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Why did Israelis comply with COVID-19 Mitigation Measures during the initial first wave lockdown?

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Abstract: *This paper investigates why Israeli citizens complied with measures taken to mitigate the spread of the COVID-19 virus in early April. At the time, Israel had relatively stringent mitigation measures that encouraged people to stay at home and keep a safe social distance. The data of 411 adult participants, gathered using survey research, showed that overall, compliance levels at that time were high. It finds that compliance depended on a combination of moral factors, such as people's moral duty to obey the law and people's tendency to obey the law generally. In addition, people who had friends over 75 years old were more likely to comply. Furthermore, people were more likely to comply if they were able to do so, and less likely to violate if they did not have the opportunity to do so. The study did not find that fear of punishment (deterrence) was significantly associated with compliance. Overall, these findings are in line with studies conducted the United States, the United Kingdom, and the Netherlands.*

Notes: This working paper offers a first look at the data collected before developing it into a fully theorized publication. It has not yet been peer reviewed. The authors declare that there is no conflict of interest.

Introduction

The COVID-19 pandemic has forced humanity to fundamentally change its behavior. Worldwide, governments have adopted measures, such as stay-at-home orders and social distancing rules, which were essential to slow the spread of the disease (Walker et al. 2020). During the first wave of the disease, most authorities adopted a combination of stay-at-home and social distancing rules, encouraging people to refrain from going outside (except for certain defined essential activities) and to keep a safe distance from people outside their own household. The results have shown an unprecedented behavioral change across most of the world. However, this compliance has come with tremendous social and economic costs, as many people lost their jobs, education was severely disrupted, and ordinary life was completely upended. This has created a unique and highly rare situation, in which we can see how different nations have responded to a new set of regulations at around the same time.

The present paper is part of a series of studies that seeks to understand what affected people's responses to comply with the COVID-19 mitigation measures during the first wave of the pandemic. Three previously

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published studies have analysed compliance with COVID-19 measures in early April, focusing on the United States ("US"), The United Kingdom ("UK"), and the Netherlands. Their findings showed that compliance levels were generally high in early April. They further showed that compliance did not rely on deterrence or threat of enforcement. Rather, compliance depended on people's individual characteristics and the situation they were in. In particular, people showed greater compliance when they had better impulse control (Netherlands and US), when they were better able to stay at home or keep a social distance, and when they lacked of opportunity to break the rules (most clearly in the US and Netherlands). On the other hand, intrinsic motivation also influenced compliance in these three countries. People were more likely to comply when they perceived greater obligation to obey the law (UK and Netherlands), when they saw many others complying (US and Netherlands), when they morally thought people should obey the measures (US and Netherlands), or were more afraid of the disease (Netherlands only).

The present study analyses what shaped compliance in Israel. It offers data that helps understand compliance with the COVID-19 measures in Israel. The study answers two crucial questions in relation to these mitigation measures. First, it studies to what extent people have complied with the measures taken. Second, it analyses which factors have played a role in shaping people's compliance.

The study thus adds a fourth country to our series of studies and further expands our understanding of compliance with mitigation measures during the first wave of the virus. Israel presents an interesting case to study compliance for several reasons. First, it has a longer history of dealing with national safety threats, and it stands to reason that Israeli citizens are likely more used to threats to their lives and also to emergency measures that curtail their freedom.[1] Furthermore, the Israeli response has utilized wide-spread usage of technological surveillance, with secret service officials of Shin Beit tracking potential risks of people who have been in touch with confirmed patients[2]. To implement the measures, Israel has deployed the military, both to back up regular law enforcement as well as to provide large scale data that supports policy makers. [3] Israel has two major minorities, the ultra-orthodox Jewish community and the Arab populations, both of whom have low trust in

[1] https://www.globes.co.il/news/article.aspx?did=1001326419 (Hebrew)
[2] *Gross, Judah Ari (15 March 2020). "Government okays mass surveillance of Israelis' phones to curb coronavirus". The Times of Israel*
[3] https://www.nytimes.com/2020/04/12/world/middleeast/coronavirus-israel-mossad.html

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authorities[4] and science, and live in high density communities[5] with a greater risk for the virus to spread. In late March, there were reports that some ultra-orthodox Jews were directly violating the coronavirus rules[6], while the virus spread eight times faster in their community than amongst other Israelis.[7] Another interesting aspect is that research found that there are marked differences in individualism in Israel, with Arab and ultraorthodox citizens being more collectivist, and all other citizens being highly individualistic (Sagy et al. 2001, Mikulincer, Weller, and Florian 1993, Hofstede, Hofstede, and Minkov 1991). Relatedly, research has found that Israelis are not overly rule bound and have a lower sense of duty to obey the law (Yagil and Rattner 2002). Finally, Israel's political conditions were in a state of flux. After 18 months, three elections, and the indictment of the sitting Prime-Minister and key candidate of one of the leading parties, no government had been formed by early April, which was the time in which we conducted our study.

