National identity predicts public health support during a global pandemic

Jay Van Bavel (jay.vanbavel@nyu.edu)
New York University  https://orcid.org/0000-0002-2520-0442

Paulo Boggio
Mackenzie Presbyterian University

Research Article

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Abstract
The ongoing COVID-19 pandemic is a devastating global health crisis. Without a vaccine or effective medication, the best hope for mitigating virus transmission is collective behavior change and support for public health interventions (e.g., physical distancing, physical hygiene, and endorsement of health policies). In a large-scale international collaboration (N = 46,650 across 67 countries), we investigated why people adopted public health behaviors and endorsed public policy interventions (e.g., closing bars and restaurants) during the early stages of the pandemic (April-May, 2020). Results revealed that respondents who identified more strongly with their nation consistently reported engagement in public health behaviors and greater support for public health policies. We also found a small effect of political orientation, indicating that left-wing respondents were more likely to report public health behaviors and support for public health measures than right-wing respondents. We discuss the implications of links between national identity, leadership, and public health for managing the COVID-19 and future pandemics.

Introduction
As of August 2020, more than 20 million people worldwide have been infected by the new coronavirus and more than 735,000 have died, making the COVID-19 pandemic one of the greatest health crises of the last 100 years. Until a vaccine or effective medical treatment is developed, the public response to the current pandemic is largely limited to policy-making and collective behavior change (Lewnard & Lo, 2020). To reduce virus transmission it is crucial that people engage in public health behavior (e.g., maintain spatial distance and improve physical hygiene) and support COVID-19 protective policies (e.g., limiting travel and closing bars and restaurants). Indeed, the Director of the World Health Organization recently argued: “That's why behavioural science is so important – it helps us to understand how people make decisions, so we can support them to make the best decisions for their health” (WHO, 2020). In the current investigation, we respond to this call for behavioural science and present the results from a global study across 67 countries, testing key predictors of public health support.

What drives people to support the large-scale public health initiatives mentioned above? Answering this question may help countries, health organizations, and political leaders design effective interventions to increase compliance with actions like maintaining spatial distance and restricting travel (Van Bavel et al., 2020). Governments and political leaders can coordinate individuals and help them avoid behaviors no longer considered socially responsible. However, recent evidence suggests this type of leadership requires cultivating a shared sense that ‘we are all in this together’ to promote adherence with recommended health behaviors (Haslam et al., 2011; Martinez-Brawley & Gualda, 2020). For instance, identifying with a group is associated with mutual cooperation and adherence to norms (e.g., Brewer, 1999; Buchan et al., 2011; De Cremer & Van Vugt, 1999), motivation to help other members of their group (Ellemers, Spears, & Doosje, 1999; Levine, Prosser, Evans, & Reicher, 2005) and willingness to engage in collectively-oriented actions aimed at improving the group’s welfare (Bilewicz & Wójcick, 2010; Klandermans, 2002; Tajfel, 1978; van Zomeren et al., 2008). We reasoned that national identities might play a key role in promoting public health in the current pandemic (see Van Bavel et al., 2020).

National identification is defined as the personal significance that being part of a nation holds for an individual (Cameron, 2004; Leach et al., 2008; Postmes et al., 2012; Tajfel, 1978). Prior work has found that national identity plays an important role in motivating people to engage in costly behavior that benefits other members of their national community (Kalin & Sambanis, 2018) and greater civic involvement (Huddy & Khatib, 2007). Accordingly, a strong sense of shared national identity might help promote collective efforts to combat the pandemic within one’s country (e.g., Dovidio, Ikizer, Kunst, & Levy, 2020). Moreover, border closures, travel bans, and national task forces have likely made national identities even more salient during the pandemic (Bieber, 2020). The existence and activation of strong collective identities can allow political leaders to mobilize the masses to overcome collective action problems. For instance, political leaders and public health officials often foster a sense that “we are in this together” and can manage the crisis through collective action (Gkinopoulos & Hegarty, 2018; van Zomeren et al., 2008). As such, one way to promote public health support during this pandemic might be to leverage a sense of shared national identity to promote public health behavior and public policy to minimize the spread of the virus (Haslam, 2020; Haslam & Reicher, 2006).

