

United We Stand, Divided We Fall: Sociopolitical Predictors of Physical Distancing and Hand Hygiene During the COVID-19 Pandemic

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Most health models emphasize individual factors in predicting health behavior. However, in the context of COVID-19 where the immediate response to stopping the spread of the virus requires collective efforts and change, other sociopolitical factors need to be considered. Prior research points to health behaviors being impacted by neighborhood and national social relations, social identification, confidence in government and political orientation. This research, though, is generally piecemeal (or specific), tends to be cross-sectional, and is usually not oriented to pandemics. These issues are addressed in the current research. A two-wave study with a representative sample of Australians ($N_{\text{Wave 1}} = 3028$) gathered during COVID-19 examined sociopolitical factors at the local and national level as predictors of health behaviors one month later. Four models were tested. These encapsulated geographic levels (local or national) and two health behaviors (hand hygiene or physical distance). In the three of the four models, social identification was a significant predictor of health behavior, while controlling for sociodemographic and individual-level measures. There were more mixed results for social relations and confidence in government. There is evidence that to better promote health behaviors sociopolitical factors need to be more prominent in public policy and health behavior models.

KEY WORDS: social cohesion, confidence in government, political orientation, social identification, health models, COVID-19

Highlights

- The goal of this study is to examine how sociopolitical factors impact physical distance and hand hygiene during the Australian COVID-19 pandemic.
- Based on social cohesion literature and the social identity approach, we expected three social cohesion dimensions (social identification, confidence in government and social relations) to predict greater health behaviors one month later. Political orientation was also expected to predict health behaviors.
- The results show that social identification consistently predicts health behaviors, with weaker evidence for political orientation and confidence in the government, and mixed evidence for social relations.
- This research highlights the importance of considering and strengthening the sociopolitical context in our response to pandemics.

Behavior change is the most important means for attenuating the spread of COVID-19 infections and reducing the growing death toll (Jetten, Reicher, Haslam, & Cruwys, 2020; Van Bavel et al., 2020). In particular, governments, on the advice of health agencies, continue to urge people to engage in physical distancing (e.g., ensuring at least 1.5 meters between themselves and others) and hand hygiene (e.g., washing hands well and regularly). However, governments have limited capacity to *enforce* widespread engagement in these behaviors and must instead rely on individuals engaging in them *voluntarily*. As such, understanding the key factors that contribute to sustained compliance—including the contribution of sociopolitical psychological processes—represents an urgent research agenda.

Toward this end, we examine a range of predictors in explaining the extent to which people engage in physical distancing and hand hygiene, including four key sociopolitical factors: social relations, social identification, political orientation, and confidence in government. Each of these factors, individually, has been shown to predict various health-related behaviors. However, they have often been examined in a piecemeal fashion, as opposed to being the object of a broad examination that investigates their simultaneous influence (e.g., Christensen, Dube, Haushofer, Siddiqi, & Voors, 2020; Martin, Inchley, Marshall, Shortt, & Currie, 2019; van der Weerd, Timmermans, Beaujean, Oudhoff, & van Steenbergen, 2011). To overcome this, the current research takes an integrated and comprehensive approach where these factors are examined together in a single study and are assessed as potential predictors of behavior over time. Specifically, we examine the influence of these sociopolitical factors (1) at both the local and national level, (2) on self-reported health behavior measured one month later, while (3) controlling for key demographic and individual factors. Pinpointing how the various sociopolitical factors relate to health behaviors can help governments and health-care agencies understand how they may best mobilize people to engage in these behaviors.

Current Models of Health Behavior

Behavioral and social sciences have a key role to play in public health interventions (Van Bavel et al., 2020), particularly in identifying predictors of the adoption of health-related behaviors to prevent or cure disease and illness. Briefly, extant well-supported models of health behavior change include the health belief model (Champion & Skinner, 2008), which identifies two key beliefs for health behaviors: beliefs concerning the (1) risk of being ill and (2) effectiveness of the prevention behaviors. A second model that has been widely applied in the health domain is Bandura's (1986) social cognitive theory. It emphasizes the role of self-efficacy (believing that one is able to adopt and maintain new behaviors) and advocates explicit strategies to increase people's self-efficacy in relation to health behaviors (see also Lee & Park, 2016; Sheeran et al., 2016). Finally, the theory of

planned behavior (Ajzen, 1991) is also commonly used to explain health behaviors and focuses on individual attitudes towards the behavior, perceived behavioral control, and perceived social norms.

Despite the differences between these models, they share a common focus on individual psychological factors (e.g., perceived susceptibility, personal self-efficacy). Although important, these individual factors, and the health behaviors they are proposed to predict, do not occur in a vacuum. Individuals' attitudes and beliefs are developed within, and shaped by, a larger sociopolitical context that can promote or hinder certain behaviors. It is the larger sociopolitical context that is central to the current research.

While we do not dispute the importance of individual characteristics, we posit that sociopolitical factors of the group can encourage health behavior change. Indeed, there have been increased calls to look beyond individual considerations. This is reflected in the concept of reciprocal determinism in social cognitive theory and the emphasis on multiple levels of influence in the social ecological model of health (McLeroy, Bibeau, Steckler, & Glanz, 1988). More recently, the social identity approach has been successfully applied to explain how group processes, and the physical and psychological resources that group memberships provide, shape individuals' health (for an overview, see Haslam, Jetten, Cruwys, & Dingle, 2018).