Mitigation measures in Israel

Israel's first response to COVID-19 was gradual and did not immediately start with a complete lockdown. Toward the end of February, especially given the presence of Israelis on the Diamond Princess cruise ship,[8] measures toward the inevitable emergence of the virus began. First, 14 days of mandatory quarantine was implemented for people arriving from certain countries abroad,[9] which was extended by March 9th to all countries.[10] Second, on March 11, large group gatherings (with over 100 people) were banned, and on March 30 all gatherings with over 2 people were prohibited.[11]

[4] Yagil, Dana, and Arye Rattner. "Between commandments and laws: Religiosity, political ideology, and legal obedience in Israel." *Crime, law and social change* 38, no. 2 (2002): 185-209; Rosenbloom, Tova, Amit Shahar, and Amotz Perlman. "Compliance of Ultra-Orthodox and secular pedestrians with traffic lights in Ultra-Orthodox and secular locations." *Accident Analysis & Prevention* 40, no. 6 (2008): 1919-1924.
[5] Shilhav, Yosseph. "The emergence of ultra-orthodox neighborhoods in Israeli urban centers." *Local communities and the Israeli polity* (1993): 157-187.
[6] *"Bnei Brak coronavirus cases near 1000 as Haredi cities hit hardest". Ynetnews. 2 April 2020. Retrieved 2 April 2020.*
[7] https://www.nytimes.com/2020/04/15/world/middleeast/virus-israel-Orthodox-Bnei-Brak.html?auth=linked-facebook
[8] https://www.haaretz.com/israel-news/.premium-fourth-israeli-diagnosed-with-coronavirus-on-stranded-cruise-ship-1.8559229
[9] Israel bans foreigners coming from East Asian countries over virus fears". *The Times of Israel*. 17 February 2020.
[10] Israel declares 14-day quarantine for all arrivals". *BBC News*. 9 March 2020
[11] Haaretz (30 March 2020). "Coronavirus in Israel: Netanyahu Announces New Restrictions Barring Gatherings of Over Two".

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By early April, when we conducted our study, in anticipation of Passover (one of the most important and widely observed Jewish holidays, which in 2020 would start on April 8), Israel had taken a range of measures to slow the spread of the virus. People were generally ordered to stay at home and only go outside for essential activities. Exercise was only allowed within 100 meters from people's own houses and people were only allowed to go out with a maximum of two people per household. All public gatherings were banned, apart from some religious and family activities exceptions, such as small-scale funerals and circumcisions. Almost all retail shops were closed, and restaurants could only do deliveries. Israel also adopted strict social distancing restrictions, which mandated that people kept a two-meter distance from people outside of their residential household. Furthermore, people were not allowed to drive with more than two people in one car, except for emergencies.

Overall, the Israeli measures were relatively strict. According to University of Oxford's CORONAVIRUS Government Response Tracker,[12] Israel's calculated Stringency level on 7th of April 2020 was 90.74, significantly higher than for instance the US (72.69), Germany (73.15), the UK (75.93), or the Netherlands (79.63). See Table 1 below for comparisons.

Country	**Stringency level (April 7 2020)**
United States	72.69
Germany	73.15
Switzerland	73.15
United Kingdom	75.93
The Netherlands	79.63
Belgium	81.48
Spain	85.19
France	90.74
Israel	90.74

Table 1: Stringency level of COVID-19 mitigation measures on April 7, 2020, based on Oxford COVID-19 Government Response Tracker.[13]

[12] https://covidtracker.bsg.ox.ac.uk/stringency-scatter

[13] Hale, Thomas, Sam Webster, Anna Petherick, Toby Phillips, and Beatriz Kira (2020). Oxford COVID-19 Government Response Tracker, Blavatnik School of Government.

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Israeli authorities used several approaches to implement the measures. Violation of the measures was a criminal offence, punishable by fines and up to six months of imprisonment. By April 12, authorities had fined 25,837 citizens and businesses for violating the mitigation measures. Most fines were issued to people who were more than 100 meters away from their place of residence. Enforcement during the week of study, April 7-9th, was thus quite prevalent, haaving doubled from just a week earlier.[14] Authorities also tried to ensure that communities could comply with the lockdown measures. For example, the Israeli military provided food to ultra-orthodox communities under lockdown and offered help to place patients from these communities in hotels outside of their homes.[15] Authorities also sought to ensure that people to comply with stay-at-home and social distancing measures by closing down most retail and social venues. In this way, people did not have reasons to be outside, nor did they have opportunities to be with others.