However, recent work in the United States has found that threats to strong national identity can lead to less support for public health initiatives, making this question important to investigate at a global scale (Kachanoff et al., 2020). The goal of the current paper is to examine whether national identification could explain adherence to the collective behavior change needed to fight COVID-19 (Jetten et al., 2020). We examined the associations between the strength of identification with one’s nation and whether people adopted public health behaviors (e.g., spatial distancing, hand washing) and endorsed public policy interventions (e.g., closing bars and restaurants). Prior work suggests these actions could substantially reduce the number of COVID-19 infections (Block et al., 2020; Ferguson, 2006; Koo et al., 2020; Lewnard & Lo, 2020). The general hypothesis was that people who identify strongly with their nation will, on average, express stronger public health support than those who identify less with their nation. We assumed this would be a global phenomenon so we examined this relationship in 67 countries around the world.

Feelings of social identification are distinct from glorification of a group (Roccas, Klar, & Liviatan, 2006). The latter can be measured by national narcissism: a belief in the greatness of one’s nation that is unappreciated by others (Golec de Zavala, Cichocka, Eidelson, & Jayawickreme, 2009). National identification tends to correlate positively with national narcissism, because they both assume a positive evaluation of one’s nation. However, they predict different outcomes. For example, outgroup prejudice is negatively associated with national identification but positively with national narcissism (Golec de Zavala, Cichocka, & Bilewicz, 2013). National narcissism also predicts concern for maintaining a positive image of
the nation than for the well-being of fellow citizens (Cichocka, 2016; Cislak et al., 2018; Marchlewksa et al., 2020). Thus, national narcissists may be less inclined to engage in behaviours to prevent the spread of COVID-19 (Nowak et al., 2020). Therefore, in predicting compliance with public health measures, we distinguished the effects of national identification from those of national narcissism.

There is some evidence that both national identification (e.g., van der Toorn, Nail, Liviatan & Jost, 2014) and national narcissism (e.g., Cichocka, Marchlewksa, Golec de Zavala, & Olechowski, 2016; Cislak et al., 2018; Marchlewksa, Cichocka, Panayiotou, Castellanos, & Batayneh, 2018) are positively associated with right-wing political ideology. Further, there is emerging evidence that political ideology played a role in individual responses to the pandemic: right-leaning individuals or conservatives (at least in the US) tended to downplay risks associated with COVID-19 (e.g., Calvillo et al., 2020; Capraro & Barcelo, 2020; Sjåstad & Van Bavel, 2020) and were less likely to comply with preventative measures compared to left-leaning or liberal individuals (van Holm et al., 2020; Capraro & Barcelo, 2020). For that reason, we differentiated effects of national identification and narcissism from those of self-reported political ideology in the current study.

**Overview**

The COVID-19 pandemic is a truly global crisis with over 200 countries reporting infections. To understand how public health support and their predictors vary around the globe, we launched a collaborative, international project in April 2020 collecting large-scale data from as many nations as possible. We collected quote samples that were representative with respect to gender and age in 67 countries ($n = 46,650$; see Fig. 1). We analysed the data using multi-level models, which allows us to account for country-level variation in economic, political and health measures while examining whether national identification predicted public health support. We modeled country-level factors, like the Human Development Index (HDI), to see if the impact of person-level factors, like national identification, would predict public health support, even after adjusting for the general health and standard of living in a country (see **Methods** for details and sample items). We also adjusted for the COVID-19 infection and mortality rates within each country to ensure that public health support was not merely a function of local risks.

Our results provide robust evidence that national identification is a reliable predictor of all three forms of public health support measured in our survey: self-reported spatial distancing, physical hygiene, and policy support. Citizens who identified more strongly with their nation reported greater support for critical public health measures, even after adjusting for national narcissism and political ideology (as well as the country-level Human Development Index and local rates of COVID-19 infections and mortality). Right-wing participants reported lower levels of support for all three protective measures than more left-wing participants. National narcissism was only weakly related to support for several of the measures. In sum, the results provide clear evidence that national identification is related to public health support across national and cultural contexts, and may be useful for promoting collective health responses to the COVID-19 pandemic.

People generally reported following the guidelines for contact and hygiene and they supported policies that were intended to reduce the impact of COVID-19 (i.e., means for all three measures were above 8, on scales ranging from 0 to 10; see Table 1).