The COVID-19 pandemic has increased the urgency of going beyond the individual to understand health behaviors. Societal crises such as pandemics weaken the fundamental structures of society (de la Sablonnière, Lina, & Cárdenas, 2019) and therefore demand a strong sense of *group* or *collective* commitment in order to overcome the crisis; put simply, "united we stand or divided we fall." Moreover, successfully managing the pandemic requires that a great majority of the population rapidly adopts government-endorsed (or mandated) health behaviors and, importantly, sustains these behaviors until a vaccine has been successfully rolled out, effective therapeutics have become available, or the pandemic has subsided. This widespread *collective behavior* change may most readily be achieved in the presence of sociopolitical factors that emphasize being part of an organized, shared, group effort, a sense of social cohesiveness, as opposed to an individual *qua* individual effort.

The Sociopolitical Context of Health

Social cohesion is an umbrella term that captures a range of factors that speak to the connectedness of a group and its members (Chan, To, & Chan, 2006; Jeannotte et al., 2002). Groups that are highly cohesive—those whose members strongly *belong or identify* with the group, *engage in social and political institutions* (e.g., confidence in government), and have *positive social relations* (e.g., high levels of trust among members) are better able to face collective challenges (e.g., natural disasters; Paton, Smith, Daly, & Johnston, 2008). This is because cohesiveness allows groups to work together and towards collective outcomes. While most research measures social cohesion using a single dimension (e.g., Bottoni, 2018), in the present research, we adopt a more nuanced approach in which we consider the role of social relations, social identification, and confidence in the government separately in shaping people's health behaviors (Bottoni, 2018). In what follows, we review evidence examining the impact of each factor on behavior and consider how this might transfer to the context of COVID-19. Additionally, given its implication for how individuals engage with policies that target a group' collective good, we examine the role of *political orientation*.

Social identification is an important sociopolitical element of social cohesion. Based on the social identity approach (Tajfel & Turner, 1979; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), social identification is the degree to which a person self-defines in terms of, is emotionally attached to, and positively evaluates, a social/group membership (e.g., "We Australians"). People who identify strongly as a member of a group see the group as central to who they are and derive positive emotions from this group membership. In the context of the COVID-19 pandemic, geopolitically determined groups (neighborhoods, states, nations) have become particularly important social

identities (Greenaway, 2020). Borders between countries (and sometimes within countries) have also been closed, creating clear territorial lines and making it particularly obvious who is included in the “we” and who is part of “them.” The social cohesion research is also focused on geopolitical areas such as local communities and nations (Dragolov, Ignácz, Lorenz, Delhey, & Boehnke, 2013).

From the social identity approach, people’s group memberships and the extent to which these are central are associated with health benefits (e.g., Haslam et al., 2018). Groups and associated social identities provide people with a sense of shared purpose, social connection, and support. Furthermore, those who identify strongly have a tendency to behave in terms of the group’s defining characteristics (group stereotype, norms, beliefs), acting in line with who “we” are (e.g., Reynolds, Branscombe, Subasic, & Willis, 2020). When considering health behaviors, there is evidence that greater social identification impacts on condom usage among Canadian youth (identification with the community; Marshall, Koehoorn, & Shoveller, 2010), increased vaccination rates among nurses (identification with nurses; Falomir-Pichastor, Toscani, & Despointes, 2009), and greater attendance to fall-prevention programs for the elderly (identification with fall-prevention group; Steckhan, Warner, & Fleig, 2021), to name a few. Therefore, we expect that people who possess a strong social identity as a member of their geographically determined group will be more likely to engage in health behaviors.

Confidence in government also emerges as a key factor of social cohesion guiding people’s health behaviors, particularly during periods of crisis (e.g., Christensen et al., 2020). Confidence in government goes beyond having positive attitudes toward specific leaders, extending to trust in basic institutions and procedures (Marien & Hooghe, 2011), as well as a willingness to comply with laws (Scholz & Lubell, 1998). Those with little confidence in government are likely to question the legitimacy of its institutions, laws, and recommendations. During COVID-19, where governments and their officials are at the center of health advice, a lack of confidence may result in a refusal to comply with directives to mitigate the virus’ spread. Along these lines, in the context of the 2014 Ebola outbreak in Sierra Leone, widespread lack of confidence in the government led to deep distrust in the health behaviors promoted by government and its health services. This decreased the likelihood that people showing symptoms would present for treatment (Christensen et al., 2020). Confidence in the government also shapes people’s responses to health crises (e.g., H1N1 vaccination intentions; van der Weerd et al., 2011), to privacy invasions from the government (Rykkja, Læg Reid, & Lise Fimreite, 2011), and natural disasters (e.g., intention to participate in earthquake response trainings; Ah Shin & Park, 2013).

A third social cohesion element that can impact health behaviors is the quality of *social relations*. Social relations refers to individuals’ perception of the quality of the relations within and between group members. Positive social relations reflect a social environment in which individuals can trust one another, have positive relations, feel safe, follow rules, help one another, and solve problems together (for example, see Bottoni, 2018). Being in a group that has positive relations offers collective resources necessary to manage health challenges (Thoits, 2010), while also facilitating self-efficacy (Samuel, Commodore-Mensah, & Dennison Himmelfarb, 2014). Positive relations may also indicate a shared social identity (Haslam, Postmes, & Ellemers, 2003) and associated qualities such as belonging, shared purpose, and ingroup support.