Authorities also made moral appeals to comply. Prime-Minister Netanyahu said: "What it takes for each and every one of you, beyond complying with official guidelines, is strict self-discipline. If you don't enlist to protect yourself and your families, this will be a disaster." He added, "You have to stay home, stay in the houses - stay alive, the danger lurks for each of you."[16] Similarly, Health Ministry Director-General Moshe Bar Sim-Tov issued a statement to the media: "Follow our recommendations. The guidelines we gave today are very difficult to implement. We know this, and we feel that there is not enough internalization. We hope that reality will be positive, but we also understand that we need to prepare for other scenarios. The scenarios that happen in Italy and Spain can happen here as well. Our ability to really avoid such extreme scenarios depends on your behavior."[17] Overall, the leading rhetoric employed by Israeli authorities was fear based, arguing that without the full compliance of the public, a health disaster would follow.

Present study

The present paper analyses the results from a survey conducted in an Israeli sample. The same survey was earlier used in a US sample (Van Rooij, de Bruijn, Reinders Folmer, et al. 2020), and focuses on two core contagion mitigation measures. The first are social distancing measures. Here, the survey looked at whether people

[14] https://www.calcalist.co.il/local/articles/0,7340,L-3807777,00.html (Hebrew)
[15] https://www.al-monitor.com/pulse/originals/2020/04/israel-idf-soldiers-police-coronavirus-ultra-orthodox.html
[16] https://news.walla.co.il/item/3348795 (Hebrew)
[17] https://www.zman.co.il/91518/

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kept a safe distance from others (in the Israel this has been defined at two meters), and whether they refrained from meeting people outside of their own household. The second are stay-at-home-type measures. While there is variation in the exact details of such measures, their core substance is identical, namely, that people are to stay at home and only go out for what are deemed essential activities (which have been defined in the Israeli context as anything related to medial needs, food purchasing, and jobs that have been defined as essential). To study compliance with these measures in the Israel, the survey used self-reported measures of compliance by asking respondents to report the frequency in which they have engaged in the behaviors that are desired (or prohibited) by the measures.

In addition to examining the level of compliance with these measures, the study also explored the processes that may shape compliance. To do so, we drew from insights about compliance, and why people obey or break rules, from psychology, criminology, sociology, and economics (Van Rooij and Sokol 2021 (Forthcoming), Friedman 2016, Feldman 2018). This is different from previous COVID-19 compliance studies that have not reported what shapes variation in compliance (I&O Research and Universiteit Twente 2020, Fetzer et al. 2020), or only measured *intentional* behavior (Lunn et al. 2020, Everett et al. 2020). Other studies that have assessed variation in compliance with COVID-19 mitigation measures found that compliance is shaped by general personality characteristics, perceived social norms and attitudes towards the measures (Bogg and Milad 2020), political orientation (Kushner Gadarian, Wallace Goodman, and Pepinsky 2020), trust in science (Plohl and Musil 2020), and fear of the virus or attitudes about its severity (Oosterhoff and Palmer 2020, Harper et al. 2020), but have not focused specifically on variables that are known to explain variation in compliance (Van Rooij and Sokol 2021 (Forthcoming)). The independent variables that are included in the present study comprise substantive moral support for the measures (e.g., Tyler 1997, 2006), costs of compliance (e.g., Paternoster and Simpson 1993, Donovan and Blake 1992, Botchkovar, Tittle, and Antonaccio 2009), deterrence (e.g., Nagin 2013, Apel 2013), capacity to comply (e.g., Van Rooij 2021 (Forthcoming)) and opportunity to violate the measures (Cohen and Felson 1979, Clarke 1980), impulsivity (Gottfredson and Hirschi 1990, Pratt and Lloyd 2021 (forthcoming)), descriptive social norms (e.g., Cialdini and Goldstein 2004, Schultz et al. 2007), obligation to obey the law (e.g., Fine et al. 2016, Posch et al. 2020, Tyler 2017), and political orientation (e.g., Prior 2013, Spohr 2017). For a detailed reasoning behind each of these variables, see Van Rooij, de Bruijn, Reinders Folmer, et al. (2020).

