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Worried about coronavirus? Tell each other about it!

Social networks can promote compliance with coronavirus measures

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Utrecht University, Faculty of Social Sciences

Authors

Simon de Jong

Tobias Stark

Valentina Di Stasio

Maykel Verkuyten

Should you have questions about this report please contact: Tobias Stark: thstark@uu.nl

Summary

This study examines why some people strictly adhere to the governmental coronavirus behavioural measures (e.g., social distancing) while others do not. Specific attention is paid to the possible role that social networks (family, friends, acquaintances) play in complying with the measures to prevent the spread of the virus. Previous research and existing policies place particular emphasis on individual responsibility. However, the results of this study show that effective policies should also take people's social networks into account.

Results are based on a survey that was conducted among a representative sample of the Dutch population (N = 1,504). The research shows that the behavioural measures to reduce the spread of coronavirus were strictly followed in the early months of the crisis. In June, compliance with the measures - though still considerable - declined. It appears that feelings of obligation ('what should be done') are key to understand compliance: people tend to comply more strictly with the behavioural measures the more they feel that it is their moral and civic duty to do so. The research also shows that these feelings of obligation are associated with perceptions of risk. The greater the perceived risk and danger of being infected with the coronavirus for oneself or one's social environment, the more likely people are to subscribe to a sense of moral and civic duty to comply with the preventive measures. This in turn leads to stricter observance of the measures.

A central finding is that feelings of obligations to follow the measures are further determined by one's own social networks and *not* by what we see happening in society. When people perceive that their social network members are adhering to the measures ('descriptive norms'), they believe more strongly that it is their civic duty to do so too. This in turn positively correlates with compliance. Surprisingly, only the observed behaviour of people in one's own network is related to compliance, not the observed behaviour of people in society in general.

The moral expectations of one's own network ('prescriptive norms') are also important. The more network members appear to subscribe to the obligations regarding the preventive measures, the more people feel it is their own moral and civic duty to follow the rules. This in turn positively correlates with compliance. Moral expectations of society in general are also related to compliance. This relationship is, however, relatively weak compared to the strength of the relationship with the moral expectations of one's own network. Thus, people do not just adhere to the preventive measures if society expects this from them, but mainly if they think that this expectation exists among the people in their own social network.

The results of this study provide further suggestions for policies and strategies to promote compliance with the coronavirus measures. The perception of what is happening in one's own network and what people in the network think, appears to be important. This means that people can promote compliance in their own social networks by clearly showing that they comply with the measure and by expressing that they feel a sense of obligation to comply. For example, it seems useful to state in a group messaging app prior to a meeting that people will stick to the 1.5 metre distancing rule. This might seem simple, but it can have a significant influence on others' behavior. If we perceive that the people around us comply with the measures and feel an obligation to comply, we will more readily do so ourselves. A government campaign that encourages us to tell each other that we believe that the measures are important and that we are following the guidelines can therefore help prevent a further spread of coronavirus.

Worried about coronavirus? Tell each other about it!

1. Introduction

1.1. Background

The first confirmed COVID-19 infection was detected in the Netherlands on 27 February 2020. In the following weeks, the Dutch government announced various behavioural measures to control the outbreak of the virus. These so-called 'coronavirus measures' were initially local. National hygiene measures followed shortly afterwards, such as observing a 1.5-metre distance, avoiding hand contact and washing hands regularly. During the following weeks, the national plan to contain the outbreak was expanded further. In mid-March, schools and nurseries were closed as well as the catering sector. A national campaign ("Only together can we get corona under control") called on the Dutch population to stay at home as much as possible and to avoid contact with at-risk groups. During the second and third week of May, after a sharp decrease in the number of infections, hairdressers and libraries opened their doors again and outdoor sports were also allowed. At the beginning of June, the catering industry and primary and secondary education reopened. As of 1 July, the situation allowed for further relaxations of the measures and the Netherlands went "from an intelligent lockdown to a space with rules" (Government of the Netherlands, 2020a).

1.2. Compliance with the measures: why social networks may be important

With the relaxation of the coronavirus measures, the rules to prevent the spread of the virus are being less strictly complied with (RIVM, 2020). Fewer and fewer people are keeping a distance of 1.5 metres and this is most likely resulting in new infections. To prevent a second wave of infections it is essential to understand what determines whether or not the measures are complied with. This study examines to what extent the Dutch population complied with the behavioural measures in June and how this can be explained.

