacilli, Roccato, Pagliaro, & Russo, [2016](#)), and the role that moral convictions played in fostering such perception of ingroup moral superiority (Skitka, [2010](#)). Although we focused on the specific conflict that emerged around COVID-19 vaccination, we are inclined to believe that the pattern of relationship we investigated is likely applicable to any intergroup context that involves moralization, as described in the next section.

2 | ATTITUDE MORALIZATION IN INTERGROUP CONTEXT

Attitudes towards socially sensitive issues are frequently polarized with the disagreement between the counterparts on these issues being more extreme and less negotiable than attitudes towards targets less disputable such as consumer goods (Pratkanis, 1989). This nature of non-negotiability is often driven by morality-related concerns: in fact, certain issues, such as abortion, immigration, gay marriage, and health care issues, have a particular appeal to both supporters and opponents, who approach these debates as a matter of what is wrong and what is right (Skitka, 2010). Several authors highlighted the existence of a variability in the moralization process, especially in the way people moralize political attitudes (Skitka, Bauman, & Sargis, 2005). This was evident for instance when, during the first waves of COVID-19 pandemic, certain attitudes, such as those concerning recommended directives, as the social distancing and wearing face masks, have been portrayed as matters of collective responsibility (Brakman, 2020) and perceived as an (imperative) demonstration of fairness as well (Skitka & Mullen, 2002; Skitka & Houston, 2001). The mitigation practices implemented in the COVID-19 pandemic were often ostensibly moralized by institutions and governments (Pagliaro et al., 2021).

In recent decades, scholars described moralization as ‘the attribution of moral qualities to objects or activities that were previously morally neutral’ (Rozin, Markwith, & Stoess, 1997, p. 67). Attitudes moralization contributes to make them strong and stable over time, since unnegotiable. Throughout the process of attitude moralization, people are inclined to develop moral convictions – which could be defined as judgements deeply rooted in the difference between what is moral and what is immoral (Skitka et al., 2005) – which further contribute to attitude strength, and it has been shown to be pivotal to the study of attitudes, particularly among political ones (Skitka, Washburn, & Carsel, 2015).

Research suggests there are variations in the ways people read disparate issues from a moral perspective (Ryan, 2014). Attitude towards the same issue might be moralized by some individuals, while others might not be prone to consider the topic as something that regards the difference between the right and wrong. Since moralized attitudes have the potential to generate intergroup conflict, it is crucial to point out a potential dark side of moral convictions (Skitka & Mullen, 2002). Indeed, moral views can significantly divide the population and subsequently lead to moral conflict, primarily because people's stances on moral issues are typically non-negotiable since those who view issues from a moral standpoint are prone to be uncompromising (Ryan, 2014, 2017). When attitudes are moralized, those who hold opposing views are deemed to be outside of one's moral domain, along with a desire to socially distance themselves from them (Skitka et al., 2015). Moreover, people with attitudes based on moral convictions are provided with two features: objectivity and universality (Skitka, 2010). Indeed, their opinions are perceived as rooted in basic truths about reality and are also applied across societies, crossing also the boundaries of temporality (Skitka, Hanson, Morgan, & Wisneski, 2021), which distinguishes such moral attitudes from merely strong attitudes. This explains why people are inclined to believe that their ideals could apply to one and all.

3 | MORALITY AND INTERGROUP RELATIONS

When people regard their own moral beliefs as widely accurate and unbiased, they consider those who discord with their ideas as basically incorrect and contrary to the truth, because this generalization creates a kind of expectation of agreement from other individuals (Wright, Grandjean, & McWhite, 2013). As a result, people tend to be less tolerant of those who embrace position a long way from their own standpoints, repelling outsiders' attitudes and ideas. For example, holding a strong moral convictions about a specific topic leads people to opt for a physical and social distance from those who disagree (Skitka et al., 2005; Zaal et al., 2017). Indeed, during the pandemic, those who did not comply with covid measures were disparagingly referred to as ‘non-distancers or covidiotis’ (Prosser, Judge, Bolderdijk, Blackwood, & Kurz, 2020). Clearly, the way people read behaviours under a moral lens may lead to discredit individuals who do not comply to prescriptions and conduct them to a less desire to interact with them. For

example, taking into account health as a moral question involves negative attitudes towards who disobey to moral standards. This is also often associated with negative behaviours such as discrimination or social distance or exclusion (Bavel et al., 2020).