Methods

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Participants

A total of N = 509 Israeli residents completed the survey in Qualtrics. Participants were recruited through Panel4All, which is a survey company that has a panel consisting of over 30 thousand active panellists. For this study, a panel of 100,000 participants was used and a representative sample was drawn based on age, gender, religiosity, and residency. The data was collected from April 7 – 9th, 2020. Participants were paid nominal fee for their participation. Eleven participants were excluded because they provided professional care for COVID-19 patients, and 94 participants were excluded because they failed the attention check. Table 1 shows the characteristics of the final sample (N = 411).

Table 1.

Sample characteristics for Israel *(*N = 411).

	Mean (*SD*)
Age	40.36 (15.01)
Gender	
Male	47.9%
Female	52.1%
Nationality	
Jewish	84.4%
Arabic	14.4%
Other	1.2%
Religion	
Secular	40.6%
Traditional	29.0%
Orthodox	8.8%
Ultra-orthodox	6.1%
Education	
Some high school, no diploma	9.2%
High school graduate, diploma	23.1%
Some college credit, no degree	6.8%
Associate degree	14.6%
Bachelor's degree	30.2%
Master's degree	14.8%
Professional degree - Medicine/Dentistry	0.2%
Doctorate degree	1.0%
Political orientation	
Very progressive	25.1%
Slightly progressive	26.3%
Slightly conservative	21.9%
Very conservative	8.8%

Note. For political orientation and religion, percentages may not add up to 100% as respondents could indicate not to answer these questions.

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Materials

Control variables. The following descriptive statistics were recorded: Age, gender, nationality, religion, education, insurance status, number of people in household, number of children, and social economic status before and after COVID-19 based on the MacArthur Scale of Subjective Social Status; Adler et al. 2000. Participants also had to indicate whether they provided professional care for COVID-19 patients, whether they had visited friends or family over the age of 75 on a regular basis prior to the outbreak of the virus, and whether they or anyone they knew had underlying health issues that made them more at risk for contracting COVID-19. In addition, participants were asked to indicate their trust in science and trust in media, both measures on a single item that was adapted from McCright et al. (2013), using a 5-point Likert scale ranging from (1) "completely distrust" to (5) "completely trust" Political orientation was measured with a single item adapted from Hasson et al. (2018), Fine, Rowan, and Simmons (2019), Wojcik et al. (2015) that asked participants to indicate their political orientation on a 4-point scale ranging from (1) "very progressive" to (4) "very conservative."

Compliance with COVID-19 measures. Respondents' compliance with two key COVID-19 mitigation measures was measured, namely "social distancing" and "stay at home" measures. Four items measured whether participants complied with social distancing measures. Item 1, 3, and 4 were reverse coded. One item measured whether participants complied with stay at home measures. Answers were recorded on a 7-point Likert scale ranging from (1) "never" to (7) "always." For all five items, higher scores indicated greater compliance. As all items referred to compliance with mitigation measures, we combined the five items into a single variable that captured overall compliance with COVID-19 measures ($\alpha = .64$).

However, as the scale of the five items showed poor internal consistency, we decided to use a binary measure. First, each item was binary coded. Scores from 1-6 were coded as "0" (non-compliant), and score 7 was coded as "1" (compliant). A total score of the five binary items was produced, that varied from 0 (non-compliant on all five items) to 5 (compliant on all five items).

Substantive moral support. Substantive moral support was measured on three subscales: perceived threat, specific moral alignment, and support for current policies.

Perceived threat. Perceived threat was measured using two items, where participants indicated to what extent they believed the Coronavirus was a threat to themselves or the general health of the public. Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." The two items were closely associated ($r = .56$), and therefore combined into a single scale measure.

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Specific moral alignment. Specific moral alignment was measured using two items, where participants indicated to what extent they believed people should follow the COVID-19 mitigation measures. Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." The two items were closely associated (r = .86), and therefore combined into a single scale measure.

Support for current policies. Support for current policies was measured using three items (α = .86), where participants indicated to what extent they supported the authorities in adopting the COVID-19 mitigation measures. Answers were recorded a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." Mean scores were calculated and higher values indicated more support for the authorities adopting the COVID-19 measures. However, item 3 correlated poorly with the other two items. If removed, Cronbach's alpha rose to α = .86, and the item was therefore excluded from further analysis.

Costs of compliance and strain. Costs of compliance and strain were measured on two sub-scales, costs of compliance, and negative emotions.

Costs of compliance Participants indicated on five items (α = .77) how likely it was that compliance with the COVID-19 mitigation measures would have a negative impact on their routine Answers were recorded a 7-point Likert scale ranging from (1) "extremely unlikely" to (7) "extremely likely."