In this study, special attention was paid to the possible role that people's social networks play in complying with the measures. Social network studies show that people's behaviour is strongly influenced by their everyday social contacts and what they believe their acquaintances, family members and friends think, say and do (Fowler & Christakis, 2009; Stark, 2020). International scientific studies show that mutual interactions within social networks strongly influence the spread of coronavirus (Liu et al., 2020; Mogi & Spijker, 2020). Social networks also seem to play an important role in the recent increase in the number of infections in the Netherlands:

> *It mainly goes wrong in the private sphere, behind closed doors... At family gatherings, birthday parties, neighbourhood drinks and in groups of friends. So wherever people know each other well and apparently trust each other enough to move around a room*

shaking hands, hugging, and keeping less than a metre and a half apart. This is where
we currently see the most infections. (Government of the Netherlands, 2020b).

Networks therefore play a role in the spread of coronavirus. The question remains, however, as to whether they can also play a role in the prevention of infections by promoting adherence to preventive measures. Too little empirical research has yet been conducted into this possibility to arrive at concrete policy recommendations (Arpino, Bordone & Pasqualini, 2020). Existing research into explaining compliance with the preventive measures largely disregards social networks and focuses on individual differences such as personality, political orientation, risk perception, life circumstances and the expected impact of the measures (Briscese et al., 2020; Rothgerber et al., 2020; Wong & Jensen, 2020; Zajenkowski et al., 2020). In this study, we try to fill this empirical gap by describing to what extent and in what way the social networks of the Dutch population relate to compliance with the coronavirus measures. People talk to each other about the risks of infection and how to deal with it, the measures taken and the effect that these have on their daily lives. It is therefore plausible that people's social networks play a role in promoting or hindering compliance with coronavirus measures and are therefore important for adequate crisis management (Block et al., 2020; Fukuda et al., 2014).

1.3. Expected relationship between compliance and social norms, risks and impact

In this study, we expect that the degree to which people observe the preventive measures is related to three factors: 1) perceived social norms, 2) the assessment of the risk of infection from the coronavirus, and 3) the impact of the coronavirus measures on economic, psychological and social aspects of life.

Each of these factors is directly influenced by the social networks that people are part of. Theories of social norms (Borsari & Carey, 2003; Cialdini, Kallgren & Reno, 1991) indicate that norms develop through the observation of other people's behaviour ('descriptive norms') and conversations with others about how to behave ('prescriptive norms'). Research on the spread of infectious diseases shows that risk perceptions are influenced by the number of infections in a network and their severity (Fukuda et al., 2014; Kohler, Behrman & Watkins, 2007). Theories of social influence (Scherer & Cho, 2003; Zingora, Stark & Flache, 2019) also predict that people within a network will develop corresponding risk assessments because they exchange information and opinions with each other. Finally, the perception of the impact of the coronavirus measures is not only shaped by someone's own experiences, but also by family members or friends who experience, for example, economic disadvantages or psychological problems because of the measures (Cingano & Rosolia, 2012).

1.3. Research methodology

This survey was conducted in mid-June (12 - 15 June) among a representative sample of the adult Dutch population (18 - 75 years). The questionnaire was completed online by 1,504 respondents. The average age was 49 years and slightly more women (53%) than men (47%) took part in the study. The survey took into account the regional origin of respondents and people of all levels of education were represented. All results from this report are representative of the Dutch population.[1]

Compliance with the preventive measures was determined by asking respondents to what extent they followed the measures during the months of April and May (period 1) and in the month of June (period 2). Respondents were also asked what basic measures they adhered to during this period. It should be noted that compliance was not established by actual observation of behaviour, but by (retrospective) self-reporting. Asking people to remember past events or behaviours can sometimes lead to recall bias (Bauhoff, 2011; Althubaiti, 2016). However, because the coronavirus measures have a significant impact on people's daily lives and there is a relatively short period (1 - 2 months) between the completion of the questionnaire and the implementation of the measures, such biases will likely be limited (Coughlin, 1990).

In order to determine the importance of social norms for complying with the preventive measures, we distinguished between descriptive norms (what people see others doing) and prescriptive norms (what people think others should do) (Borsari & Carey, 2003; Cialdini et al., 1991), as shown in figure 1. We also looked at whether the perception of what others do, and what people think others should do, is related to the personal views of the participants. We distinguished between their sense of moral obligations (how people think they should behave in general) and their sense of civic duty (how people think they should behave as a citizen). Descriptive statistics of all variables used in the analysis can be found in table 1, appendix B.
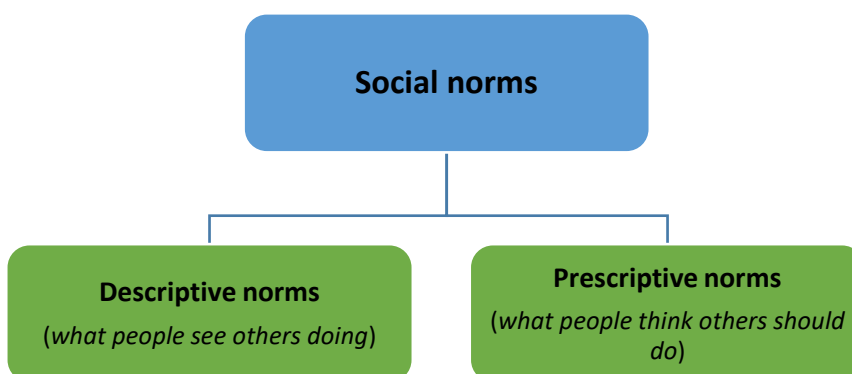