Consistent with these considerations, literature showed that moral stances represent a fundamental tool for affirming group identities (Ellemers, Pagliaro, & Barreto, 2013; Pacilli et al., 2016; Pacilli, Pagliaro, & Santinelli, 2014; Pagliaro, 2013; Pagliaro, Ellemers, Barreto, & Wayne Leach, 2010; Sacchi, Brambilla, Pagliaro, & Barrilà, 2013) with groups representing moral anchors that inform group members' behaviour (Ellemers, 2017). People prefer to belong to (and are more proud of) moral groups (Leach, Ellemers, & Barreto, 2007), and actively want to show adherence to moral norms in order to be considered proper group members (Ellemers et al., 2013; Ellemers, Pagliaro, Barreto, & Leach, 2008; Pagliaro, Ellemers, & Barreto, 2011). In order to strengthen their social identity, people may claim ingroup moral superiority (Ellemers et al., 2008). The perception of moral distance plays a key role in intergroup dynamics, as optimal distinctiveness tends to exacerbate intergroup conflict (Tajfel & Turner, 1979). Recently, some authors focused their attention on the possible association between the perception of moral distance between the ingroup and the outgroup and a blatant form of discrimination, that is, dehumanization. Dehumanization reflects the bulk of processes through which people deny humanity to social targets (e.g., outgroup members, Haslam, Loughnan, Kashima, & Bain, 2008; minorities, Utych, 2018; victims of violence, Baldry, Pacilli, & Pagliaro, 2015). Once dehumanized, an individual or a group is considered and treated as non-human, is placed outside the moral circle and, in this vein, discriminated in a blatant way (Haslam et al., 2012). One of the forms of dehumanization that has been theorized in the literature is animalistic dehumanization (Haslam, 2006; Leyens et al., 2003). This means considering individuals as less human and more animal-like, something that if we consider the example quotations that open the present paper seems to have taken place even in the dynamics between pro-vaxers vs. no-vaxers. Following this rationale, Pacilli et al. (2016) examined how the relationship between ingroup identification and outgroup devaluation is mediated by perceptions of moral distance between the two groups. In particular, the authors showed that, in the political arena, regardless of participants' political orientation, the perception of moral distance between the political ingroup and the outgroup legitimates the overt outgroup discrimination, in the form of animalistic dehumanization (Haslam, 2006; Loughnan et al., 2010; Loughnan & Pacilli, 2014). In line with Pacilli and colleagues, Cassese (2021) examined the 2016 U.S. Presidential campaign, and further investigated the connection between moral distance and blatant dehumanization. Cassese showed that partisans who openly dehumanized individuals of the outgroup tried to keep at the distance their adversaries, through indicators of social distance. This blatant form of dehumanization was further related to the perceived moral distance between the two parties.

Based on these theoretical premises and on the research described above, we aim to investigate intergroup relationships in the context of vaccination against COVID-19, and to examine the role of perceived moral distance and its behavioural consequences.