Negative emotions Negative emotions due to COVID-19 was measured on six items (α = .87) assessing different negative emotions. Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." Mean scores were calculated and higher values indicated more negative emotions.

Deterrence. Deterrence was measured for the two COVID-19 mitigation measures, that is social distancing measures and stay at home measures. First, two items measured certainty of apprehension and punishment for violating COVID-19 measures. As correlation analysis indicated a high overall between both items, they were combined into a single scale measure (α = .87). Answers were recorded on a 7-point Likert scale ranging from (1) "extremely improbable" to (7) "extremely probable." The last item measured severity of punishment (α = .94), where participants indicated how much suffering punishment for violating COVID-19 measures would cause them. Answers were recorded on a 6-point Likert scale ranging from (1) "extreme suffering" to (6) "no suffering at all."

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Capacity to comply. Three items (α = .62) measured to what extent participants were practically able to comply with the COVID-19 mitigation measures. Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." Item 2 correlated poorly with the other two items. If removed, Cronbach's alpha rose to α = .81, and the item was therefore excluded from further analysis.

Opportunity to violate. Five items (α = .86) measured to what extent participants had the opportunity to violate the COVID-19 mitigation measures. Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree."

Impulsivity. Impulsivity was measured using a subset of five items (α = .75) taken from the 8-item impulse control subscale from the Weinberger Adjustment Inventory WAI; Weinberger and Schwartz 1990. Answers were recorded on a 5-point Likert scale ranging from (1) "false" to (5) "true." Item 5 was reverse coded and means were calculated such that higher scores indicated greater impulsivity.

Descriptive Social norms. Participants rated to what extent people they know comply with the COVID-19 measures, both social distancing and lockdown measures (one item for each type of measure, α = .97). Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." Higher scores indicated greater compliant descriptive social norms.

Obligation to obey the law (OOL). Obligation to obey the law was measured using three sub-scales: Normative obligation to obey the law, non-normative obligation to obey, and procedural justice.

Normative obligation to obey. Normative obligation to obey was measured with a single item, *"I feel like it is sometimes okay to break the law."* Answers were recorded on a 7-point Likert scale ranging from (1) "strongly agree" to (7) "strongly disagree." The item was created for the current study based on extant work by e.g., Estévez and Emler 2010, Reisig, Bratton, and Gertz 2007, Fine et al. 2020. Higher scores indicated greater normative obligation to obey the law.

***Non-normative obligation to obey*.** Non-normative obligation was measured using a single item *"I only obey the authorities handling the Coronavirus because I am afraid of them."* (adapted from Posch et al. (2020), Tankebe, Reisig, and Wang (2016)). Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." Higher scores indicated greater non-normative obligation to obey.

Procedural justice **(PJ).** Procedural justice was measured using items adapted from prior measures of procedural justice used in the study of police (Baker and Gau 2018, Gau 2014, Tyler 1997, Wolfe et al. 2016).

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Three items (α = .93) measured procedural justice in creating the COVID-19 mitigation measures. Four items (α = .92) measured procedural justice in enforcing the COVID-19 mitigation measures. Answers were recorded on a 7-point Likert scale ranging from (1) "very strongly disagree" to (7) "very strongly agree." A combined mean score for procedural justice in both creating and enforcing the COVID-19 mitigation measures (α = .95) was calculated, with higher values indicating higher procedural justice.

Results

Compliance with COVID-19 measures

Table 2 shows the descriptive statistics of the items that measured compliance with COVID-19 measures. For all items means were considerably large, indicating that overall, participants self-reported high rates of compliance.

Table 2.

Descriptive statistics of Compliance with COVID-19 measures (N = 411)

Item	Mean (SD)	Scale	Binary (1)
Since the authorities took measures to contain the Coronavirus:			
Social distancing			
1. I still meet people outside of my direct household*.	5.69 (1.53)	1-7	35.0%
2. I keep a safe distance from people outside of my direct household.	5.92 (1.48)	1-7	47.7%
3. I still visit others (friends, relatives) outside of my direct household*.	6.48 (1.04)	1-7	67.9%
4. I still allow others (friends, relative) to visit my direct household*.	6.47 (1.06)	1-7	68.9%
Stay at home			
1. I have stayed at home after I was ordered to do so, apart from engaging in essential activities (e.g., grocery shopping, medical appointments).	6.22 (1.06)	1-7	60.3%
Combined binary measure	2.80 (1.67)	0-5	

Note. *Reverse coded.