There is evidence that social relations impact health behavior. For example, Martin and colleagues (2019) found that adolescents were less likely to have drunk alcohol when individuals in their neighborhood reported that people around them were friendly and could be trusted. Similarly, health campaigns that triggered trust in the community were more effective (antismoking campaigns, Namkoong, Nah, Record, & Van Stee, 2017; Ebola treatment centers, Alonge et al., 2019). These studies also exemplify most research on social relations, which usually focuses on three specific social relations: community trust, helping, and positive interactions, these elements analyzed separately (Sampson, Raudenbush, & Earls, 1997). In this research, we expand and include a wider range

of social relations that appear more sporadically in social cohesion research but are aligned with its conceptualization (i.e., following rules, collective problem solving, and positive ethnic relations; e.g., Chan et al., 2006) and should predict greater COVID-19 health behaviors. However, elements of trust and safety may be counteractive to COVID-19 health behaviors (physical distance and hand hygiene). Perceiving that one's group is safe and trustworthy is associated with greater risk behavior (Cruwys et al., 2020) and may in the current circumstance result in less health behaviors (Cruwys et al., 2021). We therefore explore the elements of positive relations that are most helpful and also counterproductive in predicting COVID-19 health behaviors.

Lastly, people's *political worldview or orientation* also needs to be considered in the adoption of government health-related policies and behaviors. Political orientation is a sociopolitical factor reflecting the ways in which individuals engage with and accept government-related information (e.g., Duckitt & Sibley, 2010) and should impact COVID-19 health behaviors for two reasons. First, those on the right (i.e., conservatives) traditionally embrace a more minimalist approach to government (Gidron & Ziblatt, 2019) preferring policies and instructions that respect and protect individual's freedom and rights. Given that many COVID-19 health instructions are (or are perceived as) restricting individual freedoms, conservative individuals should be less likely to follow these instructions. Second, political orientation reflects differences in parochialism-universalism. Conservatives were found to have greater compassion toward smaller and well-defined groups, while progressive/liberals tend to express compassion toward broader groups (Waytz, Iyer, Young, Haidt, & Graham, 2019). This also means that, compared to progressive/liberals, conservatives are generally less concerned with a rationale for action based on the collective good. There is evidence that progressive/liberals are more likely to support policies and instructions that restrict individual rights but benefit the larger group. For example, liberals were more likely to support antiterrorism measures (e.g., phone tapping) in Norway (Rykkja et al., 2011) and intrusive physical-activity policies in Canada (Yun et al., 2019). This also applies to health behaviors. Conservatives and liberals differ in performing a variety of health behaviors including seeking health information, flu vaccination, excessive alcohol consumption, tobacco consumption, exercise, and dietary patterns (Kannan & Veazie, 2018). Given the collective focus during pandemics and large-scale disasters, political orientation should be a factor in explaining adherence to government-recommended COVID-19 health behaviors.

Considered together, a case can be made that sociopolitical factors are important determinants of health behaviors, specifically in the context of COVID-19. During pandemics, individual and community health is only served by acting together in a unified way with common purpose. However, these factors have been mostly examined in silo, without other relevant individual, health, and sociopolitical factors. Moreover, with the exception of studies conducted during the Ebola and H1N1 crises, very little has been done in the context of pandemics. Therefore, evidence does not yet exist to support the widespread inclusion of sociopolitical factors in health models and associated public health policy initiatives, particularly during health crises. To address this lacuna and inform new strategies for effective health policy, we provide an integrated investigation of individual, social, and political factors.

The Current Research

The current study aims to provide a robust test of the sociopolitical predictors of COVID-19-related health behaviors. To this end, we used a large nationally representative sample of Australian residents who completed our measures on two occasions (one month apart). We assessed the predictive utility of our variables of interest after controlling for demographic variables, individual health-related factors (i.e., self and close ones having tested positive for COVID-19, risk perception, perceived self-efficacy, and subjective health), and engagement in these behaviors before COVID-19. Moreover, to enhance the practical value of our findings, we assessed sociopolitical factors at *both*

the local (i.e., neighborhood/state) and national level. These groups are widely assessed in social cohesion research, with few studies examining social cohesion at both levels. Importantly, these geographically determined groups became particularly relevant during the COVID-19 pandemic, with resident lockdowns and travel restrictions outside of local and borders. Testing the impact of predictors at both the local and national level also provides a conceptual replication of the key socio-political predictors of health behaviors.

H1a: Local-level social identification will predict greater subsequent engagement in physical distancing.

H1b: Local-level confidence in the government will predict greater subsequent engagement in physical distancing.

EH1c: We explore whether the different dimensions of positive social relations at the local level predict greater subsequent physical distancing, expecting most elements to predict greater physical distance except for those dimensions that denote lower risk in the community (e.g., safety and trust).

H2a: Local-level social identification will predict greater subsequent engagement in hand hygiene.

H2b: Local-level confidence in the government will predict greater subsequent engagement in hand hygiene.

EH2c: We explore whether the various dimensions of positive social relations at the local level predict greater subsequent hand hygiene. We specifically expect most elements other than safety and trust to predict greater hand hygiene.

H3a: National-level social identification will predict greater subsequent engagement in physical distancing.

H3b: National-level confidence in the government will predict greater subsequent engagement in physical distancing.

EH3c: We explore whether the different dimensions of positive social relations at the national level predict greater subsequent physical distancing, with the expectation that all but trust and safety should predict greater physical distancing.

