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SUSTAINING COMPLIANCE WITH COVID-19 MITIGATION  
MEASURES? UNDERSTANDING DISTANCING BEHAVIOR IN THE  
NETHERLANDS DURING JUNE 2020

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UC Irvine School of Law Research Paper No. 2020-59

# Sustaining Compliance with Covid-19 Mitigation Measures? Understanding Distancing

## Behavior in the Netherlands during June 2020<sup>1</sup>

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### Abstract

*In the month of June, the Netherlands had continued its singular trajectory in combating the COVID-19 pandemic. After the transition from the “intelligent lockdown” into the “1.5 meter society,” the month of June heralded further relaxations of the prior mitigation measures. Building on our previous surveys during the month of May, this paper reports the findings of two additional survey waves collected in June (between 8-11 and between 22-26) among nationally representative samples (N = 1041 and N = 1033). The results show that the processes that sustained compliance during the month of May continued to be influential, especially citizens’ intrinsic motivation to comply, their capacity to do so, their impulse control, and social norms that sustained compliance. Furthermore, there were some indications that extrinsic reasons, such as the likelihood of punishment and the fairness of enforcement, may have become more influential in shaping compliance. A comparison to the findings from May revealed, however, that compliance was gradually declining in the Netherlands, as were the resources that sustain it.*

### Introduction

In the month of June, the Netherlands had continued its singular trajectory in combating the COVID-19 pandemic. After the “intelligent lockdown” in March (a unique, less restrictive combination of stay-at-home and social distancing measures that allowed citizens considerable freedom of movement while appealing to their own responsibility and self-discipline, see Kuiper et al., 2020), the Netherlands transitioned into the “1.5 meter society” in May by re-opening many public facilities and places, while maintaining social distancing measures (see Reinders Folmer et al., 2020). During the month of June, further relaxations of the prior measures were implemented, including the reopening of secondary schools, catering businesses, and cultural institutions (albeit with restrictions).<sup>1</sup> However,

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to prevent a resurgence of the virus, it is essential that citizens nevertheless keep a safe distance from each other, and as such, safe-distance measures have remained in place. How have these developments impacted compliance with COVID-19 mitigation measures? Have Dutch citizens continued to observe safe-distance measures, despite the increasing opportunities to get in close proximity with others? And which processes explain whether they do so (or not)? To study these questions, we conducted two additional surveys (June 8-11 and June 22-26), supplementing our previous surveys during the month of May (Reinders Folmer et al., 2020). In this working paper, we outline the results.

The May surveys (Reinders Folmer et al., 2020) indicated that Dutch citizens continued to display relatively high levels of (self-reported) compliance with safe-distance measures. It also revealed several factors that explained why they complied. Citizens reported more compliance if they substantively supported the measures, were practically able to comply with them, when they think thought compliance is was normal (i.e., descriptive social norms), when they have had good impulse control, and when they see observed a general duty to obey legal rules in general. The results also provided indications that levels of compliance among Dutch citizens were gradually eroding, however, as were many of the resources that sustained it. The present paper examines how these processes have evolved during the month of June, where infection rates further receded, and mitigation measures were further repealed, yet where the basic safe distancing rule of 1.5 meters remained in force.

### **The present study**

In the present study, we examine compliance within the “1.5 meter society” in the Netherlands. To this end, we aim to understand (1) which processes sustained citizens’ (self-reported) compliance with COVID-19 mitigation measures in the month of June, (2) how the loosening of mitigation measures relative to May was reflected in citizens’ compliance, and (3) how the resources that sustained compliance have developed throughout this period.

To this end, our June surveys again focused on citizens' tendency to keep a safe distance from others (i.e., 1.5 meters or more), as they are required by the current mitigation measures within the Netherlands. We assessed their (self-reported) compliance with these measures across various situations. In addition to this, we again assessed a range of processes that may explain their tendency to do so, according to insights on (non)compliance from psychology, criminology, sociology, and economics (Feldman 2018, Friedman 2016, van Rooij and Sokol 2021 (Forthcoming); for more detail, see Kuiper et al. 2020; Reinders Folmer et al., 2020). They can be arranged in the following (broad) categories: factors that influence (1) citizens' *capacity to obey rules*, (2) their *opportunity to break rules*, (3) their *substantive support for the measures*, (4) their *emotional state due to the measures*, and their (5) *obligation to obey the law*; and factors that influence their perceptions of (6) the *cost and benefits of compliance*, (7) *deterrence*, (8) *procedural justice*, and (9) *social norms* regarding compliance. We examine how these different processes predict citizens' (self-reported) compliance with safe-distance measures. Moreover, we examine how their compliance, as well as the processes that sustain it, have evolved since May, relative to the (stricter) measures that then applied (see Reinders Folmer et al. 2020, for more details).

## Method

We obtained ethical approval for this project (including previous and forthcoming waves) from the Ethics Review Board of the University of Amsterdam, on April 3, 2020. All participants provided consent before participating in the study. Participation was voluntary, and all participants could stop the survey at any time.

### Participants

Participants were Dutch citizens (18 years or older) who were recruited by the Dutch online research panel Motivaction, via the website StemPunt.nu. They were redirected to Qualtrics to fill out the survey. For both waves, we utilized the same materials as in our surveys in May (see Reinders Folmer et al., 2020). Participants were rewarded with 150 StemPunten (an endowment that can be exchanged for gift vouchers at major Dutch webstores).

1451 participants participated in Survey 3 (June 8-11). 410 participants failed to complete the survey, provided incomplete responses, or failed to pass two attention checks; these participants were excluded from the sample. The final sample therefore consisted of 1041 cases (53.5% women, 46.3% men, 0.2% non-binary;  $M_{age} = 44.72$  years).

1509 participants participated in Survey 4 (June 22-26). Here, 476 participants failed to complete the survey, provided incomplete responses, or failed to pass two attention checks; again, these participants were excluded from the sample. As such, the final sample consisted of 1033 cases (58.0% women, 41.5% men, 0.5% non-binary;  $M_{age} = 44.17$  years). Demographical information for both samples is displayed in Table 1.

**Table 1.**

*Sample characteristics and control variables, June Surveys (Survey 3 and 4).*

	Survey 3 (June 8-11)	Survey 4 (June 22-26)
Age	44.72 (15.02)	44.17 (15.41)
Gender		
<i>Female</i>	53.5%	58.0%
<i>Male</i>	46.3%	41.5%
<i>Other (non-binary)</i>	0.2%	0.5%
Ethnic minority	4.7%	4.1%
Education		
<i>No diploma</i>	3.9%	4.1%
<i>High school degree</i>	29.2%	28.4%
<i>Intermediate vocational</i>	30.4%	31.6%
<i>College degree and higher</i>	36.5%	36.0%
Employed	66.0%	65.6%
Care professionally for COVID patients	5.3%	5.5%
Socio-economic status, pre-COVID	6.61 (1.57)	6.51 (1.62)
Socio-economic status, post-COVID	6.53 (1.61)	6.47 (1.66)
Political view		
<i>Very progressive</i>	6.7%	7.6%
<i>Slightly progressive</i>	31.2%	29.6%
<i>Slightly conservative</i>	29.0%	26.8%
<i>Very conservative</i>	4.2%	3.9%
<i>Prefer not to say</i>	28.8%	32.0%
Health issues placing oneself at risk	27.3%	25.4%
Health issues placing others at risk	65.4%	66.2%
Trust in science	3.92 (0.97)	3.86 (0.92)
Trust in media	3.05 (1.10)	2.96 (1.11)
N	1041	1033

*Note.* Standard deviations between parentheses.

## Materials

**Control variables.** The following demographic variables were recorded: age, gender, nationality, information on residency (country, province), employment status, education, part of ethnic minority, social economic status before and after COVID-19 (MacArthur Scale of Subjective Social Status; Adler et al. 2000), and political orientation (adapted from Fine, Rowan, and Simmons 2019, Hasson et al. 2018, Wojcik et al. 2015).<sup>2</sup>

Additionally, we asked participants several questions that probed exposure to, and risk from, COVID-19. Specifically, we asked them to indicate whether they provided professional care for COVID-19 patients, and whether they themselves or anyone they knew had underlying health issues that would put them more at-risk for complications from COVID-19.

In light of the prominent (and controversial) role of science and media reporting in the COVID-19 crisis, we further asked participants to indicate their trust in science (on four items taken from McCright et al. 2013), and trust in media reporting (on a single item, see Kuiper et al. 2020).