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Descriptive statistics

Table 3 shows the descriptive statistics of some of the control variables. Table 4 shows the descriptive statistics of the independent variables.

Table 3.

Descriptive statistics of control variables (N = 411).

Variables	Descriptive Statistics	Scale
SES pre-COVID-19	4.93 (1.62)	1-10
SES post-COVID-19	5.26 (1.94)	1-10
Friends/family 75+	49.1%	
Health issues self	19.2%	
Health issues others	71.3%	
Trust in science	4.10 (0.92)	1-5
Trust in media	3.26 (1.19)	1-5

Table 4.

Descriptive statistics of independent variables (N = 411)

Variables	M (SD)	Scale
Substantive moral alignment		
Perceived threat	5.22 (1.38)	1-7
Specific moral alignment	6.39 (0.98)	1-7
Support current policies	5.04 (1.44)	1-7
Costs of compliance	3.52 (1.45)	1-7
Negative emotions	3.98 (1.33)	1-7
Deterrence		
Certainty	4.28 (0.33)	1-7
Severity	3.48 (1.43)	1-6
Capacity to comply	5.99 (1.24)	
Practical capacity to comply	2.44 (1.37)	1-7
Knowledge	1.97 (0.81)	0-7
Clarity of current measures	5.44 (1.34)	1-7
Opportunity to comply		1-7
Impulsivity	5.70 (1.37)	1-5
Descriptive social norms	3.03 (1.67)	1-7
OOL and PJ	5.85 (1.06)	
Normative OOL	5.70 (1.37)	1-7
Non-normative OOL	5.22 (1.38)	1-7
PJ	6.39 (0.98)	1-7
Political orientation	5.04 (1.44)	1-5

Note. Political orientation *N* = 337.

Correlations

Table 5 shows the correlations between the binary sum compliance measure and the control variables. Table 6 shows the correlations between the binary sum compliance measure and the independent variables.

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Table 5.

Kendall's tau correlations of control variables (N = 411).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
1. Gender	-													
2. Education	-.084	-												
3. *N* Household	-.066	-.079*	-											
4. *N* Children	.012	.076	.424**	-										
5. Religion	.007	-.105*	.244**	.149**	-									
6. SES pre-COVID-19	.115**	-.099*	-.036	-.048	-.003	-								
7. SES post-COVID-19	.164**	-.105**	-.018	.050	.002	.591**	-							
8. Friends/family 75+	-.060	.131**	-.027	.083	-.061	-.148**	-.078	-						
9. Health issues self	-.088	.085	-.167**	-.091*	-.001	.061	.087*	.027	-					
10. Health issues other	.155**	.094*	-.056	.041	-.052	-.017	.032	.204**	.187**	-				
11. Trust in science	-.136**	.082*	-.076	-.017	-.118*	-.092*	-.111**	.040	.059	.088	-			
12. Trust in media	.056	-.019	-.028	-.017	-.168**	-.023	-.046	.051	.020	.062	.303**	-		
13. Political orientation	.056	-.058	.121**	.053	.430**	-.063	-.065	-.068	.016	-.043	-.093*	-.205**	-	
14. Compliance	.083	-.046	-.023	-.088*	.046	.046	.031	-.072	.102*	.044	.091*	.035	-.019	-

Note. *Correlation is significant at the .05 level. **Correlation is significant at the .01 level. Religion: $N = 347$. Political orientation: $N = 337$.

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Table 6

Kendall's tau correlations of independent variables (N = 411).

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.
1. Perceived threat	-														
2. Specific moral alignment	.340**	-													
3. Support for current policies	.157**	.260**	-												
4. Costs of compliance	.013	-.061	-.148**	-											
5. Negative emotions	.159**	.012	-.007	.169**	-										
6. Impulsivity	-.047	-.180**	-.040	.140**	.171**	-									
7. Deterrence certainty	.078*	.128**	.016	.096**	.090**	-.053	-								
8. Deterrence severity	-.065	.001	-.043	-.105**	-.125**	-.049	-.109**	-							
9. Social norms	-.002	.201**	.120**	-.058	-.024	-.121**	.175**	-.037	-						
10. Capacity to comply	.073	.350**	.090*	.016	.027	-.134**	.150**	.037	.292**	-					
11. Opportunity to violate	-.119**	-.286**	-.109**	-.009	.018	.165**	-.077*	-.038	-.182**	-.325**	-				
12. Normative OOL	.170**	.348**	.166**	-.062	-.034	-.186*	.086*	.031	.201**	.230**	-.271**	-			
13. Non-normative OOL	-.080*	-.221**	-.065	.085*	.174**	.182**	.043	-.107**	-.119**	-.168**	.145**	-.155**	-		
14. PJ	.018	.114**	.020	-.067	-.074*	-.111**	.053	.011	.193**	.201**	-.047	.077*	-.151**	-	
15. Compliance	.153**	.370**	.087*	-.028	.020	-.151**	.148**	.050	.270*	.475**	-.373**	.275**	-.149**	.140**	-

Note. *Correlation is significant at the .05 level. **Correlation is significant at the .01 level.