4 | THE PRESENT RESEARCH

The present study investigates the intergroup dynamics between no-vaxers and pro-vaxers in relation to the vaccination against COVID-19. Our aim was to extend the understanding of the dynamics between the moral domain and dehumanization. First, we examined the relationship between attitude strength – which we consider as a proxy for identification with the ingroup – moral conviction, and outgroup dehumanization. As described above, extant research ascertained on the one hand the association between ingroup identification and the perception of moral distance between the ingroup and the outgroup; and, on the other hand, that such perceived moral distance is associated with outgroup dehumanization (Cassese, 2021; Pacilli et al., 2016). Based on this, we hypothesized that the strength of individuals' moral attitude towards the willingness to vaccinate would be positively related to their moralization of the issue. We further expected a positive relation between the tendency to moralize attitude towards vaccines against COVID-19 and the perception of moral distance between the ingroup and the outgroup, and a positive

association between this latter and the outgroup dehumanization. Furthermore, following previous literature (Pacilli et al., 2016), we expected that the relationship between attitude strength and animalistic dehumanization would be mediated by individuals' moral convictions and perceptions of moral distance between ingroup and outgroup. Although specifically referred to an intergroup dynamic that was salient at the time of data collection, this hypothesized pattern might be generalized to any intergroup context in which moral stances are at stake.

5 | METHOD

5.1 | Participants and design

Two hundred and thirty-four participants from the general public in Italy voluntarily completed the survey (146 females, 53 males, 4 non-binary, 31 unknown; *mean age* = 26.09; *SD* = 10.39). One hundred and twenty-eight had a high-school degree, 65 graduated, 13 had a post-lauream degree, and 28 did not report their education. One hundred and seventy-four declared to be heterosexual, 6 gay-men or lesbian-women, 11 bisexuals, 1 other, and 3 did not indicate their sexual orientation.

5.2 | Procedure

We have assembled the sample by spreading an online survey via Qualtrics through social platforms (i.e., Social Networking Sites). Specifically, the study was published on Facebook, Twitter and Instagram through the personal accounts of the authors of this article, and through the account of the Group Processes and Morality Lab, in order to reach the widest possible general population. Participants voluntarily filled in the survey and data were collected in November 2021. At the time of data collection, Italy was still in a state of emergency, although there were no restrictions on travel between regions. To reduce the risk of infection, the use of masks in confined spaces was encouraged under current dispositions. In addition, green certification became mandatory for government employees, employees in the private sector, and university students to gain access to serving food, entertainment, cultural activities, sporting events, and other services. Moreover, according to the report for the month of November, the vaccination rate for the second dose among the population aged 12 and older exceeded 80% (Istituto Superiore di Sanità, 2021).

Participants were informed about any sensitive aspect of the study before being involved in the study, in accordance with the ethical standards of 1964 Declaration of Helsinki (e.g., procedure, affiliations of the scholars). They were also knowledgeable about their own entitlement to drop out the study or to take off their consent to participate at any time during the experiment. They then proved that they rightly figure out the directives, agreed to participate and started to complete the survey. This study was part of a larger data collection, in which other measures were collected that are not part of the present paper.

First, participants were asked to identify themselves as pro-vaxers or no-vaxers by indicating their global thought about the vaccine against COVID-19 on a dichotomous scale (e.g., '*I am overall in favour/against of the Sars-Cov-2 virus vaccine*'). Two hundred and fifteen participants identified themselves as globally in favour of the vaccine. After answering this question, participants were directed to two versions of the survey, in which questions were tailored to reflect their own group membership. Participants have provided their answers on a 7-point Likert-type scales.

Participants were then asked to fill in a measure of *attitude strength* towards the vaccine, on a 3 item scale (e.g., *Vaccine is a fundamental measure to overcome the pandemic*; 1 = *totally disagree*; 7 = *totally agree*; $\alpha = .81$). Since this question followed the affirmation of being pro vs. con the vaccine against COVID-19, we considered this measure as a proxy of identification with the pro-vaxers vs. no-vaxers respectively. We then assessed the *moral convictions*, by means of three items adapted from Skitka et al. (2017). Participants were asked to reflect about their

opinion about the vaccine and to indicate to what extent it was based on moral principles (e.g., ‘... it is based on fundamental questions of right and wrong’; $\alpha = .83$).