**Compliance with COVID-19 measures.** During the month of June, COVID-19 mitigation measures in the Netherlands mainly concerned safe-distancing measures. To assess citizens' compliance, we assessed participants' (self-reported) tendency to keep a safe distance from others in various situations (see Reinders Folmer et al., 2020). Specifically, we included seven questions that measured their tendency to keep a safe distance (1.5 meters or more) from: 1) "others outside of my direct household," 2) "my neighbors," 3) "colleagues at work," 4) "friends and family from outside of my direct household," 5) "others when grocery shopping," 6) "others when taking a walk or exercising," and 7) "others in traffic or public transport" (1 = "never," 7 = "always"). Responses were

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<sup>2</sup> In both surveys, a considerable number of participants preferred to not disclose their political orientation (Survey 3: 28.8%; Survey 4: 32.0%). To enable these cases (whose responses were otherwise valid) to be included in models that include political orientation, this variable was recoded into two dummy-coded variables (political orientation (disclosed): 1 = very conservative or conservative, 0 = progressive, very progressive, or prefer not to say; political orientation (undisclosed): 1 = prefer not to say, 0 = very conservative, conservative, progressive, very progressive). In the analysis, the first variable captures the contrast between conservative and progressive orientation; the second the contrast between undisclosed and progressive orientation. The latter comparison is less informative, but enables cases with no disclosed orientation (but otherwise valid responses) to be retained in the analysis.

combined into a single scale measure (Survey 3:  $\alpha = .88$ ; Survey 4:  $\alpha = .90$ ), with higher scores indicating greater compliance with COVID-19 mitigation measures (see Table 2).

**Capacity to obey rules.** To assess participants' capacity to obey COVID-19 mitigation measures, we measured four (interrelated) constructs: (1) their practical capacities to obey the rules, (2) their knowledge of the rules, (3) the perceived clarity of the rules, and (4) their capacity to control themselves, i.e., their impulsivity.

**Table 2.**

*Descriptive statistics of dependent variables, June Surveys (Survey 3 and 4).*

	Survey 3 (June 8-11)	Survey 4 (June 22-26)
I keep a safe distance (1.5 meters or more) from...		
<i>Others outside of household</i>	5.61 (1.48)	5.42 (1.57)
<i>Neighbors</i>	5.98 (1.35)	5.71 (1.54)
<i>Colleagues at work</i>	5.23 (1.88)	5.04 (1.91)
<i>Friends and family outside household</i>	5.04 (1.62)	4.72 (1.74)
<i>Others when grocery shopping</i>	5.70 (1.21)	5.47 (1.34)
<i>Others when walking or exercising</i>	5.93 (1.28)	5.73 (1.37)
<i>Others in traffic or public transport</i>	5.92 (1.36)	5.69 (1.47)
Compliance scale measure	5.63 (1.12)	5.40 (1.24)

*Note.* Standard deviations between parentheses.

**Practical capacity to comply.** Participants' practical capacity to comply with safe-distance measures in practice was measured by means of seven items, based on our measures of compliance. Specifically, participants were asked whether they were capable of keeping a safe distance (1.5 meters or more) from: 1) "others outside of my direct household," 2) "my neighbors," 3) "colleagues at work," 4) "friends and family from outside of my direct household," 5) "others when grocery shopping," 6) "others when taking a walk or exercising," and 7) "others in traffic or public transport" (1 = "disagree completely," 7 = "agree completely"). Responses were combined into a single scale measure (Survey 3:  $\alpha = .82$ ; Survey 4:  $\alpha = .83$ ), with higher scores indicating greater practical capacity to comply with COVID-19 mitigation measures.



**Knowledge of the rules.** To assess their knowledge of COVID-19 mitigation measures, we asked participants to indicate whether current measures required them to keep a safe distance (1.5 meters or more) from others (1 = yes, 2 = no, 3 = don't know). Their responses were recoded to reflect accurate knowledge of the current mitigation rules (1 = yes, 0 = no or don't know).

**Perceived clarity of measures.** One item was solicited to assess the perceived clarity of the measures taken by the authorities to reduce the spread of the Coronavirus (1 = "extremely unclear," 7 = "extremely clear").

**Impulsivity.** Impulsivity was measured by means of a subset of five items taken from the 8-item impulse control subscale from the Weinberger Adjustment Inventory (WAI; Weinberger and Schwartz 1990): 1) "I should try harder to control myself when I'm having fun," 2) "I do things without giving them enough thought," 3) "when I'm doing something fun (like partying or acting silly), I tend to get carried away and go too far," 4) "I say the first thing that comes to my mind without thinking enough about it," and 5) "I stop and think things through before I act" (1 = "false," 5 = "true;" last item reverse coded). Participants' answers were combined into a scale measure (Survey 3:  $\alpha = .76$ ; Survey 4:  $\alpha = .77$ ), with higher scores indicating greater impulsivity.

**Opportunity to violate.** Opportunity to violate safe-distance measures in practice was measured by means of seven items (again based on our measures of compliance). Participants were asked whether, at the present moment, it was still possible for them to come within an unsafe distance (closer than 1.5 meters) from: 1) "others outside of my direct household," 2) "my neighbors," 3) "colleagues at work," 4) "friends and family from outside of my direct household," 5) "others when grocery shopping," 6) "others when taking a walk or exercising," and 7) "others in traffic or public transport" (1 = "disagree completely," 7 = "agree completely"). Again, participants' responses were aggregated into a single scale measure (Survey 3:  $\alpha = .88$ ; Survey 4:  $\alpha = .89$ ), with higher scores indicating greater practical opportunity to violate COVID-19 mitigation measures.

**Substantive support for measures.** To assess participants' substantive support for COVID-19 mitigation measures, we measured two (interrelated) constructs: (1) their moral alignment with mitigation measures, and (2) their evaluation of the authority's response to COVID-19.

**Moral alignment.** Moral alignment with the current COVID-19 mitigation measures was measured by means of a single item, which assessed to which extent participants "morally believe(d) that people should keep a safe distance from others (1.5 meters or more) in order to contain the Coronavirus" (1 = "strongly disagree," 7 = "strongly agree").

**Evaluation of authority response.** Support for current policies was measured using two items. These asked to which extent participants believed the authorities to have been 1) "consistent," and 2) "adequate" in their response to contain the Coronavirus (1 = "strongly disagree," 7 = "strongly agree"). A scale measure was constructed from their responses (Survey 3:  $\alpha = .85$ ; Survey 4:  $\alpha = .85$ ), with higher scores indicating greater support for current policies.

**Emotional state due to COVID-19.** To assess participants' emotional state due to COVID-19, we measured six items negative emotions. Participants indicated to what extent the Coronavirus made them feel: 1) "angry," 2) "scared," 3) "powerless," 4) "depressed," 5) "stressed," and 6) "lonely" (1 = "strongly disagree," 7 = "strongly agree"). They were aggregated into a scale measure (Survey 3:  $\alpha = .87$ ; Survey 4:  $\alpha = .87$ ), with higher scores indicating more negative emotions.

**Obligation to obey the law.** To assess participants' obligation to obey the law, we measured three (interrelated) constructs: (1) normative obligation to obey the authorities, (2) non-normative obligation to obey the authorities, and (3) personal rule orientation.

**Normative obligation to obey the authorities.** Three items solicited participants' normative obligation to obey the authorities handling the Coronavirus (adapted for this study following Posch et al. 2020, Tankebe, Reisig, and Wang 2016): 1) "I feel a moral obligation to obey the authorities handling the Coronavirus," 2) "I feel a moral duty to support the decisions of the authorities handling the Coronavirus, even if I disagree with them," and 3) "I feel a moral duty to obey the instructions of the authorities handling the Coronavirus, even when I don't understand the reasons behind them" (1 =

“strongly disagree,” 5 = “strongly agree”). Answers were aggregated into a scale measure (Survey 3:  $\alpha = .86$ ; Survey 4:  $\alpha = .89$ ). Higher scores indicated greater normative obligation to obey.

***Non-normative obligation to obey the authorities.*** Additionally, three items solicited participants’ non-normative obligation to obey the authorities handling the Coronavirus (again adapted for this study following Posch et al. 2020, Tankebe, Reisig, and Wang 2016): 1) “people like me have no choice but to obey the authorities handling the Coronavirus,” 2) “if you don’t do what the authorities handling the Coronavirus tell you they will treat you badly,” and 3) “I only obey the authorities handling the Coronavirus because I am afraid of them” (1 = “strongly disagree,” 5 = “strongly agree”). In either survey, the first item correlated poorly with the other items, and thus was eliminated. Responses to items 2 and 3 combined into a scale measure (Survey 3:  $\alpha = .65$ ; Survey 4:  $\alpha = .57$ ), with higher scores indicating greater non-normative obligation to obey.

***Personal rule orientation.*** We measured participants’ generalized belief in the acceptability of violating legal rules by means of the 12-item Rule Orientation scale (Fine et al. 2016). This instrument assesses the perceived acceptability of breaking legal rules across a range of situations (e.g., when the rule is against one’s moral principles; when the rule is not enforced; when others think that breaking the rule is justified, etc., 1 = “strongly disagree,” 7 = “strongly agree”). A scale measure was constructed by aggregating participants’ responses (Survey 3:  $\alpha = .91$ ; Survey 4:  $\alpha = .91$ ), with higher scores indicating greater rule orientation.