Figure 1. Diagram distinction different types of social norms

[1]The maximum inaccuracy of the results is 2.5%. A full description of the research methodology is attached to this study (see Appendix A). A descriptive table of all variables studied has also been added (Appendix B).

2. Compliance with the coronavirus measures

2.1. Strict compliance with measures at the start of the crisis; steep decline in June

During the first three months of the corona crisis, behavioural measures were followed relatively strictly by the Dutch population. A large majority indicated that they adhered strictly (38%) or very strictly (40%) to the measures in April and May. This is reflected in the adherence to specific rules: people faithfully kept 1.5 metres distance from others (91%) and avoided crowds (90%) in the months of April and May. The same can be said for compliance with other basic rules. Compared to April and May, there was a decline in compliance in June. The proportion of the Dutch population that strictly or very strictly adhered to the measures fell from 78% to 43%.

2.2. Profile of compliance with coronavirus measures by the Dutch population

Compliance with the measures during the first three months of the corona crisis appears to be related to gender and employment situation (see Table 1). Men, workers and those employed in a vital sector were less likely to follow coronavirus measures strictly than women, non-workers and those not employed in a vital sector (this difference is due to people working in the transport sector). People who voted for parties on the populist right side of the political spectrum (Forum for Democracy and Party for Freedom) were less inclined to adhere to the measures than peole who voted for other parties.

Highly educated people and people from a multi-person household appear to have followed the measures more strictly at the beginning of the crisis than people with a low and middle education level and single-person households. However, the differences between these population groups disappeared in June. At that time, however, differences arose between age categories, whereby the youngest part of the population started to follow the measures less strictly than the oldest part.

Ethnic background and the region in which people live do not appear to matter with regard to compliance with the measures.

3. Risk of infection, impact of measures and feelings of obligation

3.1. Infection considered particularly dangerous by at-risk groups

40% of the Dutch population believes that an infection would be somewhat dangerous for them and an equally large proportion consider an infection (very) dangerous for themselves. This is especially the case for people belonging to an at-risk group or sharing a household with someone at risk. The multivariate analyses show that estimating the risk of corona infection is an important factor for compliance with the coronavirus measures. The more people consider an infection to be dangerous for themselves, the more strictly they tend to observe the behavioural measures.

3.2. Impact of coronavirus measures is mainly psychological and social and not related to compliance

17% of the Dutch population has had to deal with some form of income loss due to the coronavirus measures. Almost twice as many Dutch people (30%) are lonelier than usual due to the corona crisis, are more worried and/or experience more stress. Although the coronacrisis clearly impacted people's lifes, the multivariate analyses (see below) indicate that there is no significant relationship between the perceived economic, psychological and social impact of the preventive measures and people's compliance behavour.

3.3. Feelings of obligation are widely shared among the Dutch population and are related to compliance

Feelings of obligation to comply with the preventive measures are widespread among the Dutch population. The vast majority say that it is completely natural for them to comply. The Dutch also feel a sense of responsibility not to infect other people with the coronavirus (79%), consider it their civic duty to adhere to the preventive measures (80%) and indicate that the virus can only be combatted when everyone makes an effort (85%). The multivariate analyses (below) show that there is a strong association between feelings of obligation and how strictly the Dutch population complies with the preventive measures. Of all the factors we examined in the analysis, a sense of civic duty was the strongest predictor of compliance.

4. The social environment of the Dutch

4.1. Social networks important for the population in corona times

In this study, the social network is understood as the people with whom the Dutch talk about things that are important to them, but with whom they do not live together. For the vast majority of the Dutch, their social network consists of family members (88%) and friends (81%). In addition, a significant part of the population also considers neighbours (53%), colleagues (49%) and partners (44%) as part of their social network. On average, the Dutch indicate that more than half of the people in their social network know each other.

