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# Support and trust in the government and COVID-19 experts during the pandemic

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Support in government and trust in COVID-19 experts are important for pandemic preparedness. Based on the salient value similarity (SVS) model, which holds that “salient values” are important for trust in risk management, we measured ruling and opposition party supporters’ support and trust in the government and COVID-19 experts. Comparing the results from 2020 to 2022, supporters of the ruling party maintained their support for the government, while supporters of the opposition party changed from disapproval to support. Trust in experts was higher among ruling party supporters and lower among opposition party supporters. Trust in university researchers did not differ between the ruling and opposition parties. This reveals that it is possible for a government to gain support from opposition party supporters and that achieving trust in experts who advise the government is more difficult than fostering trust in ordinary scientists.

## KEYWORDS

COVID-19, trust, ruling party, opposition party, SVS model

## Introduction

Many COVID-19 experts and physicians have been disseminating information on social networking sites, some of whom deny the vaccine, thus adding to the confusion. The human information environment has changed considerably, especially with social networking platforms like Twitter, Facebook, and Instagram. We are in the age of post-truth, fake news, and the spread of a large amount of incorrect information, also called the “infodemic” (Zarocostas, 2020). In Italy, the Ministry of Health has attempted to reduce the spread of misinformation through the use of Facebook (Lovari, 2020), and the World Health Organization (WHO) is working with platforms to reduce fake news (World Health Organisation, 2020). However, such interventions are not sustainable (Bunker, 2020).

While many experts speak out, the most authoritative ones have received a great deal of attention. Their transmissions were highly visible on TV, newspapers, magazines, and social media platforms. There was a reciprocal exchange between TV and Twitter (Takahashi and Hara, 2020), and the most popular experts were the ones who were most influential (Bunker, 2020). Thus, in the era of the infodemic, the trust in the most high-profile experts, which spilled over into many forms of media, was very important.

In this paper, we focused on trust in the government and COVID-19 experts for two reasons. First, the science surrounding the COVID-19 pandemic progressed rapidly, and the situation was “science in action” (Latour, 1987). During a pandemic, the situation is complicated by the fact that the phenomenon can both make experts stars and vilify them at the same time. However, under the science in action, trust in COVID-19 experts will be more important than trust in science itself, because new science will be introduced through these scientists. Second, trust in science is also complex, and its relationship to conspiracy theories needs to be studied. Furthermore, as reported in the United States, the decision to wear a mask depends on the political party that an individual supports. This phenomenon serves as an example of the cultural cognition thesis (CCT) (Kahan et al., 2011).

## Background

Since the COVID-19 pandemic began, Japan has been led by three different prime ministers from the ruling parties. At the outset, Prime Minister Abe’s government distributed cloth masks (so-called “Abe masks”) to every household. However, these were criticized because they were ineffective and, in some cases, moldy. Despite the large investment of taxpayers’ money, hygiene became a problem. Abe’s chronic illness worsened, and he retired for health reasons in September 2020.

Abe’s successor (until October 2021) was Prime Minister Suga. He was criticized for a domestic tourism campaign called “Go to Travel” (Shimizu et al., 2020) that aimed to bolster the economy, but it came with the risk of allowing the virus to spread. Prime Minister Suga strongly believed in hosting the Olympics. Tensions were especially high before the 2020 Tokyo Olympics, which eventually proceeded in 2021 after a 1-year delay. Despite assurances that the latest epidemiological data had been consulted to ensure that the event would be safe (Hoang et al., 2020), infection rates at the time were not encouraging, and although vaccination had commenced, 80.3% of the population remained opposed to the event. In particular, people expressed concern about the collapse of the health care system (Kato, 2021). Although the Olympics was not a significant factor, in August 2021, during the period of the event, the fifth wave of the COVID-19 pandemic caused the collapse of the health care system. The government attracted criticism because a number of people died at home during this period while awaiting admission to hospitals (Yamaoka, 2021).

Under the third incumbent during this period, Prime Minister Kishida, the third round of vaccinations was delayed in Japan, but the government’s response appeared to be resourceful each time and consequently maintained public support. Although the number of infected people increased dramatically in the sixth wave in 2022, the decision to provide the vaccine without declaring a state of emergency or imposing

a strict curfew acknowledged both sides of the issue and was accepted. However, the seventh wave, which began at the end of July 2022, caused an explosion of infection. Due to other political matters, support for the government is rapidly declining.