Next, based on an adaptation of the scale from Leach et al. (2007), we measured the perceived moral distance between ingroup and outgroup by asking participants to indicate how pro-vaxers and no-vaxers were considered similar/dissimilar in terms of *moral*ity, *honesty*, *trustworthiness*, and *sincerity* ($\alpha = .87$; see Pacilli et al., 2016). The answers were rated on a scale ranging from 1 (totally similar) to 7 (totally different).

Then, we measured the outgroup explicit animalistic dehumanization making use of four items selected from the Dehumanization Scale of Caprara et al. (2006) (e.g., ‘Some pro[anti]-vaccine individuals deserve to be treated as animals’; ‘It is good to mistreat a pro[anti]-vaccine individual who behaves like a worm’; $\alpha = .89$). Filling in the whole questionnaire required approximately 15 min, after which participants were debriefed.

6 | RESULTS

Table 1 shows the correlations among the main variables of the study. Participants’ attitudes towards vaccines against COVID-19 were positively correlated with their moral conviction, so the stronger their attitudes towards vaccines against COVID-19 were, the more they considered them as related to fundamental moral decisions. In the same vein, moral conviction was positively associated with the perception of moral distance between the ingroup and the outgroup, and this perception of moral distance was positively associated with the dehumanization of the outgroup. The other direct associations between the study variables were not significant.

6.1 | Mediation analysis

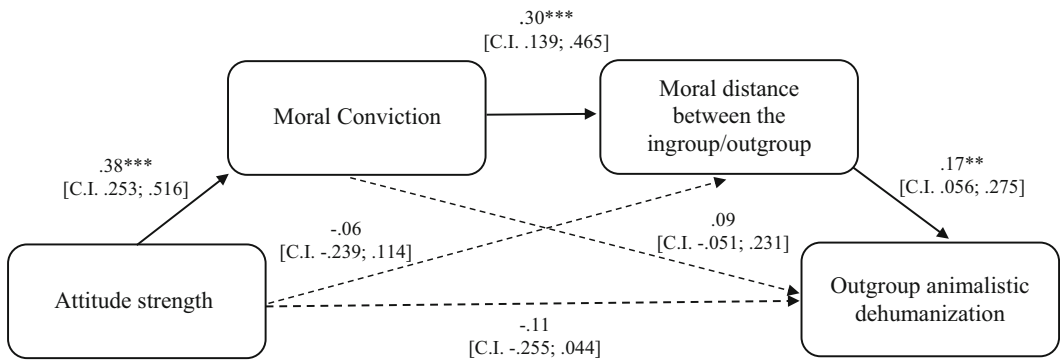
In order to test our main hypothesis, we ran a mediation analysis to examine whether the relationship between attitude strength and outgroup dehumanization was mediated by the moral conviction and the perception of moral distance between the ingroup and the outgroup. We made use of the Hayes’ procedure (2013) for assessing indirect effects. According to the rationale described above, the moral conviction and the perception of moral distance between the ingroup and the outgroup were considered as sequential mediators (PROCESS model number 6), supposing that attitude strength would have elicited attitude moralization (that is, moral conviction) and this, in turn, would have induced the perception of moral distance between the ingroup and the outgroup. The order of variables also reveals the order in which we evaluated the two constructs in the questionnaire.

The overall equation was significant ($R^2 = .06$, $F [3, 230] = 4.58$, $p = .004$). The model is depicted in Figure 1. As the figure shows, the stronger participants’ attitude towards vaccines against COVID-19, the higher their attitude moralization. This attitude moralization then was positively associated with the perception of moral distance between the ingroup and the outgroup, and this latter was positively associated with outgroup animalistic

TABLE 1 Means, standard deviations, correlations, and Cronbach’s alpha values.