***Costs and benefits of compliance.*** To examine participants’ perceptions of the costs and benefits of compliance, we measured (a) their perceptions of the costs of compliance, and (b) their perceptions of the threat of COVID-19.

***Costs of compliance.*** Five items were solicited to assess the costs that participants anticipated as a result of the Coronavirus. Specifically, we asked them to indicate how likely it was that they would 1) “lose income,” 2) “lose their job,” 3) “not be able to work,” 4) “not be able to work as effectively as normal,” and 5) “experience a negative impact on their social life” (1 = “extremely

unlikely,” 7 = “extremely likely”). These were combined into a scale measure of costs of compliance (Survey 3:  $\alpha = .75$ ; Survey 4:  $\alpha = .75$ ), with higher scores indicating greater costs.

**Perceived health threat.** Perceived health threat was measured by means of three items, which asked participants to indicate to what extent they believed the Coronavirus to be a major threat to 1) themselves, 2) friends and relatives, and 3) the general public (1 = “strongly disagree,” 7 = “strongly agree”). Their answers were combined into a scale measure (Survey 3:  $\alpha = .88$ ; Survey 4:  $\alpha = .88$ ), with higher scores indicating greater perceived health threat.

**Deterrence.** Deterrence perceptions were assessed by means of two (interrelated) constructs: (1) perceptions of punishment certainty, and (2) perceptions of punishment severity.

**Punishment certainty.** To assess perceptions of the likelihood of punishment for violating safe-distance measures, two questions were asked. These assessed the perceived likelihood that the authorities would 1) “find out,” and 2) “punish [them],” if they would not keep a safe distance (1.5 meters or more) from others (1 = “very improbable,” 7 = “very probable”). Both items were aggregated into a scale measure (Survey 3:  $\alpha = .76$ ; Survey 4:  $\alpha = .74$ ), with higher scores indicating greater perceived likelihood of punishment.

**Punishment severity.** One item examined perceived severity of punishment for violating safe-distance measures. Participants indicated how much they would “suffer” if the authorities would punish them for not keeping a safe distance (1.5 meters or more) from others (1 = “extreme suffering,” 6 = “no suffering at all”). The item was reverse-coded so that higher scores indicate greater perceived severity of punishment.

**Procedural justice of enforcement.** Perceptions of the procedural fairness of the enforcement of COVID-19 mitigation measures were measured by means of four items (adapted from Baker and Gau 2018, Gau 2014, Tyler 1997, Wolfe et al. 2016). Participants were asked whether, in enforcing the measures to reduce the spread of the Coronavirus, they expected that authorities would 1) “treat people with respect,” 2) “give a person the chance to tell their side of the story if the person is accused of violating measures to contain the Coronavirus,” 3) “treat people fairly, despite gender,

race, religion, or socioeconomic background,” and 4) “be honest in enforcing measures to contain the Coronavirus” 1 = “strongly disagree,” 7 = “strongly agree”). Participants’ responses were aggregated into a scale measure of the perceived procedural fairness of enforcement (Survey 3:  $\alpha = .91$ ; Survey 4:  $\alpha = .90$ ).

**Table 3.**

*Descriptive statistics of independent variables, June Surveys (Survey 3 and 4).*

	Survey 3 (June 8-11)	Survey 4 (June 22-26)
Capacity to comply		
<i>Practical capacity to comply</i>	5.46 (1.01)	5.31 (1.05)
<i>Knowledge of measures</i>	91.9%	91.7%
<i>Clarity of measures</i>	5.37 (1.41)	5.41 (1.34)
<i>Impulsivity</i>	2.07 (0.78)	2.12 (0.83)
Opportunity to violate	4.95 (1.36)	4.91 (1.38)
Substantive support for measures		
<i>Moral alignment</i>	5.56 (1.57)	5.25 (1.71)
<i>Authority response</i>	5.03 (1.49)	5.14 (1.45)
Negative emotions	3.06 (1.36)	3.00 (1.36)
Obligation to obey the law		
<i>Normative obligation</i>	3.83 (0.82)	3.71 (0.90)
<i>Non-normative obligation</i>	2.17 (0.81)	2.22 (0.78)
<i>Rule orientation</i>	4.37 (1.20)	4.25 (1.24)
Costs and benefits		
<i>Costs of compliance</i>	3.30 (1.27)	3.16 (1.27)
<i>Perceived health threat</i>	4.81 (1.43)	4.61 (1.45)
Deterrence		
<i>Punishment certainty</i>	3.01 (1.42)	3.03 (1.38)
<i>Punishment severity</i>	3.26 (1.36)	3.19 (1.39)
Procedural justice of enforcement	5.90 (1.20)	5.85 (1.20)
Descriptive social norms	5.03 (1.10)	4.83 (1.17)

*Note.* Standard deviations between parentheses.

**Descriptive social norms.** Seven items (again based on our measure of compliance) assessed perceived descriptive social norms regarding safe-distancing measures. Participants were asked whether most people they knew were keeping a safe distance (1.5 meters or more) from: 1) “others outside of [their] direct household,” 2) “[their] neighbors,” 3) “colleagues at work,” 4) “friends and family from outside of their direct household,” 5) “others when grocery shopping,” 6) “others when

taking a walk or exercising,” and 7) “others in traffic or public transport” (1 = “disagree completely,” 7 = “agree completely”). Participants’ answers were combined into a scale measure of perceived descriptive norms (Survey 3:  $\alpha = .89$ ; Survey 4:  $\alpha = .89$ ). Higher scores indicate greater perceived compliance within one’s social environment (i.e., descriptive norms).

## Results

### Understanding compliance in the 1.5 meter society: what sustained compliance in June?

Our first major question is to understand which processes sustained compliance with COVID-19 mitigation measures in the Netherlands during the month of June. To this end, we firstly examined how compliance with the current measures was predicted by the personal, social, and contextual processes that were advanced by our theoretical model. To do so, we conducted linear (OLS) regression analyses, in which Dutch citizens’ (self-reported) compliance with social distancing measures was regressed upon these variables (for a similar approach, see Reinders Folmer et al., 2020; Kuiper et al. 2020; van Rooij et al. 2020).

As such, we performed ordinary least-squares regression analyses using the compliance measure as the dependent variable. We firstly estimated a model in which all demographical and control variables (Table 1) were entered as predictors, in order to identify relevant covariates. Then, we estimated a model that entered all independent variables as predictors, along with the covariates identified in the previous analysis. All analyses were adjusted for heteroscedasticity using Huber/White robust standard error estimation.

**Effect of demographic variables.** Table 4 displays the results of the regression models that included only the demographic variables.<sup>3</sup> Across both surveys, Dutch citizens who were older, female, had health conditions that put them at greater risk of COVID-19, and had greater trust in science and the media displayed greater (self-reported) compliance. Conversely, those who cared professionally for COVID-19 patients consistently displayed lower compliance. Higher education was only associated with greater compliance in Survey 3. To ensure comparability between the analyses,

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<sup>3</sup> Collinearity statistics indicated no issues with multicollinearity (all VIFs  $\leq 1.40$ ; all tolerances  $\geq .71$ ).

all demographic variables with significant effects on compliance (i.e., age, gender, education, care for COVID-19 patients, health issues placing oneself at risk, trust in science, and trust in the media) were included as covariates in subsequent models, in which the independent variables were added as predictors.

**Table 4.**

*Linear regression, compliance with mitigation measures by demographic and control variables.*

	Early June	Late June
<b>Demographic variables</b>		
Age	.01*** (.00)	.02*** (.00)
Gender (female)	.23** (.07)	.15* (.08)
Minority	.07 (.18)	.11 (.22)
Education	.05* (.02)	.02 (.02)
Employed	-.11 (.08)	-.05 (.08)
Care professionally for COVID patients	-.41* (.19)	-.36* (.14)
Socio-economic status, pre-COVID	-.00 (.02)	.01 (.03)
Socio-economic status change (post-pre)	.05 (.05)	-.02 (.06)
Health issues placing oneself at risk	.21** (.08)	.29** (.09)
Health issues placing others at risk	.10 (.08)	.12 (.08)
Trust in science	.25*** (.05)	.36*** (.05)
Trust in media	.09** (.03)	.11** (.03)
Political orientation (conservative)	.10 (.08)	-.02 (.08)
Political orientation (not disclosed)	.13 (.09)	.07 (.09)
Constant	3.37*** (.28)	2.55*** (.31)
<b>Rsqr</b>	<b>.14</b>	<b>.17</b>

*Note.* Robust standard errors between parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

**Effect of independent variables.** The results of both analyses are displayed in Table 5<sup>4</sup>. They show that the factors that predict compliance for the most were highly similar across both time points. Dutch citizens indicated that they complied more with COVID-19 mitigation measures if they had greater practical capacity to keep at a safe distance from others. Also, people who regarded the

<sup>4</sup> Again, collinearity statistics indicated no issues with multicollinearity (all VIFs  $\leq 2.37$ ; all tolerances  $\geq .42$ ).