By end of August 2022, ~37,000 people had died in Japan as a result of COVID-19, and 17 million had been infected. Up to this point, Japan had been hit by seventh waves of COVID-19. Although Japan’s infection rates were said to be lower than those of other countries until 2021, polymerase chain reaction (PCR) testing levels remained low. Despite the high number of hospital beds available in Japan, the unavailability of medical personnel contributed to a collapse in the medical system (Moriyama, 2021). As a result, many people died because they could not find adequate hospital-based care. Some of their families established the “Association of Bereaved Families of Deaths Left at Home” and appealed to politicians for improvement (MBS News, 2022). The economy got worse, and women’s lives were damaged in various ways. Between April 2019 and April 2020, the number of domestic violence consultations increased by a factor of 1.3, and consultation services expanded (Suga, 2021). From July to September 2020, female suicide rates rose by 20–30% (Nomura et al., 2021).

The Japanese government could not implement a lockdown in the absence of any constitutional or legal basis. However, the “soft” education-based approach adopted by the government and its experts that encouraged restraint was considered a success (Etzioni, 2021). The high rate of mask use to prevent infection was found to be overwhelmingly motivated by peer pressure rather than by any desire to protect oneself and others (Nakayachi et al., 2020). Peer pressure is a common phenomenon in Japanese society, and although it was effective in preventing infection, it also created excessive “self-restraint policing” for those who deviated from the norm. In particular, there was a noticeable lack of tolerance for small children playing outside, which became a source of stress for parents (Nojo et al., 2021). The Japanese government relies on strong citizen restraint and lacks strong top-down leadership. This is in contrast to Korea, where strong leadership has established a rational system (Moon et al., 2021).

The experts advising the Japanese government were led by the Novel Coronavirus Expert Meeting (hereafter, the Expert Meeting) until July 2020, when the Subcommittee on Novel Coronavirus Disease Control (hereafter, the Subcommittee) subsequently took over the advising. While the former was a narrow group of scientific experts, the latter included experts from a wide range of disciplines, including economics and media. A Council of Experts held press conferences to disseminate information, but this body was dismantled because it was seen as political. Since its formation, the Subcommittee has appeared sluggish, and individual experts have interviewed. In this paper, we refer to the members of the early expert meetings, which had a significant impact on society, as “COVID-19 experts.” They have made contributions

in difficult circumstances, but there are many problems with regard to management and trust (Nagai, 2022). An important role of the COVID-19 experts is to provide advice based on scientific evidence. However, there was a long period during which the PCR testing system was not established, and some experts continued to deny the utility of PCR tests. The low rate of testing has been highlighted by the international community. Furthermore, they stuck to the term “aerosol” and did not acknowledge that the virus could be spread through airborne transmission. They only posted it on the web in March 2022, a year behind the rest of the world. Although there were many complications, there was significant criticism from the scientific community regarding these two points.

As a result of the combination of the government response and COVID-19 expert advice, access to medical care has not been developed in Japan, and when a wave arrives, the basic policy is to wait at home, except for those who are condition is serious. This has been criticized for failing to prevent serious illness while the condition is not serious.

## Literature review

### COVID-19 and trust in government, science, and experts

Many studies have shown that trust in politicians, science, and experts are important in addressing the COVID-19 pandemic. Trust in the government is discussed as follows. In a survey of 178 countries, it was found that trust in the government was higher among healthy older people and lower among the less educated (Gozgor, 2021). A survey of 23 countries confirmed that trust in the government was important for controlling the COVID-19 pandemic (Han et al., 2021). In Japan, those with greater trust in the government were more likely to adhere to preventive measures (Gotanda et al., 2021). Both trust in the government and trust in physicians were positively related to COVID-19 vaccine uptake (Viskupič et al., 2022). However, individuals with strong trust in politicians exhibited low personal compliance. On the other hand, people who have strong trust in the Ministry of Health had high personal compliance (Jones et al., 2021).