H4a: National-level social identification will predict greater subsequent engagement in hand hygiene.

H4b: National-level confidence in the government will predict greater subsequent engagement in hand hygiene.

EH4c: We explore whether the different dimensions of positive social relations at the national level predict greater subsequent hand hygiene, and we expect that all (but trust and safety) to predict greater hand hygiene.

H5a: Those with a liberal/progressive political orientation will be more likely to engage in physical distance.

H5b: Those with a liberal/progressive political orientation will be more likely to engage in hand hygiene.

Methods

Participants and Procedure

The sample consisted of 3028 people at Wave 1, of whom 2035 participated at Wave 2 (attrition rate of 32.79%). Recruitment was conducted by Qualtrics Services, who contacted participants via

email or in their research-participation portal, based on quotas needed to obtain a nationally representative sample of Australian residents—based on age, sex, ancestry (as far back as two generations), and income. Qualtrics Services uses several double-opt-in market-research panels and blends them to minimize panel bias. Appropriate human ethics research approvals were obtained. The mean age at Wave 1 was 47.78 ($SD = 17.60$), with 52.6% women at Wave 1 (Men = 47.2%; Other = 0.2%), and 72.5% were born in Australia in Wave 1. Most participants reported an Australian ancestry (59.08% in Wave 1), followed by English (22.29% in Wave 1), with most participants coming from English-speaking countries (77.7% in Wave 1).

At both time points, there was widespread optimism that Australia had escaped the worst of the COVID-19 pandemic (Klein, 2020), despite low-level community transmission across several regions. Wave 1 (collected between May 11 and 27) was distributed at a time when the state and federal governments were beginning to reduce some of the strict restrictions that had been established (e.g., only two people from different households could gather; weddings could only have five people). A small number of these restrictions were first lifted on May 15 in all of the Australian states (e.g., all gatherings of 10 people were allowed, weddings could have 10 people attending). Wave 2 was completed between June 16 and July 16—two weeks after restrictions were further eased (e.g., all gatherings and weddings of 20 people were allowed). Thus, we examine whether people maintained physical distancing and hand hygiene at a critical time—as formal restrictions were reduced and the risk of community transmission increased.

Material

Social Identification

Identification with the neighborhood was measured using the single-item social identification (SISI) scale (Postmes, Haslam, & Jans, 2013). Identification with Australia was assessed with three items, the SISI scale (Postmes et al., 2013) as well as two derived from national social cohesion research (belonging items; Markus, 2019) to be consistent with this literature. All items were measured on a scale from 1 (*Strongly disagree*) to 7 (*Strongly agree*; $\alpha = .80$ in Waves 1 and 2).¹

Confidence in Government

Confidence in the state and national government were assessed with three items asking individuals to indicate their trust in the state/federal government (Hetherington, 1998; scales ranging from 1 [*Strongly disagree*] to 7 [*Strongly disagree*]). Internal reliability for the scale was good (State $\alpha = .91$ at Waves 1 and 2; National $\alpha = .93$ at Waves 1 and 2).

Social Relations

We measured seven aspects of social relations (adapted from Dragolov et al., 2013; Sampson et al., 1997). Participants responded to 10 items twice, in relation to their neighborhood (“In my neighborhood...”) and to the nation (“In Australia...”), using scales ranging from 1 (*Strongly disagree*) to 7 (*Strongly disagree*). We measured *trust*, *positive interactions*, *positive ethnic relations*, *helping*, *following rules*, and *collective problem solving*. For details on these and all items in this study, see the online supporting information.

¹Analyses conducted with the Australian single-item social identification scale alone were ostensibly unchanged from those reported below.

Political Orientation

Based on previous research (e.g., Graham, Haidt, & Nosek, 2009), we measured political orientation by asking participants what best describes their political orientation (1 = *Very left leaning* to 7 = *Very right leaning*).

Physical Distancing

Participants reported the proportion or number of times that they had engaged in four physical-distancing behaviors in the past two weeks (e.g., stayed home, went to the stores) at Wave 2. Some behaviors were reported in proportions of time (0 to 100% of the time) while for others the number of times was reported (0 to 30 times). Given this, items were standardized and averaged to create a physical-distancing measure ($\alpha = .62$), with higher scores reflecting those who engaged in greater health behaviors compared to the average reported physical distance at Wave 2. At Wave 1, participants also reported physical distancing in a normal two-week period *before* COVID-19 was recorded in Australia ($\alpha = .31$). The low reliability is explained by these behaviors not being a unified behavioral pattern before COVID-19. Nevertheless, we decided to keep this composite measure in the analysis to control for initial behavior.

Hand Hygiene

At Wave 2, participants reported the proportion or number of times that they had engaged in hand hygiene behaviors in the past two weeks (with response scales varying from 0 to 100%, 0 to 30 times, 1 [*Never*] to 7 [*Several times per hour*]). Items were again standardized before creating a mean for hand hygiene ($\alpha = .60$) such that higher scores reflect greater hand hygiene compared to the mean. At Wave 1, participants also reported hand hygiene in a normal two-week period *before* COVID-19 ($\alpha = .68$).