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Data analysis

Multivariable Poisson regression modeling techniques were used to identify independent predictors of compliance. This method is appropriate when analyses are conducted for data sets having count-dependent variables (Coxe, West, & Aiken, 2009). Control variables that were used in the theoretical models below were: gender, number of children, 75+ friends or family, and trust in science.

A multivariable Poisson regression was run to predict compliance based on: perceived threat, moral belief, support for current policies, costs of compliance, negative emotions, impulsivity, likelihood of punishment, severity of punishment, descriptive social norms, capacity to comply, opportunity to comply, perceived general obligation to obey the law, fear of authorities, and procedural justice (total score).

For every one unit increase in moral belief, compliance would be expected to increase by a factor of 1.12 (95% CI, 1.02 to 1.22), while holding all other variables in the model constant, a statistically significant result, $p = .018$. For every one unit increase in capacity to comply, compliance would be expected to increase by a factor of 1.21 (95% CI, 1.13 to 1.30), while holding all other variables in the model constant, a statistically significant result, $p = .000$. For every one unit increase in opportunity to comply, compliance would be expected to decrease by a factor of 0.91 (95% CI, 0.87 to 0.96), while holding all other variables in the model constant, a statistically significant result, $p = .000$. For every one unit increase in perceived general obligation to obey the law, compliance would be expected to increase by a factor of 1.06 (95% CI, 1.01 to 1.12), while holding all other variables in the model constant, a statistically significant result, $p = .029$.

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Table 7

Poisson Regression Multivariable Model

Predictor	B	SE	95% Confidence Interval		Test statistic	P value	Exp(B)
			Lower	Upper			
Intercept	-1.21	0.44	-2.07	-0.36	-2.78	.005**	0.30
Gender	-0.05	0.06	-0.18	0.07	-0.82	.413	0.95
Children	-0.04	0.03	-0.10	0.01	-1.65	.099	0.96
75+ friends	-0.13	0.06	-0.25	-0.01	-2.18	.029*	0.88
Trust in science	0.01	0.04	-0.06	0.08	0.29	.775	1.01
Perceived threat	0.03	0.02	-0.02	0.07	1.15	.249	1.03
Moral belief	0.11	0.05	0.02	0.20	2.37	.018*	1.12
Support for current policies	-0.02	0.02	-0.06	0.02	-0.90	.368	0.98
Costs of compliance	-0.01	0.02	-0.05	0.03	-0.55	.580	0.99
Negative emotions	0.03	0.02	-0.02	0.07	1.07	.286	1.03
Impulsivity	-0.03	0.04	-0.11	0.05	-0.77	.442	0.97
Deterrence certainty	0.02	0.02	-0.01	0.06	1.33	.184	1.02
Deterrence severity	0.02	0.02	-0.02	0.06	1.10	.272	1.02
Social norms	0.04	0.02	-0.01	0.09	1.48	.139	1.04
Capacity to comply	0.19	0.03	0.13	0.26	5.57	.000***	1.21
Opportunity to violate	-0.09	0.03	-0.14	-0.05	-3.54	.000***	0.91
Normative OOL	0.06	0.03	0.01	0.11	2.18	.029*	1.06
Non-normative OOL	-0.01	0.02	-0.04	0.03	-0.31	.759	0.99
PJ	-0.02	0.03	-0.08	0.05	-0.50	.618	0.98

Note. *p < .05, ** p < .01, *** p < .001.

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Discussion

The descriptive findings suggest a high overall level of compliance with the COVID-19 mitigation measures in Israel. This is in line with Google COVID-19 Community Mobility Reports from April 7th, which show that, at the time of the survey, Israelis indeed were far less mobile than before the measures were adopted, and thus seemed to adjust their behavior to comply with the lockdown measures. The reports also show a 71% decline in travel to places of retail and recreation, a 25% decline in grocery shopping trips, a 54% decline in visits to parks, a 49% decline in public transit, and a 62% decline in commuted to work.