Trust in science and experts is discussed as follows. Drawing on data from 127 countries, we find that the number of COVID-19 deaths decreases with trust in the government and in science (Reiersen et al., 2022). Trust in science and trust in experts are similar but are not the same. In a German study (Dohle et al., 2020), trust in science had the strongest influence on people’s willingness to take appropriate precautions, followed by trust in politics. In a second study by the same group, only trust in science had a strong influence, while being female, older, and trusting of science were associated with policy acceptance. Other research findings suggest that risk perception and trust in science strongly influence adherence to COVID-19 guidelines (Plohl

and Musil, 2021). It is important for experts to deliver credible messages in a crisis, but this has not worked well in the UK and France (Warren and Lofstedt, 2021). The relationship between government and experts is also complex. It has been noted that the trust that ministers place in experts can lead to closed communication and distrust from outside experts (Cairney and Wellstead, 2021).

### Social trust and the SVS model

Trust has been studied extensively and can be classified into three categories: general trust, interpersonal trust, and social trust (Earle et al., 2007). General trust is a personality trait that determines how much an individual trusts, while interpersonal trust is an expectation held about the behavior of others. Social trust discusses how much one trusts others and institutions based on social relationships and values (Siegrist et al., 2001). In this study, we focus on social trust, because we are interested in the degree to which people trust governments and professional groups in a pandemic.

Although there is no representative definition of social trust, risk research defines it as “the psychological state of being willing to leave the judgment and decision-making of others in situations where there is uncertainty that their actions could have negative consequences for you, and still expect that such things will not happen” (Nakayachi and Cvetkovich, 2008). The components of trust, such as competency and fairness, are well-known (Yamagishi, 1998) and are sometimes referred to as the “traditional trust model.” People are uninformed about many risks. Therefore, we hope that experts will use their abilities fairly to make decisions on our behalf. This is the traditional trust model.

The SVS model proposed by Earle and Cvetkovich (1995) pointed out “salient values similarity.” This idea was studied in the field of risk management (Siegrist, 2000; Siegrist and Cvetkovich, 2000; Siegrist et al., 2000, 2001; Cvetkovich et al., 2002; Poortinga and Pidgeon, 2006; Vaske et al., 2007). In a Japanese study that tested the traditional trust model vs. SVS models, people followed the traditional trust model when they were not interested in the topics, but when they were more interested, the effect of salient value was important, and they followed the SVS model (Nakayachi and Cvetkovich, 2008). Another study showed that salient value similarity determines trust when trust in risk managers is low (Nakayachi and Ozaki, 2014).

Following the SVS model, salient value similarities can be set up in different ways. One possibility is to replace salient value with whether one shares values with the politician, as it is important for trust whether one is a supporter of the ruling party or the opposition party. For example, it is expected that more supporters of the ruling party than those of the opposition party will be in favor of the government’s COVID-19 measures. However, the ruling party’s supporters may have more

trust in experts because they are advisers to the government. Trust in COVID-19 experts may differ from trust in researchers at universities because COVID-19 experts consider political pressure. Additionally, trust in the government and COVID-19 experts may change over the long period of a pandemic. One could also ask more specifically about salient value similarities and whether the experts understand their values. However, it is not clear whether the traditional trust model is more applicable to experts. Therefore, in this study, we address the following research questions (RQs).

RQ1: Do supporters of the ruling and opposition parties differ in terms of their approval of the Japanese government's response to COVID-19 under the three prime ministers?

RQ2: Do supporters of the ruling and opposition parties differ in the extent of their social trust in government experts under the three prime ministers?

RQ3: What is the relative importance of competence, motivation, and shared values among COVID-19 experts?

## Materials and methods

### Respondents

To address the research questions, we conducted two online surveys in Japan during the periods of May 14–17, 2020 in the first wave and February 25–27, 2022 in the sixth wave based on data from NTT Research. Following an email to registered individuals, the first survey collected data from 1,420 respondents [aged 15–79; male: 684; female: 736; average  $\pm$  standard deviation (SD) = 50.5  $\pm$  17.8], and the second survey collected data from 1,353 respondents (aged 15–79; male: 655; female: 698; average  $\pm$  SD = 49.9  $\pm$  17.8). The samples matched the current demographic profile of the Japanese population in terms of age, gender, and location. All responses were used for the purposes of analysis; respondents from the first survey were excluded from the second.

### Questionnaire items

From the longer list of questionnaire items, only the following items were analyzed in the present study. We prepare (2) to investigate whether responses differed in two survey periods, (3) and (4) to investigate trust in COVID-19 experts vs. university researchers:

(1) Age, gender, location, education, and political party supported (see details [Appendix](#)).