Control Variables

Three broad sets of variables previously associated with health outcomes and/or COVID-19 behaviors were controlled for (Wave 1 responses were used in all cases). The first set comprised four demographic variables (age, weekly income, sex, and being born in Australia). The second set concerned health attitudes typically included in individual-level models of health behavior: whether participants or a person they knew had tested positive for COVID-19 (as this could have increased or decreased the risk associated with COVID-19), risk perception (the perceived risk to one's own health of taking a walk with nine targets), self-efficacy for sustaining physical distance or hand hygiene (depending on which behavior was the dependent variable; Lee & Park, 2016), and subjective health (Cruwys et al., 2019). The third set of control variables were the health behaviors of interest pre-COVID-19 (hand hygiene or physical distancing, depending on the dependent variable) to account for respondents' baseline levels of each behavior (e.g., already washing hands frequently).

Analytic Approach

Hierarchical regressions were performed to examine whether sociopolitical factors at Wave 1 predicted greater physical distancing and hand hygiene at Wave 2 over and above demographic variables, individual-level predictors, and engagement in health behaviors before COVID-19. Specifically, Step 1 in the models included the control variables. Step 2 added our focal predictors

measured at Wave 1: the three elements of social cohesion (social identification, confidence in the government and social relations) and political orientation. In line with typical social cohesion analyses (e.g., Bottoni, 2018), these sociopolitical factors are kept as separate predictors. Moreover, we explore how different aspects of quality of relations (helpful, trustworthy, safety, following rules, positive ethnic relations, problem solving, social interactions) predict health behaviors.

In total, four hierarchical regressions were conducted. The first and second regressions examined, in addition to political orientation, whether the neighborhood-level sociopolitical factors predicted physical-distancing behaviors (Model 1) and hand hygiene (Model 2). The third and fourth regressions examined whether the national-level sociopolitical factors predicted physical-distancing behaviors (Model 3) and hand hygiene (Model 4).

Results

Preliminary Analyses and Descriptive Statistics

All participants who had data available at Wave 1 were included in the analyses. Most (67%) of the sample in Wave 1 was retained in Wave 2, so we conducted analyses to understand the missing data. Missing data analysis showed the data was not missing completely at random (or MCAR; Little's MCAR $\chi^2(14,365) = 7294.59, p < .001$). In other words, there is evidence that data is missing based on certain patterns (Asendorpf, van de Schoot, Denissen, & Hutteman, 2014; Newman, 2014). To examine whether the obtained data can be used to predict these patterns of missingness (and therefore the missing data), *t*-tests were conducted. Specifically, the *t*-tests examine whether those who only completed the Wave 1 questionnaire systematically differed from those who completed both waves in relation to our key variables (as measured at Wave 1; with a Bonferroni correction for 23 comparisons, significance set at $p < .002$). Three comparisons were significant: Compared to participants who participated in both waves, people lost to follow up had greater hand hygiene before COVID-19, perceived greater risk to their health, and perceived Australians as having less positive social interactions (see the online supporting information for details). Given these patterns of missingness and to maintain the representativeness of the sample, multiple imputations (at the item level) were conducted (Asendorpf et al., 2014; Newman, 2014) using SPSS (version 23). Wave 1 and 2 responses were used as independent variables in this analysis, which produced 40 imputed datasets. Multicollinearity tests showed acceptable tolerance values (all values ranging from .87 to .96).

Tables S1 and S2 in the online supporting information show the means and correlations of the main variables of interest at Wave 1 (above the diagonal) and Wave 2 (below the diagonal). At both the local (Table S1) and national (Table S2) level, none of our focal variables (subdimensions of social relations, confidence in government, social identification, and political orientation) were associated with deviations from the mean of physical distancing pre-COVID-19. In contrast, in Wave 2, associations were mostly stronger, positive, and significant. A similar pattern is observed for hand hygiene, with weaker correlations between sociopolitical factors and health behaviors at Wave 1 compared to Wave 2.

Local-Level Sociopolitical Factors Predicting Physical Distancing and Hand Hygiene

The results of Model 1 (testing H1a, H1b, EH1c, and H5a) are displayed in Table 1. With respect to individual-level considerations, age, having tested positive for COVID-19, subjective health, risk perception, self-efficacy, and pre-COVID physical distance were each significant predictors of deviations from the mean of physical distance at Wave 2 in Step 2.² Over and above these predictors,

²Analyses were also conducted while removing nonsignificant control variables. The results were largely unchanged with only neighborhood helpfulness at Wave 1 marginally (instead of significantly) predicting hand hygiene at Wave 2.

Table 1. Hierarchical Regression Predicting Physical Distance and Hand Hygiene From Local-Level Variables