COVID-19 pandemic as more threatening indicated that they complied more, as did people who agreed more with the measures, experienced a stronger normative obligation to obey them, or a stronger tendency toward obeying legal rules in general (i.e., rule orientation). Moreover, people also reported greater compliance if they perceived that others in their social environment engaged in social distancing (i.e., social norms). Impulsive people, on the other hand, reported lower compliance with COVID-19 mitigation measures. There were also some factors that inconsistently predicted compliance in either survey. In Survey 4 (but not in Survey 3), compliance was greater among participants who displayed greater knowledge of the current mitigation measures, who considered it more likely that violations of those measures would be punished, and who perceived the enforcement of those measures as more fair. Furthermore, compliance in Survey 4 was greater among people who reported more negative emotions. Conversely, compliance was lower in Survey 4 (but not in Survey 3) among people who perceived more opportunities to violate the measures, and who evaluated the authority's response to the virus as more sufficient. These findings may indicate that towards the end of June, extrinsic reasons became more influential in people's decisions to comply with mitigation measures, in contrast to in early June (Survey 3) or in the preceding months (see Kuiper et al., 2020; Reinders Folmer et al., 2020). Whether this indeed is the case will become clear in subsequent surveys.

### **Development of compliance levels, early May to late June**

In previous surveys, we tracked Dutch citizens' compliance with COVID-19 mitigation measures from early to late May (Reinders Folmer et al., 2020). How has citizens' compliance evolved during the month of June? To explore this question, we next compare self-reported compliance levels from early May (Survey 1) to late June (Survey 4). To do so, we focused on two indicators. Firstly, we compared participants' average levels of self-reported compliance. This comparison revealed how participants' relative levels of compliance (between 1 = "never" and 7 = "always") has developed across the four surveys. Secondly, we compared frequencies of full compliance (i.e., counting the number of times that participants fully comply with safe-distance measures (7 = "always") in each of the seven situations). The latter indicator exploits the notion that



**Table 5.**

*Linear regression, compliance with mitigation measures by demographic variables.*

	<b>Early June</b>	<b>Late June</b>
<b>Independent variables</b>		
Capacity to comply		
<i>Practical capacity to comply</i>	.42***(.04)	.41*** (.04)
<i>Knowledge of measures</i>	.16 (.09)	.31** (.11)
<i>Clarity of measures</i>	-.00 (.02)	-.00 (.02)
<i>Impulsivity</i>	-.13*** (.03)	-.06* (.03)
Opportunity to violate	-.01 (.02)	-.04* (.02)
Substantive support		
<i>Moral alignment</i>	.15*** (.03)	.13*** (.02)
<i>Authority response</i>	-.02 (.02)	-.06* (.02)
Negative emotions	.01 (.02)	.07** (.02)
Obligation to obey the law		
<i>Normative obligation</i>	.11* (.05)	.16*** (.04)
<i>Non-normative obligation</i>	-.03 (.03)	-.03 (.04)
<i>Rule orientation</i>	.08** (.02)	.09** (.03)
Costs and benefits		
<i>Costs of compliance</i>	.03 (.02)	-.00 (.02)
<i>Perceived health threat</i>	.08** (.02)	.12*** (.02)
Deterrence		
<i>Punishment certainty</i>	.01 (.02)	.04* (.02)
<i>Punishment severity</i>	-.02 (.02)	.02 (.02)
Procedural justice of enforcement	.00 (.02)	.06* (.02)
Descriptive social norms	.11*** (.03)	.14*** (.03)
<b>Control variables</b>		
Age	.01*** (.00)	.01*** (.00)
Gender	.13** (.05)	.13* (.05)
Education	.03* (.01)	.04** (.02)
Care professionally for COVID patients	-.14 (.12)	-.21* (.09)
Health issues placing oneself at risk	.10 (.05)	.19** (.06)
Trust in science	-.00 (.03)	-.03 (.04)
Trust in media	-.02 (.02)	-.01 (.03)
Constant	0.56* (.28)	-0.56 (.34)
<b>Rsqr</b>	<b>.58</b>	<b>.63</b>

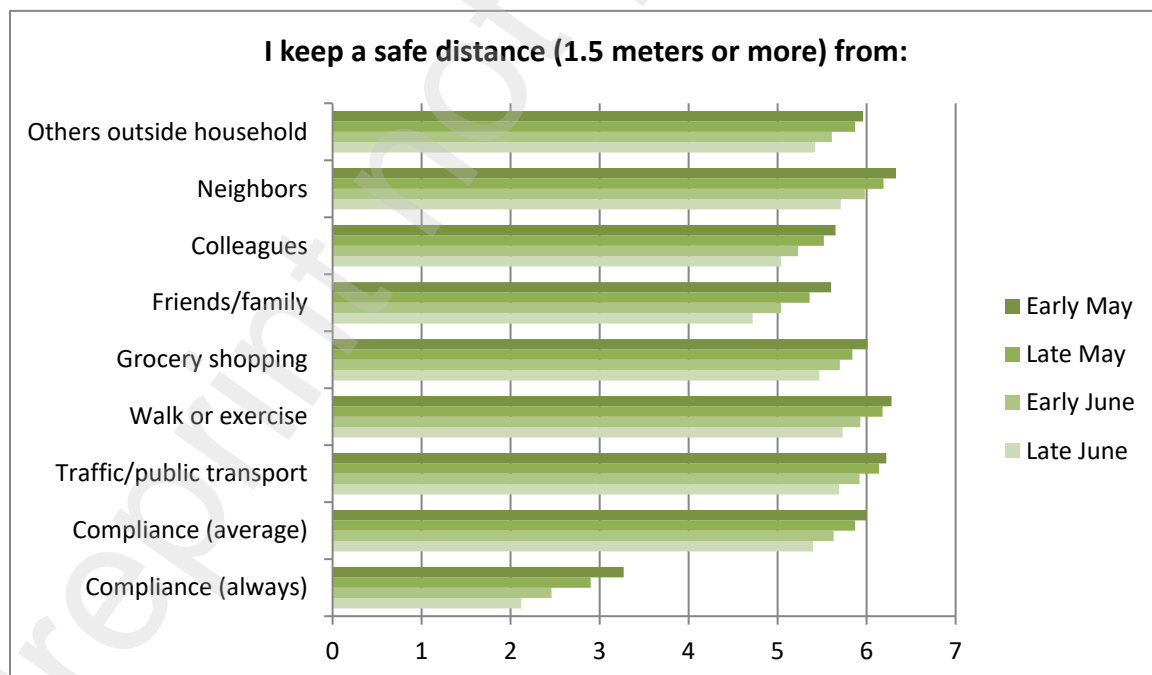
*Note.* Robust standard errors between parentheses. \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ .

all participants who reported anything less than full compliance admitted to having violated the mitigation measures. As such, this represents a more restrictive measure of compliance than the average.

**Average compliance.** Levels of average compliance from early May to late June are displayed in Figure 1. Visually, the pattern suggests a mildly declining pattern in compliance with safe-distance measures from early May to late June. To test this statistically, we compared compliance levels between Surveys 1-4 by means of an analysis of covariance (ANCOVA), with parameter estimates with robust standard errors (HC3). The analysis controlled for age, gender, education, care for COVID-19 patients, health issues placing oneself at risk, trust in science, and trust in the media. The results confirmed a significant decline in self-reported compliance with social distancing measures from early May to late May ( $F(1, 4068) = 6.25, p < .05$ , Cohen's  $d = .09$ ), to early June ( $F(1, 4068) = 48.84, p < .001$ , Cohen's  $d = .22$ ), to late June ( $F(1, 4068) = 134.54, p < .001$ , Cohen's  $d = .36$ ). This decline was significant in all seven situations.

**Figure 1.**

*Compliance with safe-distance measures, early May to late June.*



**Full compliance.** Levels of full compliance from early May to late June are displayed in Figure 1. Given that these represent count variables (i.e., the number of times (out of the 7 situations) that participants reported “always” complying), we relied on a negative binomial regression to test their development across the four surveys. Again, we controlled for age, gender, education, care for COVID-19 patients, health issues placing oneself at risk, trust in science, and trust in the media. The analysis revealed a significant difference in full compliance levels between waves, Wald  $\chi^2(3) = 91.99, p < .001$ . Relative to the level of full compliance in early May, this declined by 10% by late May (Wald  $\chi^2(1) = 6.27, p < .05$ ), by 23% by early June (Wald  $\chi^2(1) = 34.88, p < .001$ ), and by 33% of the original level by late June (Wald  $\chi^2(1) = 80.34, p < .001$ ).