(2) Support for the Japanese government's approach to COVID-19 rated on a five-point scale from "I strongly support it" (=1) to "I don't support it at all" (=5).

(3) Trust in COVID-19 experts based on six options: "I strongly trust them," "I trust them to some extent," "I can't say

either way," "I don't trust them much," "I don't trust them at all," and "I don't know" (see details in the [Appendix](#)).

(4) Trust in researchers affiliated with a university based on six options: "I strongly trust them," "I trust them to some extent," "I can't say either way," "I don't trust them much," "I don't trust them at all," and "I don't know" (see details in the [Appendix](#)).

(5) COVID-19 experts: "How much weight do you assign to the following items regarding experts advising the government? Respondents rated each item on a five-point scale ["I assign strong importance (=1);" "I assign some importance (=2);" "I can't say either way (=3);" "I do not assign much importance (=4);" "I do not assign any importance" (=5)]. Higher scores indicate that the item was not considered important.

(i) About salient value, three items: "The experts share your viewpoint (=sharing important ideas);" "The experts understand how you feel (=understanding);" "The experts share your most important ideas (=sharing important ideas);"

(ii) About competence, three items: "The experts are highly specialized (=specialized);" "The experts are competent (=competent);" "The experts are knowledgeable (=knowledgeable);"

(iii) About motive, three items: "The experts are impartial (=impartial);" "The experts are enthusiastic (=enthusiastic);" "The experts have integrity (=integrity)."