<table>
<thead>
<tr>
<th>1. physical distancing</th>
<th>Variance</th>
<th>Mean</th>
<th>Between</th>
<th>Within</th>
<th>Alpha</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Physical hygiene</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.536</td>
<td>1.28</td>
</tr>
<tr>
<td>3. Policy support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.80</td>
<td>4.00</td>
</tr>
<tr>
<td>4. National narcissism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5.36</td>
<td>2.18</td>
</tr>
<tr>
<td>5. National identification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.80</td>
<td>4.00</td>
</tr>
<tr>
<td>6. Political ideology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.99</td>
<td>.37</td>
</tr>
</tbody>
</table>

For all measures, except political ideology, there were negative relationships between HDI scores and country-level means (see Table 2). In other words, citizens in countries with higher scores on the global Human Development Index also reported less support for COVID-19 public health measures.
Table 2
Relationships between HDI scores and means of person level variables. T-ratios and variance provide the test statistic and the percentage of variance explained for each variable.

<table>
<thead>
<tr>
<th>Measure</th>
<th>HDI</th>
<th>t-ratio</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact</td>
<td>-.14*</td>
<td>2.61</td>
<td>9%</td>
</tr>
<tr>
<td>Hygiene</td>
<td>-.40***</td>
<td>5.01</td>
<td>33%</td>
</tr>
<tr>
<td>Policy support</td>
<td>-.59***</td>
<td>5.78</td>
<td>36%</td>
</tr>
<tr>
<td>Collective narcissism</td>
<td>-.94***</td>
<td>6.39</td>
<td>11%</td>
</tr>
<tr>
<td>National identity</td>
<td>-.52***</td>
<td>7.33</td>
<td>31%</td>
</tr>
<tr>
<td>Political ideology</td>
<td>-.12</td>
<td>1.44</td>
<td>02%</td>
</tr>
</tbody>
</table>

Note: * p < .05; *** p < .001

As can be seen from the coefficients presented in Table 3, national identification was the most reliable and strongest predictor of our COVID-19 public health support measures (see Fig. 2 for the coefficients in each country). It was significantly and positively related to all three measures (even after adjusting for national narcissism and political ideology). Individuals with stronger national identification (relative to other people within their own nation) reported stronger support for limiting physical distance and improving physical hygiene than individuals with weaker identification, and they also endorsed COVID-19 public health policies to a greater extent.

Table 3
Relations between outcomes and predictors.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Predictor</th>
<th>Slope</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>physical distancing</td>
<td>National narcissism</td>
<td>-0.006</td>
<td>&lt; 1</td>
</tr>
<tr>
<td></td>
<td>National identification</td>
<td>.127***</td>
<td>8.37</td>
</tr>
<tr>
<td></td>
<td>Political ideology</td>
<td>-.027***</td>
<td>4.21</td>
</tr>
<tr>
<td>Physical hygiene</td>
<td>National narcissism</td>
<td>.060***</td>
<td>6.56</td>
</tr>
<tr>
<td></td>
<td>National identification</td>
<td>.126***</td>
<td>11.31</td>
</tr>
<tr>
<td></td>
<td>Political ideology</td>
<td>-.015*</td>
<td>2.00</td>
</tr>
<tr>
<td>Policy Support</td>
<td>National narcissism</td>
<td>.029***</td>
<td>2.87</td>
</tr>
<tr>
<td></td>
<td>National identification</td>
<td>.128***</td>
<td>10.35</td>
</tr>
<tr>
<td></td>
<td>Political ideology</td>
<td>-.050***</td>
<td>4.86</td>
</tr>
</tbody>
</table>

Note: * p < .05; *** p < .001

National narcissism was significantly positively related to two of the three protective measures (albeit weakly). Individuals scoring higher in national narcissism supported recommendations for physical hygiene and endorsed COVID-19 related policies more strongly compared to individuals with lower levels of national narcissism.

The relations between political ideology and public health support were negative (albeit weakly) for all three outcome measures, indicating that individuals with more left-leaning or liberal political orientation tended to adhere to recommendations for contact, hygiene and supported COVID-19-related policies more strongly than those with more right-leaning or conservative political orientation. The three predictors accounted for 8% of the person-level variance of the contact measure, for 7% of the person-level variance of the hygiene measure, and 5% of the person-level variance of the policy support measure.