**Figure 2.**

*Full compliance, early May to late June*

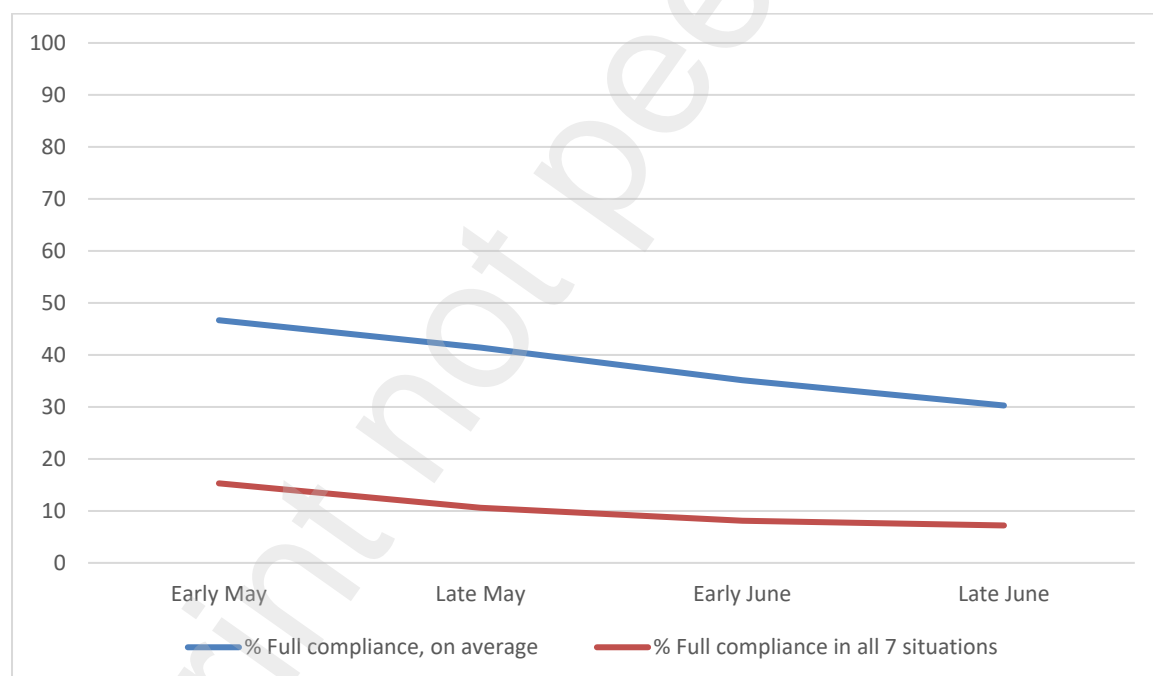


Figure 2 displays the frequency of full compliance, in terms of (1) the percentage of participants that displays full compliance, on average across the seven situations, and (2) the percentage of participants that displays full compliance in all seven situations. From early May to late June, mean full compliance rates declined from an average of 46.7% (across all seven situations) to

30.3%. When zooming in on the number of participants who fully complied in all seven situations, this declined from 15.3% to 7.2%.

In sum, these findings demonstrate that the compliance of Dutch citizens with safe-distancing measures has significantly declined from early May to late June. We next turn to the question how the resources that have been sustaining compliance (those that we found to be significantly associated with compliance in the regression models) have developed across this period.

### **Development of resources for compliance, early May to late June**

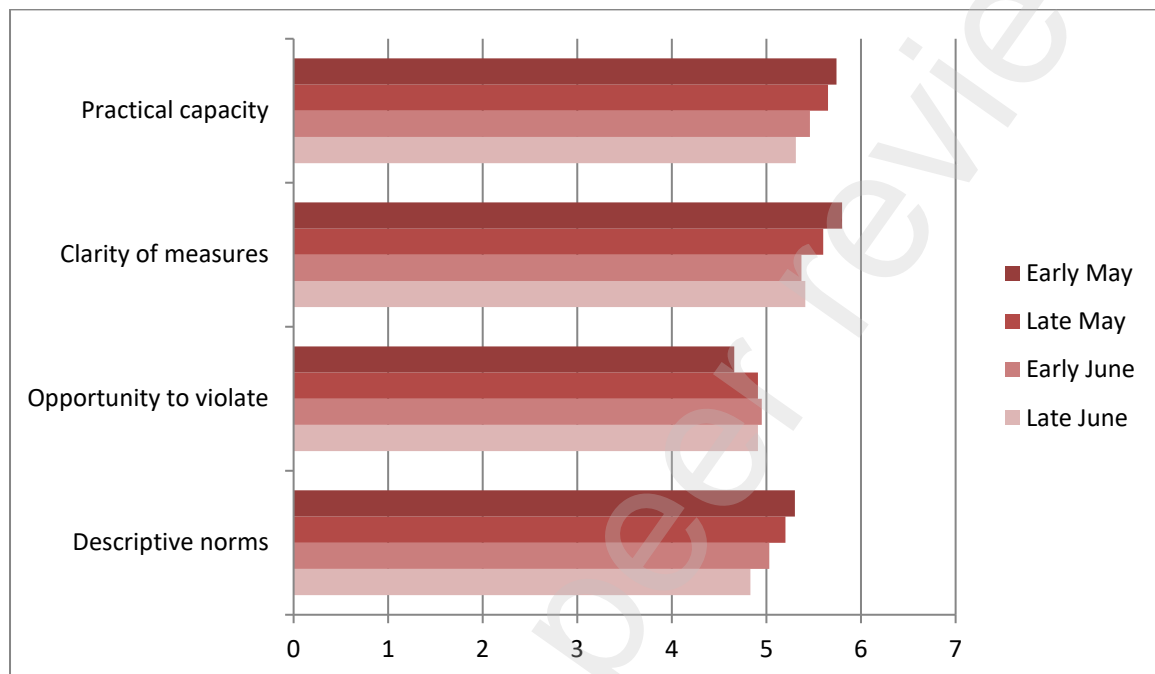
Our regression analyses identified several processes that seem to sustain compliance with safe-distance measures, including citizens' practical capacity to keep a safe distance from others, their agreement with mitigation measures, and perceptions of the threat of the COVID-19 virus. How have these and other resources developed across the month of June, and what may that imply for compliance with mitigation measures in the future? To explore these questions, we also examined their development from early May to late June using analyses of covariance with parameter estimates with robust standard errors.

**Capacity to comply.** We began with considering respondents' capacity to comply with social distancing measures (Figure 3). Relative to early May, Dutch citizens' capacity to comply was not significantly lower in late May ( $F(1, 4068) = 2.99, p = .08$ , Cohen's  $d = .06$ ), but was significantly lower in early June ( $F(1, 4068) = 32.35, p < .001$ , Cohen's  $d = .18$ ) and even lower in late June ( $F(1, 4068) = 81.18, p < .001$ , Cohen's  $d = .29$ ). Across this period, Dutch citizens displayed high levels of knowledge of safe-distance measures – although relative to early May (94.5% correct), knowledge did not differ significantly in late May (95.4% correct,  $b = .14$ , Wald  $\chi^2(1) = 0.42, p = .51$ ), but did decline slightly (but significantly) in early June (91.9% correct,  $b = -.40$ , Wald  $\chi^2(1) = 4.52, p < .05$ ) and late June (91.7% correct,  $b = -.40$ , Wald  $\chi^2(1) = 4.57, p < .05$ ). Most notable perhaps were citizens' perceptions of the clarity of mitigation measures. Relative to early May, perceptions of clarity declined significantly in late May ( $F(1, 4068) = 10.62, p < .005$ , Cohen's  $d = .11$ ), and were lower still in early June ( $F(1, 4068) = 45.03, p < .001$ , Cohen's  $d = .21$ ) and late June ( $F(1, 4068) =$

30.25,  $p < .005$ , Cohen's  $d = .17$ ). As such, Dutch citizens' capacity to comply seems to have further eroded relative to early May.