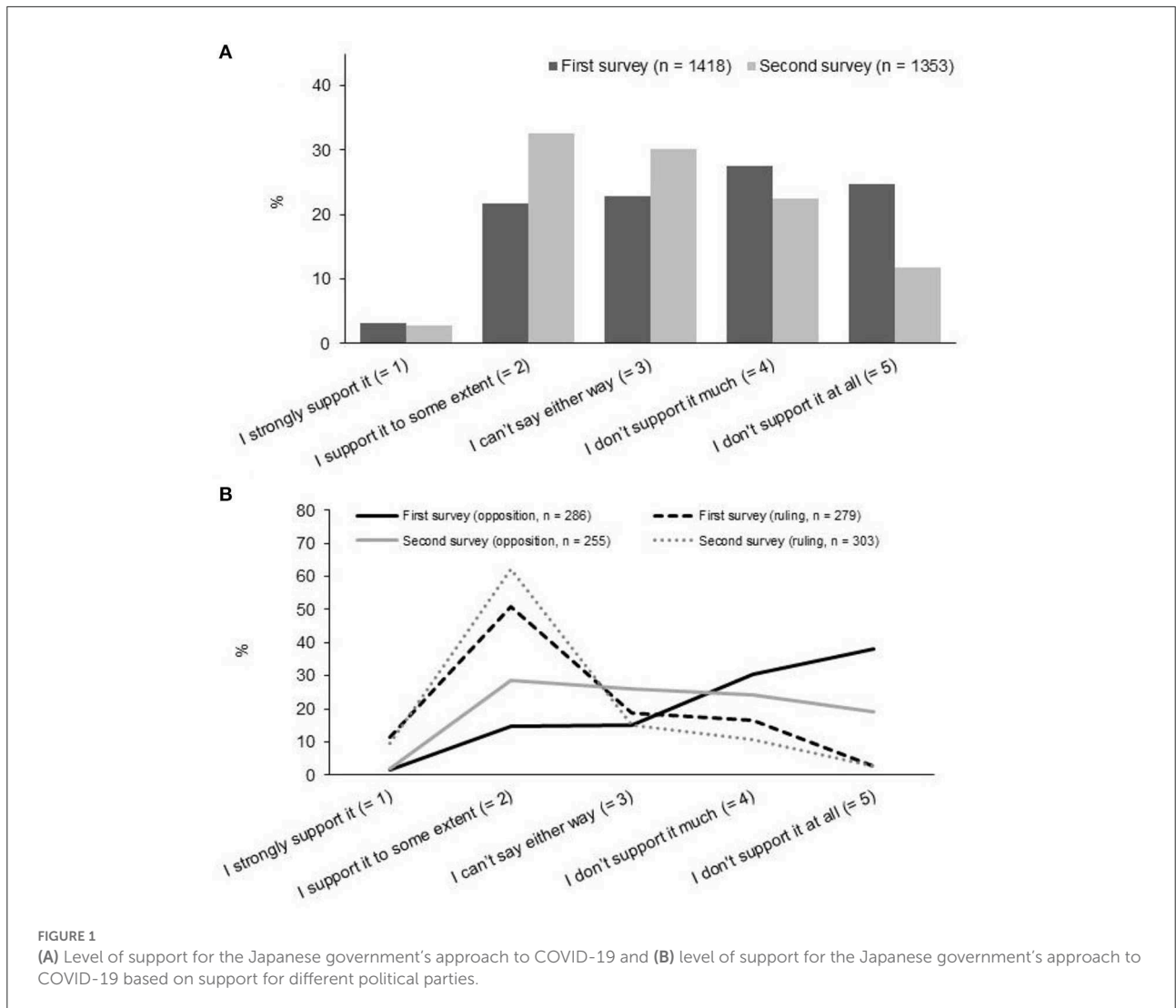
### Analysis

To begin, we used linear regression to investigate the relationship between public support for the Japanese government's approach to handling COVID-19 and five independent variables: age, gender ("men" as the baseline), education ("below university level" as the baseline), political party support ("ruling parties" as the baseline), and survey ("first survey" as the baseline). We then investigated the relationship between trust in COVID-19 experts and the five variables using multinomial logistic regression analysis (as the response options were considered categorical). The independent variables were age, gender ("men" as the baseline), education ("below university level" as the baseline), political party support ("ruling parties" as the baseline), and survey ("first survey" as the baseline). The dependent variable was trust in COVID-19 experts ("I trust them to some extent" as the baseline). All analyses were performed using IBM SPSS Statistics 25.

## Results

### RQ1. Trust in the government under different prime ministers

In the first survey, the most frequent response was "I don't support it (=the Japanese government's approach to COVID-19)



much” (27.6%); in the second survey, the most frequent response was “I support it to some extent” (32.7%) (Figure 1A). Responses differed according to political party supported (Figure 1B). Among ruling party supporters, the most frequent response in both surveys was, “I support it to some extent.” Among opposition party supporters, the most frequent response in the first survey was “I don’t support it at all;” in the second survey, however, the most frequent response was “I support it to some extent,” which indicates that the transfer of power from Yoshihide Suga to Fumio Kishida (on October 4, 2021) greatly increased trust in the government.

According to the results of linear regression, the unstandardized coefficients (B) for age, political party support (opposition parties), and education (university level) were statistically significant (Table 1). This indicates that older respondents, those who support opposition parties, and university graduates were unlikely to support government

responses. The unstandardized coefficient (B) of the survey (second) was statistically significant, indicating that respondents supported the government in the second survey more than in the first. The unstandardized coefficient (B) of gender was not significant, and there were no differences between men and women.