	M	SD	1	2	3	4
1. Attitude strength	6.03	1.33	1.00			
2. Moral conviction	5.27	1.44	.35***	1.00		
3. Perceived moral difference ingroup/outgroup	4.29	1.74	.04	.23***	1.00	
4. Outgroup animalistic dehumanization	1.96	1.47	−.06	.10	.21**	1.00

** $p < .01$. *** $p < .001$.



Note: ** $p < .01$; *** $p < .001$

FIGURE 1 Mediation model in which the effects of attitude strength on outgroup dehumanization are mediated by the moral conviction and perceived moral distance between the ingroup and the outgroup.

dehumanization. In favour our hypothesis, the bootstrapping procedure with 5,000 resamples has revealed that the indirect effect of attitude strength on outgroup animalistic dehumanization *through* the hypothesized causal chain was significant ($b = .02$, CI: LL = 0.004; UL = 0.041). The direct effect was not significant ($b = -.11$, CI: LL = -0.255; UL = 0.044).

7 | DISCUSSION

This study attempted to combine moral domain with intergroup dehumanization, with a particular emphasis on an intergroup dynamic that arose regarding the vaccination against COVID-19 pandemic. We began with the idea to investigate the consequences of this newborn categorization – pro-vaxers vs. no-vaxers – and to underline the role of this division in shaping intergroup conflict. In particular, for the purpose of this research, we considered the attitude towards vaccines among the useful practices that government has used to restrict the spread of the virus COVID-19, such as wearing masks or respecting social distance. Indeed, during the pandemic, communication via social media has made increasingly evident the rise of two opposite sides, namely pro-vaxers and no-vaxers, which refer respectively to those who have proved themselves in favour and those who have proved unfavourable to vaccine against COVID-19. Individuals' strong attitude towards vaccines can be a source of collective identity and this is why we considered this attitude as a proxy of the identification with the ingroup. However, one's attitude towards vaccination it is not a simple preference because people based their vision on moral beliefs, which means that those who belong to the outgroup were perceived as different from their own and judged as morally wrong (Goodwin & Darley, 2012).

Among the dimensions of judgement, morality has a pivotal role in the evaluation of ourselves and others (Brambilla & Leach, 2014). Evidence has shown that the ingroup superiority over the outgroup on a moral basis can lead to perceive a distance and this could be used to justify different forms of discrimination. We tested the hypothesis that as in every intergroup context featured by moral stances, within the dynamic between pro-vaxers and no-vaxers against vaccines against COVID-19, the strength of the attitude towards vaccines against COVID-19 would be associated with the moral beliefs about vaccines, and these moral convictions would be linked to the perception of a moral distance between ingroup and the outgroup. In addition, to confirm the path showed by Pacilli et al. (2016) (see also Cassese, 2021), we hypothesized that the perception of moral distance between ingroup and outgroup would be associated to the dehumanization of the outgroup. The results confirmed our hypothesis, with the

correlational evidence that holding a strong attitude towards vaccines is associated with considering the issue of vaccines as a matter based on a division between what is right and what is wrong. Such moralization of the question can be socially divisive and be linked to a perception of moral distance, which means that those who are perceived as being outside their moral domain also seem to deserve to be treated as animals. Moreover, we found evidence that attitude strength – considered here as an indirect evidence of identification with the ingroup – is associated with animalistic dehumanization of the outgroup and this relationship was mediated by the development of moral beliefs and the perception of moral distance between ingroup and outgroup.

Attitude moralization in the realm of the vaccine against COVID-19 pointed out that that people are willing to openly despise those who embrace different beliefs, especially the moralized ones. This process has social consequences, because when individuals moralize identity aspects, such process leads to a non-negotiability of their beliefs and to a lower tolerance towards the others (Skitka, 2010), and this leads to perceive ingroup as far away on a moral basis and could exacerbate intergroup conflict.