Due to the coronavirus measures, the majority of the Dutch population speaks to (far) fewer people than normal. However, the coronavirus is a regular topic of conversation within the network. Most Dutch people sometimes (48%) or (very) often (40%) spoke to people in their social network about the coronavirus; a much smaller proportion mentioned this (almost) never or rarely (12%). The majority of respondents trusted what people in their network had to say about the coronavirus.

4.2. More compliance with the measures is perceived in social networks than in society

The vast majority of the population noted that most people or (almost) everyone in their social network (87%) followed the behavioural measures in April and May. Significantly fewer, but still relatively many Dutch people (83%), felt that most people or (almost) everyone in society adhered to the coronavirus measures in April and May. It is striking that descriptive norms with regard to the coronavirus measures are observed significantly more in one's social network than in the society as a whole. Compared to the first two months of the corona crisis, descriptive norms declined markedly in June both within social networks and in society.

4.3. Normative expectations to comply with the measures are widely perceived in the social environment

According to many Dutch people, normative expectations with regard to compliance with the preventive measures are widely echoed in their own social network and in the general society. For example, 73% of the population indicates that most people/(almost) everyone in their social network believes that the measures should be adhered to. Respondents perceive that support for these prescriptive norms is significantly lower in the general society than it is in their social network: according to 51% of the Dutch population, most people/(almost) everyone in society believe that the measures should be observed. This being said, at the societal level, the perceived support for prescriptive norms is still quite high.

4.4. Coronavirus infections are considered dangerous for the social environment

A coronavirus infection is seen by the Dutch as more dangerous for society in general than for people in their social network. 47% of the population thinks that a corona infection is (very) dangerous for society, while 29% think an infection is (very) dangerous for their own network. Risk perceptions are positively related with compliance, via perceived moral and civic duties. That is, the more likely people are to view infection as dangerous to themselves or their social environment, the more likely they are to subscribe to a sense of moral and civic duty regarding compliance with the measures. The endorsement of this is, in turn, related to stricter adherence to the preventive measures.

4.5. The impact on the network is mainly psychological and social

A large majority of respondents reported that the coronavirus measures negatively influenced the psychological (79% of respondents) and social (75%) well-being of people in their social network. By contrast, only about one third of respondents (31%) think that their social network is suffering adverse economic consequences. Very few Dutch people (12%) in total have seen (almost) no one in their social network affected by the limitations of the coronavirus measures.

4.6. Network norms and risks for the social environment are related to compliance

The multivariate analyses show that the the observed behaviour ('descriptive norms') and the perceived expectations ('prescriptive norms') of the social network are strongly related to the strictness with which the Dutch follow the coronavirus measures. With regard to the former, Dutch people who see more people in their social network following the preventive measures are also more inclined to consider compliance a civic duty, which in turn is associated with a greater tendency to follow the measures. It is striking that the observed behaviour of society in general is not related to the strictness with which people comply with the measures. This suggests that people are not so much adhering to the rules because they see others in society complying, but because they see people in their social network doing so.

Furthermore, the relationship between the prescriptive norms of the social network and respondents' compliance with the measures can be fully explained by feelings of moral and civic obligations. The more people feel that moral expectations regarding the preventive measures are endorsed by their own network, the more they consider compliance a moral and civic duty. As a result, they adhere to the rules more strictly compared to others with a social network where prescriptive norms are less strongly endorsed.

What society thinks one should do does matter too, but the effect of these 'prescriptive norms of society' on compliance is much weaker than the effect of the prescriptive norms of one's social