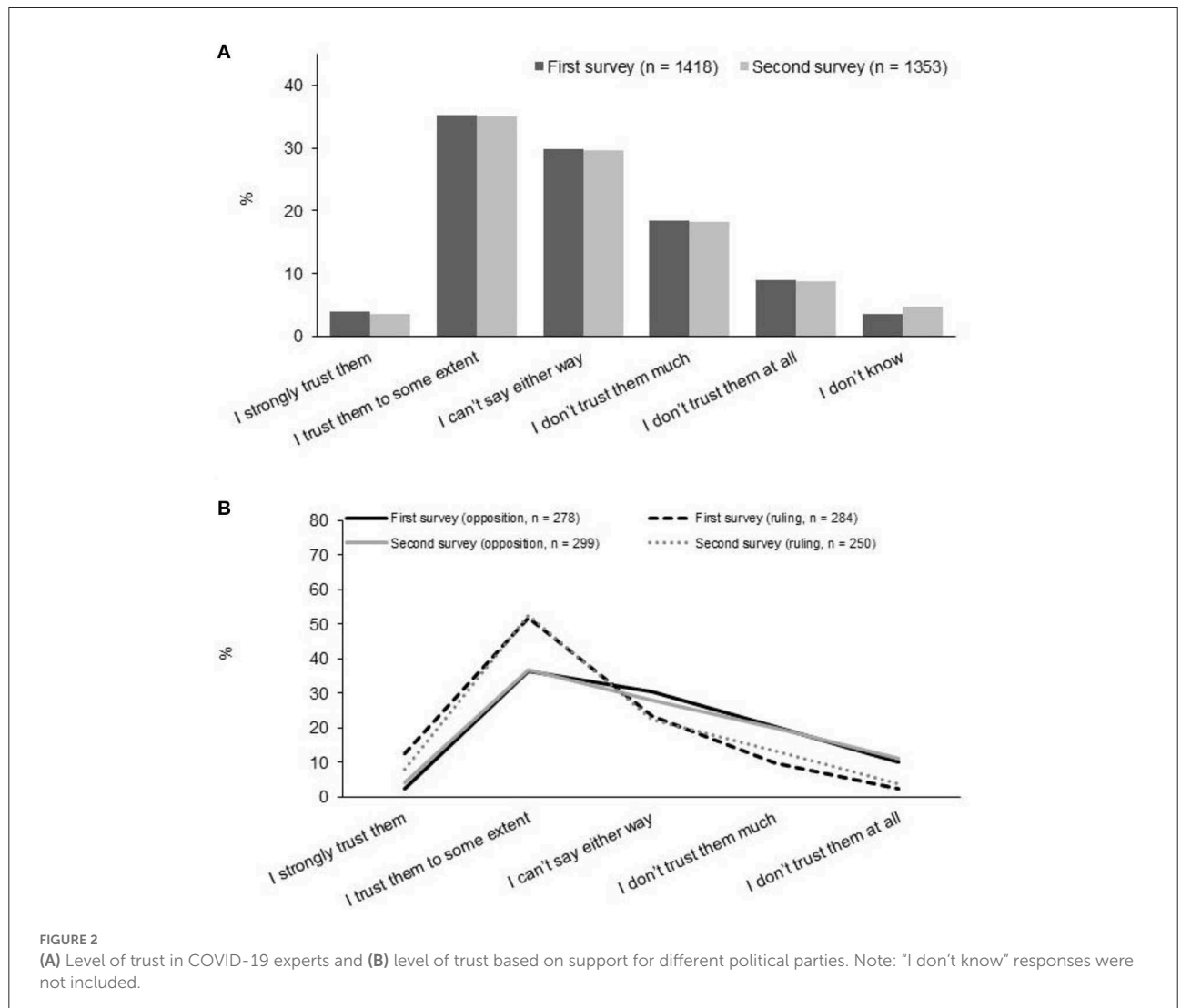
## RQ2. Trust in COVID-19 experts

When asked about their trust in COVID-19 experts, the most frequent response in both the first (35.2%) and second (35.1%) surveys was “I trust them (=COVID-19 Experts) to some extent” (Figure 2A). This was the preferred response among both ruling party and opposition supporters, but the proportion of opposition supporters who responded in this way was smaller in both surveys (Figure 2B).

TABLE 1 Statistical analysis of public support for the Japanese government’s approach to COVID-19.

	Unstandardized partial regression coefficient		Standardized partial regression coefficient	t	p	95% Confidence interval for (B)	
	B	Standard error	$\beta$			Lower	Upper
Sex (women)	0.04	0.04	0.02	0.97	0.334	-0.04	0.12
Age	0.00	0.00	0.04	2.30	0.021*	0.00	0.00
Political party supported (opposition parties)	1.18	0.06	0.41	19.17	0.000*	1.06	1.30
Political party supported (others)	1.08	0.05	0.47	21.51	0.000*	0.98	1.18
Education (university level)	0.14	0.04	0.06	3.32	0.001*	0.06	0.21
Education (other)	0.24	0.23	0.02	1.04	0.299	-0.21	0.69
Survey (second)	-0.38	0.04	-0.17	-9.82	0.000*	-0.46	-0.31
R <sup>2</sup>						0.19	

Results from linear regression analysis. \*Significance at the 0.05 level.



As shown in Table 2, multinomial logistic regression revealed that the unstandardized partial regression coefficient (B) for “I don’t trust them (=COVID-19 Experts) much” was significant for sex (women) and political party supported (opposition parties). This suggests that men and opposition party supporters are more likely to respond “I don’t trust

them much” rather than “I trust them to some extent.” The unstandardized partial regression coefficient (B) for “I don’t trust them at all” was significant for sex (women) and political party supported (opposition parties). This suggests that men and opposition party supporters are more likely to respond “I don’t trust them at all” rather than “I trust them to some extent.”