	Physical Distance W2				Hygiene W2			
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
<i>Step 1</i>								
(Constant)	-2.40	0.23	-10.4	<.001	-0.92	0.21	-4.50	<.001
Age	0.01	0.00	12.83	<.001	0.01	0.00	7.72	<.001
Weekly income	0.00	0.00	0.13	.893	0.00	0.00	0.84	.399
Sex	0.06	0.03	2.36	.018	0.11	0.02	4.58	<.001
Tested COVID self W1	0.69	0.12	5.90	<.001	0.05	0.10	0.50	.618
Tested COVID other W1	0.09	0.06	1.40	.160	-0.03	0.06	-0.49	.622
Health W1	0.03	0.01	1.97	.049	-0.03	0.01	-2.42	.016
Risk perception W1	0.03	0.01	3.93	<.001	0.05	0.01	6.71	<.001
Self-efficacy of behavior W1	0.02	0.00	5.28	<.001	0.03	0.00	10.57	<.001
Australian Born	0.01	0.03	0.36	.720	-0.01	0.03	-0.33	.739
Behavior before COVID-19	0.28	0.02	13.52	<.001	0.44	0.02	25.29	<.001
Average <i>R</i> ² Total	0.21				0.32			
<i>Step 2</i>								
(Constant)	-2.30	0.25	-9.21	<.001	-1.09	0.21	-5.12	<.001
Age	0.01	0.00	12.09	<.001	0.00	0.00	6.54	<.001
Weekly income	0.00	0.00	0.68	.499	0.00	0.00	0.80	.425
Sex	0.04	0.03	1.60	.111	0.09	0.02	3.75	<.001
Tested COVID self	0.62	0.12	5.30	<.001	0.05	0.10	0.44	.663
Tested COVID other W1	0.08	0.06	1.31	.190	-0.03	0.06	-0.51	.607
Health W1	0.04	0.01	2.70	.007	-0.02	0.01	-1.46	.144
Risk perception W1	0.03	0.01	4.16	<.001	0.05	0.01	6.61	<.001
Self-efficacy of behavior W1	0.02	0.00	4.87	<.001	0.03	0.00	9.93	<.001
Born in Australia	0.01	0.03	0.22	.824	-0.01	0.03	-0.55	.581
Behavior before COVID-19	0.28	0.02	14.11	<.001	0.44	0.02	24.89	<.001
Identification with neighborhood W1	0.00	0.01	-0.16	.874	0.02	0.01	2.96	.003
Confidence in the state government W1	0.02	0.01	2.41	.016	0.01	0.01	1.15	.249
Neighborhood SR: Helpful W1	-0.01	0.02	-0.90	.369	0.03	0.01	2.14	.033
Neighborhood SR: Trustworthy W1	0.02	0.02	1.15	.251	-0.03	0.01	-2.20	.028
Neighborhood SR: Safe W1	-0.01	0.01	-1.6	.109	-0.02	0.01	-1.93	.054
Neighborhood SR: Rules W1	0.03	0.01	2.41	.016	0.00	0.01	0.20	.843
Neighborhood SR: Positive ethnic interactions W1	0.03	0.02	1.80	.072	0.01	0.02	0.53	.597
Neighborhood SR: Collective problem solving W1	-0.06	0.02	-3.39	.001	0.01	0.02	0.39	.697
Neighborhood SR: Positive social interactions W1	0.04	0.02	2.84	.005	0.02	0.01	1.42	.157
Political orientation W1	-0.05	0.01	-5.00	<.001	-0.01	0.01	-0.67	.505
Average <i>R</i> ² Total (ΔR^2)	.23 (.02, <i>p</i> < .001)				.33 (.01, <i>p</i> < .001)			

Note Tested COVID, 1 = Yes; 2 = No; Born in Australia, 0 = No, 1 = Yes. The behavior before COVID-19 was physical distance or hand hygiene, depending on the outcome variable. Bolded estimates and *p* values have a *p* < .05. Abbreviation: SR, social relations.

however, there was also evidence supporting the significance of sociopolitical factors at the local level. Contrary to Hypothesis 1a, social identification with the neighborhood was not associated with physical distancing. However, confidence in the state government was associated with greater physical distancing at Wave 2 (supporting H1b). Several dimensions of social relations were related to physical distancing (EH1c): People who reported neighbors following rules and positive social interactions reported greater physical distancing at Wave 2. Interestingly, collective problem solving was associated with *less* physical distancing. Lastly, individuals with a more progressive political orientation at Wave 1 also reported greater physical distancing at Wave 2 (supporting H5a).

Table 1 also presents the results of Model 2 (testing H2a, H2b, EH2c, and H5b). At Step 2, age, sex, risk perception, self-efficacy, and pre-COVID hand hygiene predicted hand hygiene at Wave 2. Importantly, local-level political and social factors also predicted higher hand hygiene. Social identification with the neighborhood at Wave 1 predicted greater hygiene behaviors at Wave 2 (supporting H2a). For the different dimensions of social relations (EH2c), the helpfulness of the neighborhood at Wave 1 predicted greater hand hygiene at Wave 2, while trust in the neighborhood was related to *less* hand hygiene behavior. Confidence in state government and political orientation were nonsignificant predictors (contrary to H2b and H5b).

National-Level Political and Sociopolitical Factors Predicting Physical Distance and Hand Hygiene

Model 3 (testing H3a, H3b, EH3c, and H5a) is presented in Table 2. At Step 2, age, having tested positive for COVID-19, risk perception, self-efficacy, and pre-COVID physical distancing predicted greater physical distancing. Among the national-level sociopolitical factors, identification as Australian was associated with greater physical distancing at Wave 2 (supporting H3a). Concerning social relations (EH3c), perceiving positive social interactions among Australians at Wave 1 was positively associated with greater physical distancing than the mean at Wave 2. In contrast, perceived safety in Australia was *negatively* associated with physical distancing. There was no support for the role of confidence in the federal government in predicting physical distancing at Wave 2 (contrary to H3b). Progressive political orientation was associated with greater physical distancing (providing further support for H5a).

In Model 4 (testing H4a, H4b, H4c, and H5b; see Table 2), age, sex, risk perception, self-efficacy, and pre-COVID hand hygiene were all significant individual-level predictors. Beyond these individual-level variables, and in line with the findings for physical distancing, those who perceived Australian community as safe engaged in *fewer* hygiene behaviors than the mean (EH4c). Those who identified strongly with Australians were more likely to engage in hand hygiene at Wave 2, supporting H4a. Contrary to H4b and H5b, confidence in the federal government and political orientation did not predict hand hygiene.