**Figure 3.**

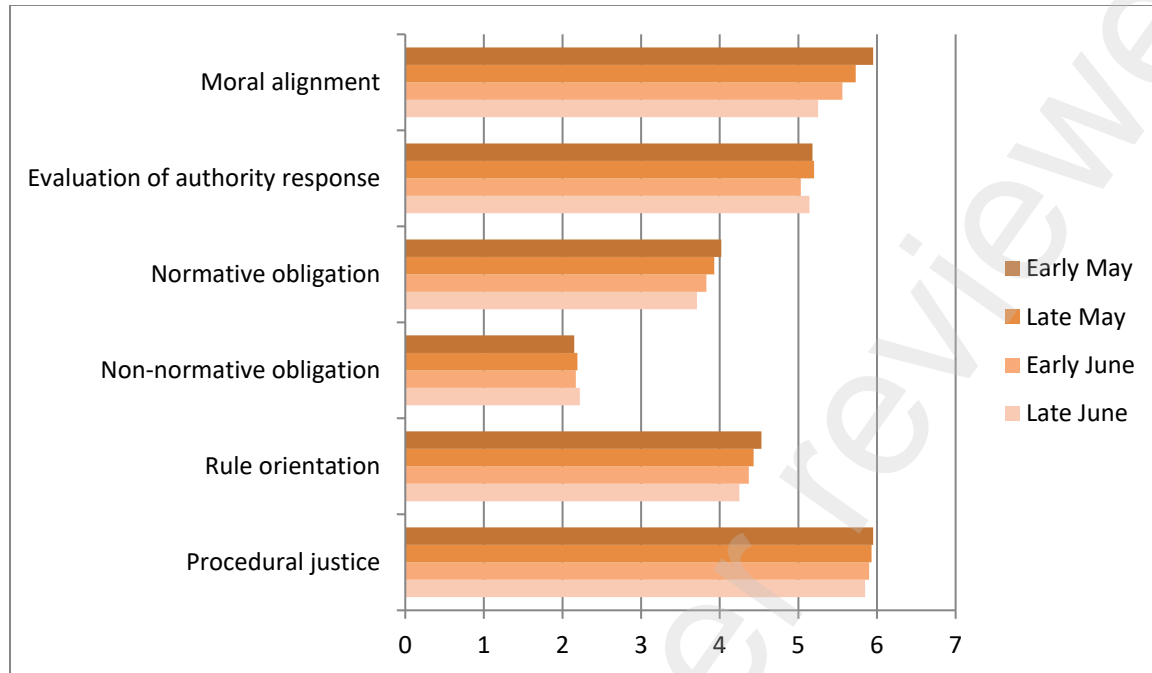
*Capacity to comply, opportunities for violating, and social norms regarding safe-distance measures, early May to late June.*



**Opportunity to violate and social norms.** Secondly, it is telling to compare citizens' perceptions of their opportunities for violating safe-distance measures, and the extent to which others in their environment complied with them (i.e., descriptive social norms). Relative to early May, Dutch citizens reported increasing opportunities for violating social distancing measures in late May ( $F(1, 4068) = 15.35, p < .001$ , Cohen's  $d = .13$ ). In the month of June, perceived opportunities continued to be higher than in early May (early June:  $F(1, 4068) = 19.40, p < .001$ , Cohen's  $d = .14$ ; late June:  $F(1, 4068) = 15.45, p < .001$ , Cohen's  $d = .13$ ), but do not seem to have increased further. Compared to early May, Dutch citizens did not report a significant decline in social norms for compliance in late May ( $F(1, 4068) = 2.39, p = .12$ , Cohen's  $d = .06$ ), however, perceived norms toward compliance were significantly lower in early June ( $F(1, 4068) = 18.79, p < .001$ , Cohen's  $d = .14$ ) and late June ( $F(1, 4068) = 67.81, p < .001$ , Cohen's  $d = .25$ ). As such, social norms that sustained compliance seem to have eroded further in the month of June, according to the perceptions of Dutch citizens.

**Figure 4.**

*Substantive support, early May to late June.*

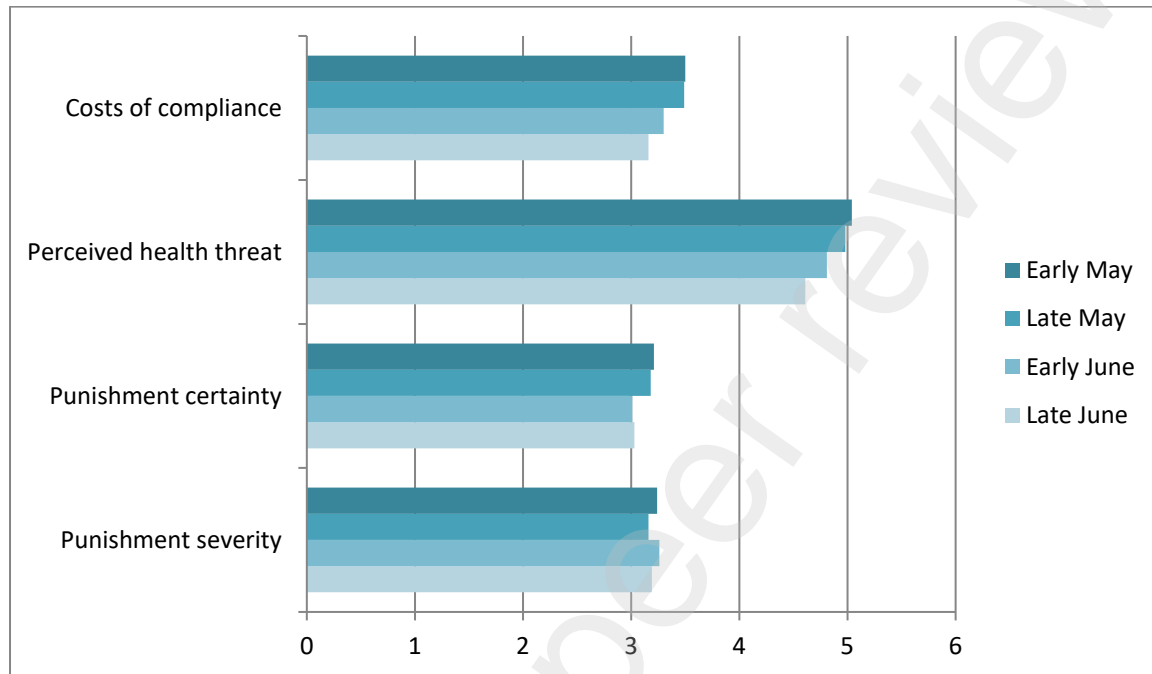


**Substantive support.** Figure 4 displays how Dutch citizens' substantive support for safe-distance measures has evolved from early May to late June. Relative to early May, Dutch citizens showed a significant decrease in reported moral alignment with safe-distancing measures in late May ( $F(1, 4068) = 9.23, p < .005, \text{Cohen's } d = .09$ ), early June ( $F(1, 4068) = 20.83, p < .001, \text{Cohen's } d = .14$ ), and late June ( $F(1, 4068) = 78.02, p < .001, \text{Cohen's } d = .28$ ). Similarly, reported normative obligation to (unquestioningly) obey the authorities handling the Coronavirus declined relative to early May in late May ( $F(1, 4068) = 5.56, p < .05, \text{Cohen's } d = .06$ ), early June ( $F(1, 4068) = 16.16, p < .001, \text{Cohen's } d = .13$ ), and late June ( $F(1, 4068) = 50.85, p < .001, \text{Cohen's } d = .22$ ). Relative to early May, there also was a slightly declining trend in Dutch citizens' reported obligation to obey rules in general towards the end of June (late May:  $F(1, 4068) = 2.56, p = .11, \text{Cohen's } d = .06$ ; early June:  $F(1, 4068) = 3.80, p = .051, \text{Cohen's } d = .06$ ; late June:  $F(1, 4068) = 15.97, p < .001, \text{Cohen's } d = .13$ ). Together, these results suggest that substantive support among Dutch citizens for COVID-19 mitigation measures is declining. No significant changes in non-normative obligation or perceived procedural fairness of enforcement were observed, however, whereas evaluations of the authority response appeared to become slightly more favorable toward the end of June compared to the

beginning of May (late May:  $F(1, 4068) = 1.57, p = .21$ , Cohen's  $d = .00$ ; early June:  $F(1, 4068) = 0.27, p = .60$ , Cohen's  $d = .00$ ; late June:  $F(1, 4068) = 5.48, p < .05$ , Cohen's  $d = .06$ ).<sup>5</sup>

**Figure 5.**

*Perceptions of costs and benefits and enforcement of compliance, early May to late June.*



**Costs and benefits and enforcement.** Figure 5 displays the evolution of perceptions of the cost and benefits of compliance, and perceptions related to the enforcement of mitigation measures. Relative to early May, the perceived costs of compliance did not differ significantly at the end of May ( $F(1, 4068) = 0.20, p = .65$ , Cohen's  $d = .00$ ), but were significantly lower in early June ( $F(1, 4068) = 13.65, p < .001$ , Cohen's  $d = .11$ ) and late June ( $F(1, 4068) = 38.39, p < .001$ , Cohen's  $d = .19$ ). Similarly, perceptions of the health threat of the COVID-19 virus initially did not decline relative to early May, but did decline significantly in the month of June (late May:  $F(1, 4068) = 0.29, p = .59$ , Cohen's  $d = .00$ ; early June:  $F(1, 4068) = 8.58, p < .005$ , Cohen's  $d = .09$ ; late June:  $F(1, 4068) = 31.86, p < .001$ , Cohen's  $d = .18$ ). There also was a slight, but significant decline in perceptions of the certainty of receiving punishment for violating safe-distance measures in June, relative to early May