network and is only significant when using a less strict threshold for statistical testing (a confidence interval of 95%). Thus, people do not simply adhere to the preventive measures if society expects this from them, but mainly if they think that the expectation exists among the people in their own social network. The results from the multivariate analyses are shown in figure 2 and in table 2 in appendix C.
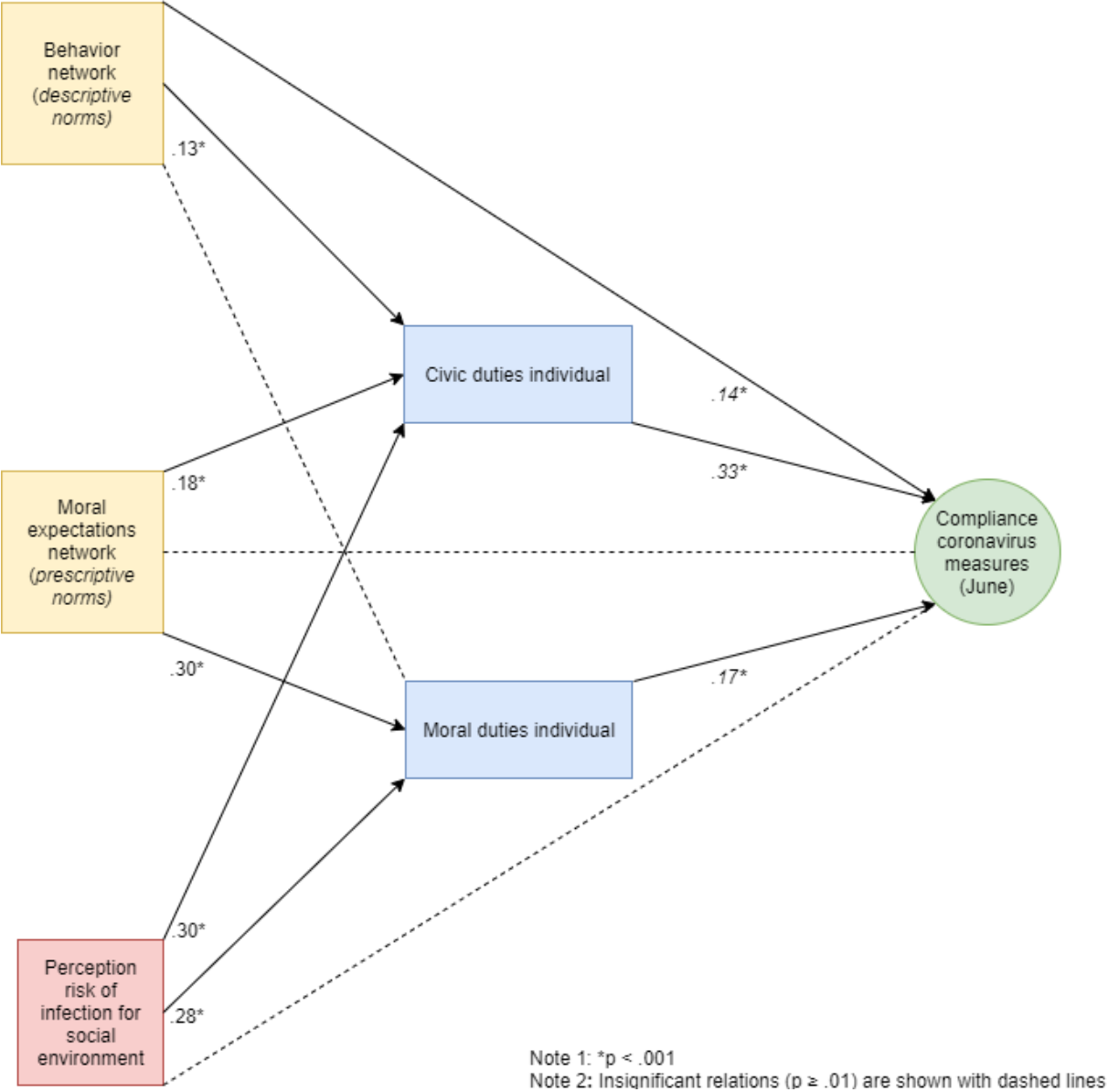

Figure 22. Diagram results mediation model compliance coronavirus measures (June) by the Dutch population (N = 1,504)

5. General conclusions

This research indicates that the Dutch population strictly complied with the behavioural measures against the spread of the coronavirus in the early months of the crisis. In June, compliance with preventive measures declined but was still very widespread. The faithful adherence to the basic measures and the broad support for these rules make clear that the government has succeeded in its strategy to promote people's compliance.

However, the question is why some people strictly adhere to the measures while others do so much less or even not at all. Previous research has focused mainly on the individual and found that personality, political orientation, risk perception and the expected impact of the measures matter (Briscese et al., 2020; Rothgerber et al., 2020; Skinner, Chiro & Champion, 2015; Wong & Jensen, 2020; Zajenkowski et al., 2020). The current research confirms some of these findings. People with a right-wing populist political orientation adhere less to the measures than people with other political preferences. In contrast, people tend to observe the behavioural measures more strictly when they consider an infection more dangerous for themselves or their social environment. This study found no link between the impact of the measures on an economic, psychological or social level and people's compliance.

A central finding is that social factors are key to understand compliance behaviour. People adhere more strictly to the coronavirus measures when they see this as their moral or civic duty. In turn, these perceived obligations are strongly related to the extent to which people see others in their social network complying ('descriptive norms') or perceive that others in their social network endorse the measures ('prescriptive norms').