This explanation of the dynamics between pro-vaxers and no-vaxers, which is virtually visible in every intergroup context, reflects the dark side of moral convictions (Skitka & Mullen, 2002). However, such moral beliefs can be used in political communication to promote prosocial behaviours, such as being part of collective actions (Van Zomeren, Postmes, & Spears, 2012). This might have far reaching applied consequences, when we consider for instance the role that morality might play in the institutional, political and social communication. On the one hand focusing this communication on moral stances might have a stronger impact than different-framed messages on individual's willingness to engage in the suggested behaviour (see for instance the moral matching hypothesis; Luttrell, Philipp-Muller, & Petty, 2019). On the other hand, such messages could profoundly exacerbate the intergroup conflict when stressing ingroup vs. outgroup identity aspects. Moreover, the present finding might inform intervention campaigns aimed at reducing intergroup prejudice and bettering intergroup relations. Practitioners and policymakers may stress the similarities between competing groups in terms of morality in order to avoid discrimination and ingroup favouritism (Jasinskaja-Lahti et al., 2021; Vezzali, Cocco, Pagliaro, Di Bernardo, & McKeown-Jones, 2022).

Despite we confirmed our main hypotheses, the study presents some limitations that are worth noting and that should be considered when designing future research on this topic. First and foremost, the correlational design does not allow us to make causal inferences; therefore, future studies should confirm this pattern with an experimental approach. Nevertheless, the supposed path has been derived from the literature in which such a causal explanation has been already confirmed (Pacilli et al., 2016). The results of this research may be relevant not only to read the dynamics between pro-vaxers and no-vaxers about vaccines, but may be useful to explain the intergroup conflict about other relevant issues. Therefore, future ad hoc studies should be directed to expand the investigation of the moralization-moral distance-outgroup dehumanization causal chain to other sensitive issues (e.g., abortion, gay marriage) in which the attitude should be polarized and moralized. Future studies should also be directed to test our main assumption with a more appropriate sample to guarantee the appropriate power.

Another limitation of the present study is represented by the fact that the sample is unbalanced in terms of pro-vaxers vs. no-vaxers being constituted mostly of the former. Considering recent evidence that showed the multitude of socio-psychological factors behind the willingness to get vaccinated (Barattucci et al., 2022), we are inclined to believe that this unbalance has been determined by the fact that when we collected the data it was not completely clear in Italy what would be the consequences of not getting vaccinated in terms of legal and social limitations, due to the requirement to possess a green certification. Therefore, it is likely that no-vaxers decided not to complete the survey after being presented with the very first question. There might also be other reasons that prevented no-vaxers to take part in the study. On the one hand, the number of unvaccinated individuals was relatively low in comparison to the number of vaccinated ones, thus it is possible that we actually reached much more vaccinated people with the survey. Most importantly, it is also possible that non-vaccinated individuals are more likely to endorse conspiracy theories against formal science, which reduces their willingness to take part in scientific research and complete a questionnaire (for a review, Douglas et al., 2019; see also Douglas, 2021). This makes it especially important for scientists and practitioners to understand how these groups can be approached in research like the present one:

in fact, this is crucial not only with the aim of studying the psychological processes under their choices, but also because they might not benefit from health interventions if these interventions do reach them because they refuse everything that is perceived as 'scientific'. One possibility could be to minimize the contextual elements that can make this distinction into ingroup and outgroup salient, producing barriers to the acceptance of scientific communication.

Despite the dark side of moralization that the present study highlighted, moral appeals have been found to determine individual's positive behaviour too (Luttrell et al., 2019). Therefore, future studies should examine how moralization not only explains conflict between groups but also could be adopted in order to reduce it.

On the overall, the present research contributes to the understanding of the role of moral consideration in driving intergroup relations, in particular when sensitive issues are at stake.

AUTHOR CONTRIBUTIONS

Maria Giuseppina Pacilli, Stefano Pagliaro and Chiara Ballone conceptualized the present research and share first authorship. Chiara Ballone drafted the first version of the paper. All the authors contributed to collect data, analyze data, and to finalize the paper.

CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

This research was conducted in line with the APA regulation and the ethical standards of the 1964 Declaration of Helsinki.

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