In this paper, we generally see that three factors played a role in affecting compliance. The first factor that was related to compliance was morality; people were more likely to comply with the rules if they thought people had a moral obligation to obey these particular rules. In other words, people were more compliant where they showed moral support for the rules. Further, compliance was higher when people generally felt less likely to break the law, which reflects a higher obligation to obey the law. This taken together means that people complied either because they morally supported compliance with these rules or because they generally thought people should obey legal rules. These findings are striking, as earlier research has found that Israelis had a relatively low "duty to obey the law" (Yagil and Rattner 2002).

Such sense of duty to obey specific rules or obey rules in general may have several sources. Generally, we know that people's perceptions of the legal system matters. The more fair and just people view the lawmaking and enforcement process, the more likely they will comply with its rules (Walters and Bolger 2019). However, in this study, we do not find a significant correlation between normative obligation to obey the law and procedural justice. We also know that duty to obey the law associates with particular forms of moral reasoning some individuals may have more than others, such as moral disengagement and moral firmness (Fine et al. 2020, Fine et al. 2016). Thus, although we did not study this here, differences in moral reasoning may well have played a role in compliance here.

The second factor that was related to compliance was whether people had friends that were 75 years or older. From this, it becomes clear that people care about the elderly people whom they know. We did not find a significant association between compliance and perceived threat to people's own health, health of friends and family, or health in general. In particular, in this survey's sample, people's general fear about health did not play a role in compliance. Rather, respondent's fear regarded the health of close elderly people with an increased risk of severe illness from COVID-19. This is somewhat different from findings elsewhere, insofar as a perceived sense of

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solidarity seemingly shaped compliance. For example, in the UK, Jackson et al., (2020) showed that messages such as "we are in this together," were the strongest predictors of lockdown compliance in a convenience sample of UK residents: a sense of common fate, a shared identity, and acting for the common good.

The third factor that related to compliance was situational circumstances that people were experiencing. People were more likely to comply if they had greater capacity to do so, and less likely to violate the rules if they did not have the opportunity to do so. This is in line with earlier findings from the US, the UK, and the Netherlands (Kooistra et al. 2020, Kuiper et al. 2020, van Rooij, de Bruijn, Folmer, et al. 2020), from the surveys conducted in early April.

Furthermore, the findings of this study show that deterrence did not play a significant role in compliance; People who perceived a higher certainty and severity of punishment were not more likely to comply than those with lower perceptions of certainty and severity of punishment. While this does not mean that deterrence did not play a role at all, or that sanctions were not necessary, it does indicate that the level of sanctions that existed did not relate to compliance. This finding is again in line with findings from the US, the UK, and the Netherlands during the same period (Kooistra et al. 2020, Kuiper et al. 2020, van Rooij, de Bruijn, Folmer, et al. 2020).

Conclusion

The data in this paper illustrates how, during the first wave in the spread of COVID-19 in early April, there was a high level of self-reported compliance with COVID-19 mitigation measures in Israel. It shows that such compliance depended on people's moral sense of duty to obey the law, the care people had for elderly friends, and the situation they found themselves in with regard to being able to comply and having the opportunity to violate the rules. It shows a pattern that is similar to other studies conducted in the US, the UK, and the Netherlands. It shows that intrinsic motivation and situational variables were at play, but extrinsic motivations, like deterrence, were not. This paper thus shows how in Israel, a similar pattern as we saw in our studies in the US, UK and the Netherlands played a role in an unprecedented behavioral change directed by governmental measures. It helps us to understand the reasons why compliance was high in the early phase of the mitigation measures and lockdown, and also suggests how important it is for governments to provide people with both the justifications and the means for complying with the regulations. The importance of knowing an elderly person and the contribution of morality should also inform policy makers in how they "sell" the need to comply with the COVID-19 regulation. Causing people to think about

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the "identified victim" who might be harmed by one's non-compliance might increase peoples' moral awareness to the importance of following the COVID rules (Kogut and Ritov 2005). Moreover, the data shows how important practical support is for compliance. Capacity played a major role in compliance and the easier it was to comply, the more people did so. In many families in Israel, people are not able to isolate themselves from their family members or keep a safe distance. Therefore, based on the findings of this study, it might be important to invest the needed hospitality facilities which would allow people who do not have the physical capacity to comply with social distancing in their own homes. Future studies should look carefully at how matters changed since early April, as in Israel there seems to have been a decline in compliance.[18] Here it will be interesting to see whether the influences that shaped compliance in early April changed, whether people's moral support for the policies and their capacity to comply declined, or whether over the course of the pandemic the influences on compliance themselves changed.

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