Discussion

This article presents results from a large nationally representative two-wave study investigating sociopolitical factors that contribute to compliance with public health guidelines for reducing the spread of COVID-19—specifically physical distancing and hand hygiene. We hypothesized that four constructs would be particularly relevant to compliance: social identification, confidence in government, social relations, and political orientation. There was evidence for the importance of these variables.

Social identification with the neighborhood and the nation was positively associated with physical distancing and hand hygiene in three out of four analyses. These findings were consistent with our expectation that participants who saw themselves as “in this together” with fellow group members would be more likely to contribute to the collective COVID-19 suppression effort. Confidence in state, but not federal, government was positively associated with physical distancing. This may reflect the Australian context, where each state’s government had high levels of independence concerning when and how they would enact physical-distance rules. Our findings suggest that confidence in the government that manages the practical responses to pandemics predicts greater adherence to health instructions.

The results for social identification and confidence in government are in line with the social cohesion framework and the social identity perspective. From the social cohesion framework, we

Table 2. Hierarchical Regression Predicting Physical Distance and Hand Hygiene From National-Level Variables

	Physical Distance W2				Hygiene W2			
	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>t</i>	<i>p</i>
<i>Step 1</i>								
(Constant)	-2.40	0.23	10.36	<.001	-0.92	0.21	-4.50	<.001
Age	0.01	0.00	12.83	<.001	0.01	0.00	7.72	<.001
Weekly income	0.00	0.00	0.13	.893	0.00	0.00	0.84	.399
Sex	0.06	0.03	2.36	.018	0.11	0.02	4.58	<.001
Tested COVID self W1	0.69	0.12	5.90	<.001	0.05	0.10	0.50	.618
Tested COVID other W1	0.09	0.06	1.40	.160	-0.03	0.06	-0.49	.622
Health W1	0.03	0.01	1.97	.049	-0.03	0.01	-2.42	.016
Risk perception W1	0.03	0.01	3.93	<.001	0.05	0.01	6.71	<.001
Self-efficacy of behavior W1	0.02	0.00	5.28	<.001	0.03	0.00	10.57	<.001
Australian Born (0 = No, 1 = Yes)	0.01	0.03	0.36	.720	-0.01	0.03	-0.33	.739
Behavior before COVID-19	0.28	0.02	13.52	<.001	0.44	0.02	25.29	<.001
Average <i>R</i> ² Total	0.21				0.32			
<i>Step 2</i>								
(Constant)	-2.08	0.26	-8.11	<.001	-0.99	0.22	-4.48	<.001
Age	0.01	0.00	10.84	<.001	0.00	0.00	5.97	<.001
Weekly income	0.00	0.00	0.96	.339	0.00	0.00	0.85	.396
Sex	0.03	0.03	1.20	.231	0.10	0.02	3.95	<.001
Tested COVID self W1	0.58	0.12	4.86	<.001	0.02	0.11	0.23	.818
Tested COVID other W1	0.08	0.06	1.25	.210	-0.03	0.06	-0.49	.623
Health W1	0.03	0.01	1.91	.056	-0.02	0.01	-1.76	.079
Risk perception W1	0.03	0.01	4.01	<.001	0.05	0.01	6.41	<.001
Self-efficacy of behavior W1	0.02	0.00	4.97	<.001	0.03	0.00	9.92	<.001
Born in Australia	-0.01	0.03	-0.54	.589	-0.02	0.03	-0.96	.339
Behavior before COVID-19	0.28	0.02	13.99	<.001	0.44	0.02	25.04	<.001
Identification with Australians W1	0.03	0.01	2.69	.007	0.03	0.01	3.06	.002
Confidence in the federal government W1	0.01	0.01	1.13	.258	0.00	0.01	0.29	.772
National SR: Helpful W1	-0.02	0.02	-1.33	.184	-0.01	0.02	-0.61	.543
National SR: Trustworthy W1	0.01	0.02	0.49	.622	0.00	0.02	0.23	.820
National SR: Safe W1	-0.04	0.01	-3.48	.001	-0.02	0.01	-2.15	.031
National SR: Rules W1	0.02	0.01	1.26	.209	-0.01	0.01	-0.72	.469
National SR: Positive ethnic interactions W1	-0.03	0.02	-1.83	.068	0.02	0.02	0.94	.345
National SR: Collective problem solving W1	0.01	0.02	0.79	.430	0.03	0.02	1.53	.126
National SR: Positive social interactions W1	0.05	0.02	2.84	.005	0.00	0.02	0.17	.862
Political orientation W1	-0.05	0.01	-5.33	<.001	-0.01	0.01	-1.32	.186
Average <i>R</i> ² Total (ΔR^2)	.24 (.03, <i>p</i> < .001)				.33 (.01, <i>p</i> < .001)			

Note Tested COVID, 1 = Yes; 2 = No; Born in Australia, 0 = No, 1 = Yes. The behavior before COVID-19 was physical distance or hand hygiene, depending on the outcome variable. Bolded estimates and *p* values have a *p* < .05. Abbreviation: SR, social relations.

find that sociopolitical factors that promote citizens’ sense of belonging in geographically determined groups and the effective functioning of these groups may increase compliance with health behaviors during pandemics. These findings are also consistent with a social identity account of social influence, whereby individuals are more likely to adopt the characteristics defining the group (who “we are”). The findings further support the importance of group membership and social identity processes for health behaviors (Haslam et al., 2018).