Discussion

Our research suggests that national identities can play a constructive role in the fight against a global pandemic. Indeed, following WW2, early work in social psychology had a tendency to focus on the negative side of nationalism and leadership persuasion, such as deconstructive obedience to authority (Milgram, 1963) and group conformity to incorrect beliefs held by others (Asch, 1956). However, in the decades since then, research on social identity (Tajfel, 1978) and a “social cure” approach to mental health (Jetten, Haslam & Haslam, 2011) have presented a more balanced view, suggesting that there is also a pro-social side to social identity. It was based on this latter perspective we predicted, and found, that national identification would be positively associated with public health support around the globe.
Individual differences in the strength of identification with one's nation robustly predicted public health support, operationalized as behavioral health intentions (physical distance and physical hygiene) and support for COVID-19 policy interventions. In short, citizens who identified more strongly with their nation reported greater engagement with critical public health measures around the globe. These results are consistent with the social psychological literature on the benefits of identifying with one's social groups, in this case, one's nation. It also underscores a potential benefit of national identification. Our research provides evidence that this form of identification might be relevant to understanding public health behavior and delivering effective campaigns to promote those behaviors during a global pandemic.

There is reason to believe that different forms of social identification can undercut public health. For instance, recent research suggests that partisanship within countries (i.e., when people strongly identify with a specific political party) may be associated with risky behavior. One recent paper found that partisanship was a robust predictor of spatial distancing behavior (Gollwitzer, Martel, Brady, Knowles, & Van Bavel, 2020; see also Alcott et al., 2020). Using geotracking data of 15 million smartphones per day, they found that counties that voted for Donald Trump (a Republican) over Hillary Clinton (a Democrat) in 2016 exhibited 14% less physical distancing during the early stages of the pandemic. Moreover, partisan differences in distancing predicted subsequent increases in infections and mortality in counties that voted for Donald Trump. This may be due to leadership, social norms, and media consumed by people from different identity groups. As such, social identification is not always conducive to healthy behavior.

National identification and narcissism were both positively associated with more right-wing political ideology, yet, their associations with COVID-19 protection were very different. Right-wing political beliefs were associated with less compliance with COVID-19 protection, compared to left-wing political beliefs. This relationship between political beliefs and compliance has been observed in several countries (e.g., Gollwitzer et al., 2020; Ponce, 2020). However, both national identification and national narcissism were associated with greater support for public health measures, whereas right-wing political ideology was associated with less support for public health measures. This suggests that in a pandemic, a collective identity might lead people to value the protection of the entire group even after adjusting for their ideological differences. This can be seen as the positive side of national identification and how it might be leveraged in a global crisis to promote activities that benefit a society.

It is also important to note that the relation between national identity and public health support was distinct from national narcissism and political ideology. In past research, national narcissism has predominantly been linked to problematic attitudes both towards other and own group members (Cichocka, 2016; Cichocka & Cislak, 2020; Marchlewksa et al., 2020). However, we found national narcissism to be positively associated with self-reported physical hygiene and support for COVID-19 preventative policies. Still, these effects were much smaller than those for national identification and depended on the context (i.e., this relation was associated with lower likelihood of physical distancing in relatively more developed countries). This suggests that future work should carefully consider national differences in human development as well as local norms associated with national identity. It is also noteworthy that there was an unexpected negative link between HDI and health behaviors. It is unclear why this link exists but we speculate that people in these countries might have placed a greater faith in their political and medical institutions during the early stages of the pandemic.

Implications

Our evidence suggests that national identity may have modest predictive value for people's endorsement of and adherence to public health measures in the context of COVID-19. This information may be leveraged to create a sense of inclusive nation-based in-groups, potentially increasing engagement with recommended policies. Political and public health leaders might be able to similarly adapt effective communication strategies to appeal to a sense of national identification. Indeed, this might be particularly helpful (albeit difficult) in highly polarized countries where adherence to public health recommendations has become a partisan issue (see Gollwitzer et al., 2020). Such recategorizations to overarching inclusive groups (see, for example, Gaertner et al., 2016) may be necessary to prevent unhealthy behaviours. As such, leaders who wish to inspire public health behavior might benefit from connecting the issue to feelings of national identity. However, we note that national identification also be used to foment intergroup conflict and the effective application of these appeals requires future research.