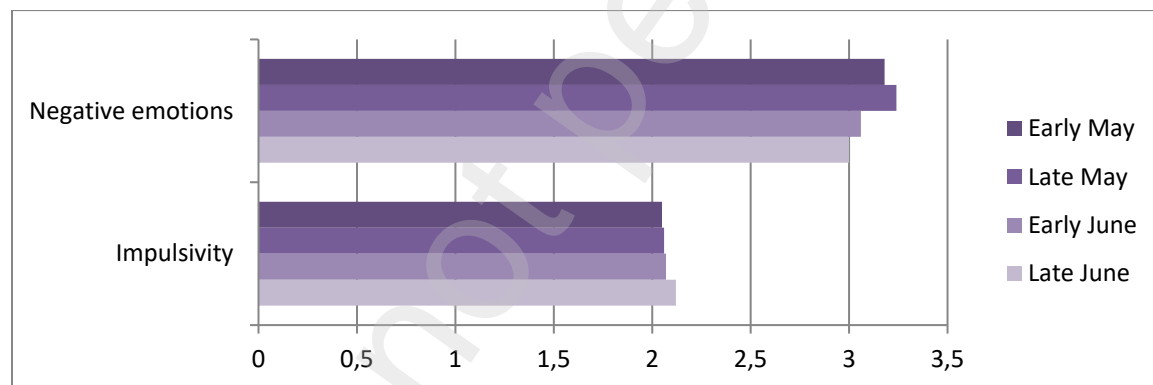
<sup>5</sup> This trend is not visible in the observed means (Table 4). Note, however, that contrary to the observed means, the analysis is corrected for the control variables (age, gender, education, care for COVID-19 patients, health issues placing oneself at risk, trust in science, and trust in the media). When doing so, the (estimated marginal mean) authority evaluation is more favorable in late June ( $M = 5.22, SD = .04$ ) than in early May ( $M = 5.09, SD = .04$ ).

(late May:  $F(1, 4068) = 0.23, p = .63$ , Cohen's  $d = .00$ ; early June:  $F(1, 4068) = 9.89, p < .005$ , Cohen's  $d = .09$ ; late June:  $F(1, 4068) = 8.75, p < .005$ , Cohen's  $d = .09$ ), although perceptions of the severity of punishment for doing so did not change across this period. Taken together, these findings suggest that perceptions of the costs of (non)compliance, as well as those of the threat of the virus, also declined in the month of June.

**Negative emotions and impulsivity.** Finally, Figure 6 displays participants' reported negative emotions, as well as their levels of impulsivity. No significant changes were observed in the latter; however, negative emotions did show a small, but significant decline in June, relative to early May (late May:  $F(1, 4068) = 0.43, p = .51$ , Cohen's  $d = .00$ ; early June:  $F(1, 4068) = 5.78, p < .05$ , Cohen's  $d = .06$ ; late June:  $F(1, 4068) = 14.51, p < .001$ , Cohen's  $d = .13$ ).

**Figure 6.**

*Negative emotions and impulsivity, early May to late June.*



In sum, our findings show that compliance with safe-distance measures has continued to erode during the month of June, as have some of the key processes that sustain it (e.g., capacity to comply with safe-distance measures, substantive support for such measures, perceived threat of the virus, perceived norms in favor of compliance). When comparing levels between early June and late June, these changes have mostly been relatively modest (i.e., small to medium differences (effect size) between subsequent surveys). However, when compared to the beginning of May, this gradual erosion seems to have resulted in considerable decreases, both in reported compliance and the processes that sustain it. Indeed, within this broader time frame, even factors that previously seemed to be stable



(e.g., perceived health threat of the virus, or personal rule orientation) show indications of a gradual decrease.

## Discussion

### Mitigating COVID-19 in an unrestricted society

During the month of June, the Netherlands has further relaxed its COVID-19 mitigation measures, including the reopening of secondary schools, the hospitality and catering businesses, and cultural institutions. However, the Dutch approach continues to rely on safe-distance measures; citizens are required to keep a safe distance (1.5 meters or more) from others, despite greater practical opportunities for getting close to others. The findings of the June surveys indicate that in this less restrictive environment, the processes that previously sustained compliance remain influential, notably: citizens' practical capacities for complying, their stance toward the pandemic, the measures, and legal rules in general; social norms that support compliance, and control of one's impulses. There also were some indications, however, that as the pandemic receded, extrinsic reasons (such as perceptions of the likelihood of punishment, or the fairness of enforcement) may have become more influential. This also applies to personal factors, such as health issues placing oneself at risk, and negative emotions.

Although the processes that sustained compliance in June are similar to those that sustained compliance in May, it seems that the supply of these resources is not. Indeed, our findings suggest that compliance levels have gradually declined relative to early May, as have the levels of many of the resources that sustain it, including citizens' practical capacity to comply, substantive support for mitigation measures, perceived threat of the virus, and norms that support compliance. These trends seem to reflect that citizens increasingly disregard, and decreasingly support, safe-distance measures as the first wave of the virus recedes. Such trends, however, may open the door for a resurgence of infections, which indeed seems to have materialized since the beginning of August.<sup>ii</sup>

What lessons for policy can be learned from the present findings? The recent upsurge of infections clearly demonstrates the risks of noncompliance with safe-distance measures. At the same

time, the findings from June highlight the notion that compliance, as well as the processes that sustain it, has become more challenging as infection rates recede and mitigation measures are loosened. From the present findings, it is apparent that increasing citizens' capacity to comply, retaining their support for mitigation measures, highlighting the continued threat of the virus, and sustaining norms that support compliance are vital for obedience with safe-distance measures in the Netherlands. The challenge is how to do so within an environment where the risks of the virus appear to recede, environments are more crowded, and norms toward compliance are waning (or even reversing). If citizens themselves are unable (or unwilling) to do so, reshaping the environment to reduce opportunities to violate (e.g., contact-minimizing layouts) remains a powerful tool that authorities can exploit (but at the cost of individual choice and freedom). Also, supportive measures that increase citizens' capacity to comply may be useful for reducing violations (e.g., social distancing applications, distance work, e-learning). At the same time, the present findings underline the importance of retaining support for mitigation measures in spite of their individual costs. In this regard, the Dutch Prime Minister's recent appeal for citizenship and solidarity with vulnerable others is a commendable attempt.<sup>iii</sup> It may be, however, that his attempt to appeal to rule violators and encourage them to isolate themselves from vulnerable others is more realistic – despite the social costs that this may involve for citizens with health conditions.

## **Limitations**

We must acknowledge some limitations to the present study, as well as to our approach in this working paper. First, our surveys rely on self-reported compliance data, which may be subject to response biases, such as imperfect recall or social desirability bias (Bauhoff 2011, Van de Mortel 2008). We do note, however, that the finding of high self-reported compliance is in line with objective data from Google COVID19 Community Mobility,<sup>iv</sup> which in June continued to show a large decrease in human activity trends compared to data from before the pandemic, specifically in retail and recreation, use of transit stations, and visits to workplaces. Furthermore, prior research shows that there can be strong concordance between self-reported and objective compliance measures when surveys are used (for an overview, see Kuiper et al. 2020, p. 29). Particularly relevant is a recent study

that demonstrated that social desirability bias did not inflate the estimates of compliance with COVID-19 measures in online surveys (Larsen, Nystrup, and Bang Petersen 2020).

Finally, the analyses presented in this working paper focus solely on main effects, and do not yet explore interactions or structural models. We will explore these in detail in a future manuscript.

### **Conclusion**

During the month of June, the Netherlands has further loosened COVID-19 mitigation measures, while continuing to rely on citizens' own responsibility and sense of self-discipline to keep a safe distance from others. The results of the two surveys that we conducted during the month of June indicate that compliance with mitigation measures among Dutch citizens continues to decrease gradually, as do some of the key resources that sustain it, namely: citizens' capacity to comply, support for mitigation measures, threat perceptions, and social norms that support compliance. Moreover, the data from the end of June suggests that in this environment, some new processes may come to explain compliance, including enforcement (deterrence perceptions and procedural fairness), as well as personal risk factors (e.g., personal health). A broader time frame may be necessary to understand how these developments may shape compliance with mitigation measures. For this reason, a future manuscript will explore how these processes unfolded in July, where mitigation measures continued to be loosened and infection rates ceased to decline.