In exploring the role of positive social relations at the national and local social level, we found evidence that some qualities of positive social relations were positively associated with physical distancing and hand hygiene, while others had a negative association, and still others were unrelated. With respect to physical distancing, positive predictors were *positive social interactions* (at both the local community and national levels) and *rule following* (the perception that neighbors are compliant with formal and informal expectations). With respect to hand hygiene, a *helpful* local environment predicted greater hand hygiene.

However, some aspects of social relations predicted less health behaviors. The perception that the nation was *safe* was associated with *reduced* compliance with physical distancing and hand hygiene, as was the perception that the local community was *trustworthy* (predicting reduced hand hygiene). Thus seeing the community as safe and trustworthy may potentially undermine compliance with public health directions. This may be driven by the increased trust (and therefore reduced sense of risk) associated with being part of the same group (Cruwys et al., 2020, 2021). A shared ingroup suggest that others can be trusted, which is in turn associated with greater perceptions of safety and more risky behavior (less social distance and hand hygiene). For example, individuals were less likely to use condoms with those they are familiar with (Siegler et al., 2014) and trust (Januraga, Mooney-Somers, Gesesew, & Ward, 2020), suggesting that ingroup membership and associated trust reduces risk perception. Overall, our results illustrate the importance of analyzing this construct through an examination of independent qualities but raise questions about social relations as a whole factor.

Finally, political orientation predicted physical distancing and hand hygiene in two out of four analyses, with left-leaning participants reporting greater compliance with physical distance. This accords with political psychological theories on political orientation, particularly on the degree to which individuals are willing to accept and follow government interventions. This suggests that health-promoting strategies may require different considerations depending on the communities' political orientation, with conservatives being more persuaded by arguments oriented at smaller and well-defined groups.

In general, there is evidence that sociopolitical factors are related to health-compliance behaviors, particularly social identification. Unlike demographic factors, social identification is malleable; governments, nongovernmental agencies, and group leaders can work to strengthen the sense of belonging in their communities. Importantly, they can build on social identification *early* during a national crisis to facilitate positive behaviors *later* in the crisis. Our findings also suggest that government and health agencies need to be attuned to the multiple social groups (and associated political orientation) to which individuals belong. Some health behaviors may be better facilitated by grassroots/local groups (and corresponding identity), while others may be best furthered by national groups (and identities). Understanding the interplay of the various social groups may facilitate interventions that promote health behaviors.

Limitations and Future Studies

This study had several strengths, including its two-wave design, its large nationally representative sample, and extensive control variables. However, this study was not without limitations. The design necessitated a reliance on self-reported health behaviors, which may be subject to misreporting. We also saw an attrition rate of 32.79% from Wave 1 to Wave 2. While such attrition rates are typical in studies with multiple waves and were accounted for by performing multiple imputations, smaller attrition rates would have been preferred. Although best practice has been employed when conducting these imputations (Asendorpf et al., 2014), some caution should be used when interpreting the data. It is possible that we do not have the best nor enough information to reliably predict participants missing responses. There may also be other and better indicators of the likely participants' response.

Moreover, the reliability of the dependent variables is acceptable for new constructs but generally low. More research is necessary to understand the best way of measuring emerging (and complex) behaviors such as those observed during the pandemic. In addition, our results indicate the importance of analyzing the multiple dimensions of social relations separately to understand their positive, neutral, and negative effects on health, but it raises questions concerning whether social relations is a cohesive construct. Future research is necessary to better develop and conceptualize the construct and measurement of social relations.

It is worth noting that the percentage of variance explained for physical distance and hand hygiene at Wave 2 was 24% and 33%, respectively. Despite having a comprehensive set of predictors, other nonmeasured variables continue playing a role in these health behaviors. In addition, the sociopolitical factors of interest explain a small proportion of the total explained variance. This may be because sociopolitical factors impact what are usually considered individual predictors of health behaviors. For example, identification and confidence in the government may be critical in shaping individuals' assessment of risk. If a well-trusted government is promoting a message of risk, and if one believes that the community one belongs to is at risk, then individuals may be more likely to perceive risk and act upon it. Given that the effect of the collective on individual's health behaviors has more often been assumed than assessed in health models (e.g., health belief models), examining the way sociopolitical factors impact on individual-level beliefs is key to assessing their interdependence.

Conclusion

This study provides evidence of the crucial role of sociopolitical phenomena as determinants of public health. Such analyses have traditionally been applied to behaviors such as discrimination and crime, rather than health behaviors. However, this study is consistent with a growing literature on the effect of social processes—from both the social identity perspective and social cohesion literature—on health outcomes. Investment in social resources strengthens the community and its capacity to coordinate an effective public health response to pandemics.

ACKNOWLEDGMENT

This research was supported by the ANU College of Health and Medicine Crisis Seed Funding Grant and the Australian Social Cohesion: Exploring New Directions Grand Challenge scheme. Correspondence concerning this article should be addressed to Diana Cárdenas, Research School of Psychology, Australian National University, Building 39 Office 203, University Road, Acton, Canberra, ACT 2601, Australia. E-mail: diana.cardenas@anu.edu.au

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Supporting Information

Additional supporting information may be found in the online version of this article at the publisher's web site:

Supplementary Material

Table S1. Descriptive Statistics and Correlations with Local Variables of Interest

Table S2. Descriptive Statistics and Correlations with National Variables of Interest