Previous academic research shows that social networks play a crucial role in the spread of coronavirus (Saraswathi et al., 2020; Liu et al., 2020; Mogi & Spijker, 2020). Infections often take place through social interactions within social networks, such as at family gatherings, parties or on other occasions where friends and acquaintances get together. In the Netherlands, interactions in the private sphere have also strongly contributed to the recent increase in the number of coronavirus infections (Rijksoverheid, 2020b). The results of this research provide an explanation for this. In line with theories of the development of social norms (Borsari & Carey, 2003; Cialdini et al., 1991), people adapt their behaviour to what they see their social contacts doing and what they think their contacts find appropriate. If you go to a party where there is no space to keep 1.5 metres away and you are greeted with a kiss, then you conclude that your social network does not think the measures are that important. You then feel less obliged to adhere to the measures and you will do so less strictly.

However, this research also shows that social networks offer opportunities to limit the spread of the coronavirus. The Dutch trust what most people in their network tell them about the coronavirus. They also feel that the preventive measures are observed more in their network than in society in general. The more the Dutch see people in their network complying with the measures or feel that people in their network approve of the measures, the more strictly they will comply with the rules, out of a sense of moral and civic duty. Compliance does not seem to depend on the perceived danger of infection by others in one's network or the impact that the measures have had on their well-being; only the perceived social norms matter.

An important result of this research is that the observed behaviour of society in general is not related to the degree to which people comply with the coronavirus measures. The Dutch do not therefore follow the coronavirus measures because they see others in society doing so, but because they see people in their social network doing so. Prescriptive norms from society do have a weak effect. It should be noted, though, that this relationship only exists with a less conservative confidence interval and that the effect is three times smaller than the effect of what one's social network thinks people should do.

The social network therefore offers policymakers an important starting point from which to encourage the population to comply with the measures. Across the world there are already several government campaigns against the spread of the coronavirus that focus on people's social networks. For example, Australia is calling on people to comply with measures to protect local networks ("Protect our communities") and there is a campaign in Texas calling on people to comply with the measures in order to limit the economic damage of the crisis on their social network ("Stand Tall for Small"). In these campaigns, the effects of the coronavirus situation on one's social network are used to encourage people to adhere to the measures.

The results of the current research point to a different way of using social networks. Because people are strongly influenced by what they observe in their own network, the social network itself can also be activated to encourage others to comply with behavioural measures. It is important to note that we do not recommend calling out others for not following the measures. This can easily lead to disagreements, arguments and polarisation. Instead, it makes sense to just say out loud that you are following the measures and that it is important to you to do so. This can make a difference even by itself. If we are aware that the people around us are complying with the measures then we will more readily do so ourselves. So, it's about small but repeated comments, such as saying with a smile that, at the moment, you don't want to kiss your friends in greeting because of the coronavirus. In social networks, such simple steps can have significant consequences: because social networks consist of

close groups of people but each individual also has unique contacts (Watts & Strogatz, 1998), the behaviour of one person can have an impact on a large number of people. A person first encourages people in their own network to comply with the measures and then these people spread the behaviour further through their own networks. Research on such 'network interventions' has shown that a few people can lead to behavioural changes for many (Banerjee et al., 2013; Paluck et al., 2016; Valente, 2012). Importantly, a possible downside of the important role of social networks is that it can lead to reduced compliance if people perceive that their network members do not follow the guidelines and do not think it is necessary to do so.

This means that each of us can play a role in preventing the further spread of coronavirus. It is therefore important to say out loud that we consider it important to comply with the measures.[2] For example, it seems to be useful to state in a group messaging app prior to a meeting that people will stick to the 1.5 metre distancing rule. There may be other people who agree, but they only dare to indicate this when they see that others are doing the same. Some people may be afraid of negative reactions if they indicate that they want to adhere to the measures. Social media can be an effective means of preventing this. For example, coronavirus emojis have been designed to "explain the rules at a glance and in a light-hearted way" (RTL, 2020). Such emojis may deliver the message that people want to keep their distance in a less serious way. Hashtag campaigns can also help the Dutch to be more open within their networks about following the measures in a positive way.

A government campaign that encourages people to tell each other that they think the measures are important and that they are complying with the measures could help prevent a further spread of the coronavirus.

Worried about coronavirus? Tell each other about it!

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[2] An important side note to this conclusion is that this study is cross-sectional and therefore does not allow for conclusions about a causal relationship. It could be that people project their own behaviour onto their network: for example, people who comply with the measures less strictly might think that others in their network do the same. However, even then our recommendations would have positive consequences. By saying out loud that one is complying with the measures, one can correct the potential false perceptions about what other people in the network are doing. This may still have the intended effect.

Appendix

Appendix A: Methodological note

This research was carried out by Utrecht University and approved by the Ethical Review Committee of the Faculty of Social Sciences. The selection of the sample was done via an online platform (StemPunt; 66,000 active members). Respondents received an email invitation to participate in the survey. The questionnaire was completed 1,766 times in total. The data collection ran from 12-15 June 2020.