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## Appendix A.1

*Kendall's tau correlations between demographic variables and compliance, Early June (Survey 3, N = 1041)*

	Age	Gender	Employed	Education	Care for COVID	Minority	SES pre-COVID-19	SES change	Health issues self	Health issues other	Conservatism	Trust in science	Trust in media
Gender	-,217**												
Employed	-,158**	-,084**											
Education	-,145**	0,032	,224**										
Care for COVID	-,074**	,074*	,133**	,071*									
Minority	-0,039	-0,035	-,069*	0,000	0,011								
SES pre-COVID-19	0,032	-0,054	,138**	,255**	0,011	-0,028							
SES change	-0,023	-0,007	,068*	0,004	,105**	-0,019	-,129**						
Health issues self	,224**	-0,034	-,179**	-,104**	-0,048	0,024	-,106**	-0,049					
Health issues other	,055*	,079*	-,083**	-0,053	-0,036	-0,038	-,091**	-0,053	,287**				
Conservatism	,083**	-,142**	0,026	-,105**	-0,006	0,010	-0,007	-0,004	-0,032	-0,024			
Trust in science	-0,037	0,045	0,027	,162**	-0,038	-,079**	,149**	0,020	-0,001	0,016	-,149**		
Trust in media	,080**	-0,033	0,012	,086**	-0,044	-0,039	,096**	0,040	0,014	-0,024	-0,058	,308**	
Compliance	,150**	0,049	-,078**	0,029	-,076**	-0,019	0,036	0,022	,121**	0,051	0,004	,157**	,152**

Nb. \* – Correlation is significant at the .05 level. \*\* – Correlation is significant at the .01 level. Gender – Female as reference category. Minority – N = 1007, Conservatism – N = 741

## Appendix A.2

Kendall's tau correlations between demographic variables and compliance, Late June (Survey 4, N = 1033)

	Age	Gender	Employed	Education	Care for COVID	Minority	SES pre-COVID-19	SES change	Health issues self	Health issues other	Conservatism	Trust in science	Trust in media
Gender	-,231**												
Employed	-,145**	-,063*											
Education	-,149**	0,035	,223**										
Care for COVID	-0,043	,111**	,121**	0,023									
Minority	-,063*	-0,046	-,083**	-0,048	0,038								
SES pre-COVID-19	0,031	-0,054	,171**	,232**	0,024	-,120**							
SES change	-0,007	-0,021	0,013	-0,050	,060*	0,041	-,119**						
Health issues self	,221**	-,085**	-,173**	-,109**	0,054	,076*	-,133**	-0,006					
Health issues other	0,036	,097**	-0,030	0,020	,065*	0,051	-0,003	0,007	,242**				
Conservatism	,081**	-,102**	0,050	-,136**	-0,039	-0,023	-0,024	0,066	0,037	-0,027			
Trust in science	-0,019	0,006	0,040	,127**	0,029	-,080**	,171**	-0,031	-0,034	0,036	-,098**		
Trust in media	,054*	-0,016	0,031	0,011	0,048	-,062*	,081**	0,018	0,012	-0,007	-0,042	,319**	
Compliance	,173**	-0,016	-,055*	-0,004	-,053*	-0,012	0,020	-0,048	,143**	0,050	-0,035	,165**	,139**

Nb. \* – Correlation is significant at the .05 level. \*\* – Correlation is significant at the .01 level. Gender – Female as reference category. Minority – N = 977, Conservatism – N = 702



## Appendix B.1

*Kendall's tau correlations between independent variables and compliance, Early June (Survey 3, N = 1041)*

	Perceived health threat	Moral alignment	Evaluat. auth. response	Costs of compliance	Punishment certainty	Punishment severity	Capacity to comply	Opportunity to violate	Descr. soc. norms	Impulsivity	Rule orientation	Procedural justice enf.	Normative oblig.	Non-normative oblig.	Current measures	Clarity measures	Negative emotions
Moral alignment	,452**																
Evaluat. auth. response	,157**	,263**															
Costs of compliance	,081**	-0,018	-,106**														
Punishment certainty	,119**	0,005	,069**	,106**													
Punishment severity	-,064**	0,045	,073**	-,137**	-,089**												
Capacity to comply	,197**	,308**	,213**	-,066**	0,008	0,036											
Opportunity to violate	-0,027	0,014	0,004	0,013	-0,019	,050*	0,039										
Descr. social norms	,141**	,226**	,215**	-,081**	0,040	,066**	,395**	,107**									
Impulsivity	-,103**	-,152**	-0,027	,057**	,051*	-0,042	-,139**	0,023	-,091**								
Rule orientation	,173**	,248**	,177**	-0,042	0,006	,081**	,203**	0,008	,121**	-,148**							
Procedural justice enf.	,079**	,130**	,124**	-,045*	0,009	-0,041	,121**	,054*	,140**	-,153**	,098**						
Normative oblig.	,277**	,398**	,273**	-0,037	0,032	0,038	,268**	,056*	,196**	-,127**	,344**	,155**					
Non-normative oblig.	-0,030	-,161**	-,121**	,116**	,162**	-,158**	-,100**	-,045*	-,062**	,121**	-,198**	-,192**	-,148**				

Current measures	,116**	,144**	,133**	-0,006	0,041	-,070*	,114**	-0,014	,067**	-0,040	,097**	,055*	,153**	-0,047			
Clarity measures	,152**	,256**	,286**	-,147**	0,022	,096**	,258**	,069**	,217**	-,079**	,235**	,138**	,346**	-,147**	,166**		
Negative emotions	,128**	-0,021	-,145**	,315**	,112**	-,237**	-,098**	-,069**	-,080**	,115**	-,069**	-,070**	-0,016	,180**	-0,003	-,168**	
Compliance	,316**	,417**	,191**	-0,006	0,022	0,030	,468**	-0,006	,309**	-,197**	,253**	,138**	,315**	-,123**	,141**	,219**	-0,029

Nb. \* – Correlation is significant at the .05 level. \*\* – Correlation is significant at the .01 level.

## Appendix B.2

*Kendall's tau correlations between independent variables and compliance, Late June (Survey 4, N = 1033)*

	Perceived health threat	Moral alignment	Evaluat. auth. response	Costs of compliance	Punishment certainty	Punishment severity	Capacity to comply	Opportunity to violate	Descr. soc. norms	Impulsivity	Rule orientation	Procedural justice enf.	Normative oblig.	Non-normative oblig.	Current measures	Clarity measures	Negative emotions
Moral alignment	,469**																
Evaluat. auth. response	,228**	,348**															
Costs of compliance	,121**	-0,021	-,087**														
Punishment certainty	,062**	0,022	-0,008	,154**													
Punishment severity	-0,027	0,023	,060*	-,125**	-,136**												
Capacity to comply	,221**	,316**	,239**	-,050*	0,003	,047*											
Opportunity to violate	-0,038	-0,030	0,016	0,032	-,071**	,055*	0,015										
Descr. social norms	,148**	,183**	,222**	-0,028	0,027	0,027	,387**	,059**									
Impulsivity	-0,040	-,093**	-,056*	,044*	,047*	-0,001	-,130**	0,037	-,078**								
Rule orientation	,191**	,314**	,230**	-,072**	0,010	,059**	,221**	-0,024	,144**	-,138**							
Procedural justice enf.	0,029	,102**	,126**	-0,025	-,067**	-,059*	,103**	,053*	,112**	-,118**	0,043						
Normative oblig.	,284**	,432**	,361**	-0,041	-0,004	0,037	,279**	0,006	,168**	-,101**	,337**	,128**					

Non-normative oblig.	-,071**	-,156**	-,187**	,108**	,200**	-,177**	-,112**	-,105**	-,078**	,105**	-,182**	-,137**	-,154**				
Current measures	,160**	,220**	,150**	0,023	0,035	0,020	,176**	0,048	,179**	-0,046	,177**	0,012	,191**	-,080**			
Clarity measures	,213**	,327**	,339**	-,093**	-0,039	,087**	,255**	-0,027	,210**	-,074**	,260**	,090**	,321**	-,169**	,155**		
Negative emotions	,087**	-,053*	-,135**	,299**	,119**	-,239**	-,115**	-0,028	-,097**	,117**	-,115**	-,056*	-,070**	,198**	-0,022	-,142**	
Compliance	,353**	,418**	,200**	0,012	,045*	0,022	,483**	-0,042	,318**	-,155**	,267**	,115**	,320**	-,106**	,215**	,222**	-0,014

Nb. \* – Correlation is significant at the .05 level. \*\* – Correlation is significant at the .01 level.

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<sup>i</sup> <https://www.rijksoverheid.nl/onderwerpen/coronavirus-covid-19/nieuws/2020/05/19/corona-aanpak-de-volgende-stap>

<sup>ii</sup> <https://www.rivm.nl/nieuws/stijgende-trend-vastgestelde-besmettingen-covid-19-zet-door>

<sup>iii</sup> <https://www.rijksoverheid.nl/onderwerpen/coronavirus-covid-19/documenten/mediateksten/2020/08/06/letterlijke-tekst-persconferentie-minister-president-rutte-en-minister-de-jonge-6-8-2020>

<sup>iv</sup> [https://www.gstatic.com/covid19/mobility/2020-08-07\\_NL\\_Mobility\\_Report\\_nl.pdf](https://www.gstatic.com/covid19/mobility/2020-08-07_NL_Mobility_Report_nl.pdf)