Our study focused on COVID-19 protection within each country, but effective management of the pandemic requires collaboration across nations (Dovidio et al., 2020; Harari, 2020). Although one might worry that national identification might be associated with greater preoccupation with one's own country's response, it could translate into concern for other nations as well. In past research, national identification (in its non-narcissistic form) was associated with more positive attitudes towards other nations (Golec de Zavala, Cichocka, & Bilewicz, 2013). National narcissism, in contrast, is likely to be associated with lower solidarity with other nations in the crisis (e.g., Gorska et al., 2019). Thus, the nature of national identity (e.g., as being helpful vs. militarily aggressive) might be an important determinant of the effectiveness of identity and the potential for international cooperation.

Limits On Generalizability

The vast majority of published research in psychology and social sciences has been conducted in so-called WEIRD cultures (Henrich, Heine, & Norenzayan, 2010), typically restricted to the narrow western and educational setting of American or European university students, and non-representative online participants from industrialized, rich and democratic countries. The COVID-19 pandemic, however, is a truly global issue,
Currently affecting 213 countries and territories all over the world. We aimed to collect representative samples to help make generalizations to the wider population within each country as well as the broader sample of countries around the globe. Although we managed to collect data from 67 countries and territories, we were nevertheless unable to ensure representative samples from many countries or even conduct our survey in other countries (especially in many African countries as well as the Middle East). Therefore, we need to focus our generalizations on nations where we managed to complete this research and the specific samples we obtained.

A major limitation of our work is the fact that it was correlational in nature and that it was conducted during the early phase of the pandemic. Thus, while we expect that national identification is more likely to cause public health behavior than the other way around, we have no evidence as to the directionality of this effect or whether it would apply during later stages of the current or future pandemics. Indeed, it is possible that national identity increases during times of crisis as people recognize their duty as citizens to help respond to this issue or that a third variable such as international competition explains this correlation (e.g., Bieber, 2020). We encourage future work to examine ways to experimentally manipulate national identification or lighten the link between identification and the public health measures required to mitigate the spread of the pandemic. A related issue is the critical need to measure actual behavior rather than behavioral intentions or policy support (see Isler, Isler, Kopsacheilis, & Ferguson, 2020) as well as consider access to the necessary resources to engage in health behavior.

**Conclusion**

The COVID-19 pandemic sweeping through the world is one of the most devastating global health crises of the century. In the absence of a successfully-tested vaccine or effective medicine, efforts to inspire collective action for greater compliance with public health measures (e.g., spatial distancing, physical hygiene and support for health policies) become the central challenge when mitigating the transmission of the SARS-CoV-2 virus. Our large-scale international collaboration across 67 countries suggests that identification with one's nation is associated with support for critical public health measures. This finding might provide an important insight for leaders and policy makers when designing programs and messages to promote critical public health initiatives.

**Methods And Analysis**

In April 2020, we launched a call using social media to collect data all over the world on psychological factors that might be related to COVID-19 pandemic response, with public health support as the primary outcome. Each team was asked to collect data from at least 500 participants, representative with respect to gender and age, in their own country or territory. We created a survey in English (see below) that we sent to each team. The survey was approved by the ethics board at the University of Kent. Where necessary, each team translated the survey into the local language, using the standard forward-backward translation method, and then collected the data. The datasets were then collated and analyzed using multi-level models. We report how we determined our sample size, all data exclusions (if any), all manipulations, and all measures in the study (see supplement).

**References**


23. Oxford Blackwell


29. 10.1007/978-3-319-42727-0_5


92. Figure 1

Map of participating countries and territories with sample size scaled to color (we were unable to obtain samples from countries in grey). Note: The designations employed and the presentation of the material on this map do not imply the expression of any opinion whatsoever on the part of Research Square concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. This map has been provided by the authors.
Figure 2

Relation between collective concerns and public health measures in 67 countries and territories. Heat index depicts the slope coefficients in each country. Blueish colors mean negative associations between our predictors and our outcomes while reddish colors mean positive associations (higher scores reflect stronger relationships between national identification, greater national narcissism and greater conservatism, and limiting contact, physical hygiene, and policy support measures). Note: The designations employed and the presentation of the material on this map do not imply the expression of any opinion whatsoever on the part of Research Square concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. This map has been provided by the authors.

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