The first round of this study was carried out among a representative sample of the Dutch population. The *Golden Standard of Statistics Netherlands* (based on sex, age, education and region) was used during the analysis to correct for any deviations between the demographic characteristics of the sample and the Dutch population.

Prior to completing the questionnaire, respondents were given information about the study. Respondents were allowed to leave any question unanswered if they preferred not to answer it. They also had the right to stop participating in the study at any time and without giving any reason.

Respondents (74) who did not agree to participate in the study, did not correctly complete an attention check (112), or did not complete one or more questions (51) were not included in the study. Respondents (25) of whom insufficient demographic data was known to correct for any deviations between the sample and the Dutch population were also excluded from the analysis. After the exclusion of respondents (15%) on the basis of the above criteria, the sample consisted of 1,504 respondents.

Appendix B: Descriptive Table

Table 1. *Unweighted means, standard deviations (SD), and range of all items (N = 1,504)*

	Range	Mean/proportion	*SD*
Dependent variable			
Compliance coronavirus measures April/May	1-5	4.16	.87
Measures			
1.5-metre distance	0/1	.92	-
Avoid crowds	0/1	.90	-
Washing hands	0/1	.88	-
Avoid contact at-risk groups	0/1	.85	-
Stay at home as much as possible	0/1	.81	-
Compliance coronavirus measures June	1-5	3.42	.85
Measures			
1.5-metre distance	0/1	.86	-
Avoid crowds	0/1	.85	-
Washing hands	0/1	.83	-
Avoid contact at-risk groups	0/1	.78	-

Independent variables	Range	Mean/proportion	*SD*
Impact coronavirus measures (individual)			
Loss job/income	1-5	1.30	.79
Economic impact	1-5	2.05	1.18
Psychological impact	1-5	2.68	1.21
Social impact	1-5	2.65	1.23
Impact coronavirus measures (social network)			
Economic impact	1-5	1.38	.71
Psychological impact	1-5	2.23	.97
Social impact	1-5	2.16	.99
Risk of infection			
For individual	1-5	3.31	1.01
For social network	1-5	3.12	.89
For society	1-5	3.46	.77
According to social network	1-5	3.53	1.09

Table 1. *Unweighted means, standard deviations (SD), and range of all items (N = 1,504)*

	Range	Mean/proportion	SD
Prescriptive norms (individual)			
Moral duties	1-5	3.88	.88
Civic duties	1-5	4.12	.77
Social norms (social network)			
Descriptive norms April/May	1-5	4.24	.82
Descriptive norms June	1-5	3.76	.89
Prescriptive norms	1-5	3.48	.93
Social norms (society)			
Descriptive norms April/May	1-5	4.03	.74
Descriptive norms June	1-5	3.27	.79
Prescriptive norms	1-5	3.33	.79

Control variables	Range	Mean/proportion	SD
Sex (ref.: male)	0/1	.47	-
Age	18-75	49.2	16.0
Education	1-3	2.10	.70
At-risk group	0/1	.49	-
Effectivity measures	1-5	3.94	.87
Libertarianism	1-5	2.84	1.10
Institutional trust	1-5	3.69	.89
Contact network	1-25	5.24	3.82
Employment vital sector			
Individual	0/1	.37	-
Social network	0/1	.77	-

Table 2. *Direct and indirect effects of a mediation model that predicts the compliance with coronavirus measures in June (N = 1,504)*

		Compliance coronavirus measures June					
	Explained variance	.394					
		Parameters				99% CI	
		β	*B*	*SD*	*p*	*-.5%*	*.5%*
Impact measures	**Individual**						
Direct effect	Loss job/income	-.03	-.03	.03	.31		
Indirect effects	on compliance via civic duties	-.00	-.00	.01	.88	-.02	.01
	on compliance via moral duties	-.01	-.01	.00	.31	-.03	.02
Total effect	Loss job/income	-.03	-.03	.03	.23		
Direct effect	Economic impact	-.01	-.00	.02	.85		
Indirect effects	on compliance via civic duties	-.01	-.01	.01	.42	-.02	.01
	on compliance via moral duties	.00	.00	.00	.47	-.01	.01
Total effect	Economic impact	-.01	-.01	.02	.77		
Direct effect	Psychological impact	-.01	-.01	.02	.69		
Indirect effects	on compliance via civic duties	.01	.01	.01	.38	-.01	.02
	on compliance via moral duties	.01	.01	.00	.06	-.00	.02
Total effect	Psychological impact	.01	.00	.02	.85		
Direct effect	Social impact	.04	.02	.02	.26		
Indirect effects	on compliance via civic duties	.00	.00	.01	.81	-.01	.02
	on compliance via moral duties	.00	.00	.00	.95	-.01	.01
Total effect	Social impact	.04	.03	.02	.26		
	Social network						
Direct effect	Economic impact	.08	.08	.04	.021		
Indirect effects	on compliance via civic duties	-.02	-.02	.01	.056	-.05	.01
	on compliance via moral duties	-.01	-.01	.01	.123	-.02	.01
Total effect	Economic impact	.05	.05	.04	.158		
Direct effect	Psychological impact	-.02	-.02	.03	.53		
Indirect effects	on compliance via civic duties	.01	.01	.01	.43	-.02	.03
	on compliance via moral duties	-.00	-.00	.00	.45	-.01	.01
Total effect	Psychological impact	-.02	-.01	.03	.65		

Table 2. *Direct and indirect effects of a mediation model that predicts the compliance with coronavirus measures in June (N = 1,504)*

		**Compliance coronavirus measures June**
	Explained variance	.394
		\multicolumn{4}{c	}{*Parameters*}	\multicolumn{2}{c	}{99% CI}
		β	*B*	*SD*	*p*	*-.5%*	*.5%*
Direct effect	Social impact	-.00	-.00	.03	.96		
Indirect effects	on compliance via civic duties	-.02	-.02	.01	.041	-.04	.01
	on compliance via moral duties	-.00	-.00	.00	.48	-.01	.01
Total effect	Social impact	-.03	-.02	.03	.45		
Risk of infection	**Individual**						
Direct effect	Perception risk of infection	.11	.11	.04	.011		
Indirect effects	on compliance via civic duties	**.10**	**.10**	.02	<.001	.04	.16
	on compliance via moral duties	**.05**	**.05**	.01	.001	.01	.08
Total effect	Perception risk of infection	**.26**	**.25**	.04	<.001		
	Social network						
Direct effect	Perception risk of infection	-.03	-.02	.02	.30		
Indirect effects	on compliance via civic duties	.01	.01	.01	.48	-.01	.02
	on compliance via moral duties	.01	.00	.00	.36	-.08	.04
Total effect	Perception risk of infection	-.02	-.02	.03	.55		
Prescriptive norms	**Individual**						
	Civic duties	**.33**	**.48**	.10	<.001		
	Moral obligations	**.17**	**.17**	.05	<.001		
Social norms	**Social network**						
Direct effect	Descriptive norms	**.14**	**.13**	.03	<.001		
Indirect effects	on compliance via civic duties	**.04**	**.04**	.01	.003	.01	.07
	on compliance via moral duties	.01	.01	.01	.072	-.01	.03
Total effect	Descriptive norms	**.19**	**.18**	.03	<.001		
Direct effect	Prescriptive norms	.05	.04	.03	.20		
Indirect effects	on compliance via civic duties	**.06**	**.05**	.01	<.001	.02	.09

Table 2. *Direct and indirect effects of a mediation model that predicts the compliance with coronavirus measures in June (N = 1,504)*

		Compliance coronavirus measures June					
	Explained variance	.394					
		Parameters				99% CI	
		β	*B*	*SD*	*p*	*-.5%*	*.5%*
	on compliance via moral duties	**.05**	**.05**	.01	.001	.01	.08
Total effect	Prescriptive norms	**.16**	**.14**	.03	<.001		
	Society						
Direct effect	Descriptive norms	-.04	-.04	.03	.27		
Indirect effects	on compliance via civic duties	-.01	-.01	.01	.40	-.04	.02
	on compliance via moral duties	-.01	-.01	.01	.07	-.03	.00
Total effect	Descriptive norms	-.06	-.06	.04	.12		
Direct effect	Prescriptive norms	.02	.02	.03	.60		
Indirect effects	on compliance via civic duties	.02	.02	.01	.10	-.01	.05
	on compliance via moral duties	.01	.01	.01	.04	-.00	.03
Total effect	Prescriptive norms	.05	.05	.04	.15		
Control variables	Sex (ref.: male)	-.03	-.06	.04	.14		
	Age	-.01	.00	.00	.79		
	Education	.04	.05	.03	.09		
	At-risk group	.06	.10	.04	.025		
	Effectivity measures	.01	.01	.03	.81		
	Libertarianism	-.02	-.01	.02	.59		
	Institutional trust	-.02	-.02	.03	.51		
	Contact network	**-.06**	**-.01**	.01	.007		
	Employment vital sector						
	Individual	-.03	-.06	.04	.16		
	Social network	-.01	-.02	.05	.73		

Note: Unstandardized coefficients (*B*), standardized coefficients (*β*), and unstandardized standard errors (*SE*) presented. Significant coefficients are emphasized in bold (p ≤ .01).

Appendix D: References

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