TABLE 2 Statistical analysis of trust in COVID-19 experts.

		B	Standard error	Wald	Df	P	Exp (B)	95% Confidence interval for (B)	
								Lower	Upper
I strongly trust them.	Sex (women)	-0.30	0.22	1.87	1	0.172	0.74	0.48	1.14
	Age	-0.02	0.01	10.47	1	0.001*	0.98	0.97	0.99
	Political party supported (opposition parties)	-0.73	0.29	6.25	1	0.012*	0.48	0.27	0.85
	Political party supported (others)	-1.22	0.25	24.50	1	0.000*	0.30	0.18	0.48
	Education (university level)	-0.38	0.22	3.02	1	0.082	0.68	0.44	1.05
	Education (others)	0.67	1.15	0.33	1	0.564	1.95	0.20	18.68
	Survey (second)	-0.14	0.21	0.45	1	0.500	0.87	0.58	1.31
I can't say either way.	Sex (women)	-0.07	0.10	0.44	1	0.509	0.93	0.76	1.14
	Age	-0.01	0.00	10.41	1	0.001*	0.99	0.99	1.00
	Political party supported (opposition parties)	0.66	0.15	19.12	1	0.000*	1.93	1.44	2.60
	Political party supported (others)	0.93	0.13	55.28	1	0.000*	2.53	1.98	3.24
	Education (university level)	0.12	0.10	1.48	1	0.223	1.13	0.93	1.38
	Education (others)	0.44	0.66	0.45	1	0.501	1.55	0.43	5.62
	Survey (second)	0.02	0.10	0.06	1	0.802	1.02	0.85	1.24
I don't trust them much.	Sex (women)	-0.42	0.12	12.84	1	0.000*	0.65	0.52	0.83
	Age	0.00	0.00	1.91	1	0.167	1.00	0.99	1.00
	Political party supported (opposition parties)	0.97	0.18	28.19	1	0.000*	2.63	1.84	3.76
	Political party supported (others)	1.24	0.16	63.01	1	0.000*	3.46	2.55	4.71
	Education (university level)	0.20	0.12	2.82	1	0.093	1.22	0.97	1.53
	Education (others)	-0.82	1.13	0.53	1	0.467	0.44	0.05	4.00
	Survey (second)	0.03	0.11	0.07	1	0.798	1.03	0.83	1.28
I don't trust them at all.	Sex (women)	-0.46	0.15	8.81	1	0.003*	0.63	0.47	0.86
	Age	-0.01	0.00	9.57	1	0.002*	0.99	0.98	1.00
	Political party supported (opposition parties)	1.68	0.29	34.09	1	0.000*	5.36	3.05	9.41
	Political party supported (others)	1.84	0.26	49.48	1	0.000*	6.33	3.78	10.58
	Education (university level)	0.10	0.15	0.46	1	0.496	1.11	0.82	1.49
	Education (others)	1.19	0.73	2.67	1	0.102	3.28	0.79	13.60
	Survey (second)	0.03	0.15	0.03	1	0.855	1.03	0.77	1.37
I don't know.	Sex (women)	-0.19	0.21	0.77	1	0.379	0.83	0.55	1.26
	Age	-0.04	0.01	43.35	1	0.000*	0.96	0.95	0.97
	Political party supported (opposition parties)	0.97	0.60	2.63	1	0.105	2.63	0.82	8.46
	Political party supported (others)	2.45	0.47	27.20	1	0.000*	11.59	4.62	29.10
	Education (university level)	-0.38	0.22	3.00	1	0.083	0.68	0.44	1.05
	Education (others)	1.48	0.75	3.88	1	0.049*	4.41	1.01	19.26
	Survey (second)	0.35	0.21	2.85	1	0.092	1.41	0.95	2.11

Results from multinomial logistic regression analysis. The response “I trust them to some extent” served as the baseline. B shows unstandardized partial regression coefficient. \*Significance at the 0.05 level.

## Trust in university researchers

In contrast, when asked about their trust in researchers affiliated with a university, the ruling party and opposition supporters did not differ significantly (Figures 3A,B). This suggests that opposition supporters trust researchers affiliated with universities more than government-appointed COVID-19 experts.

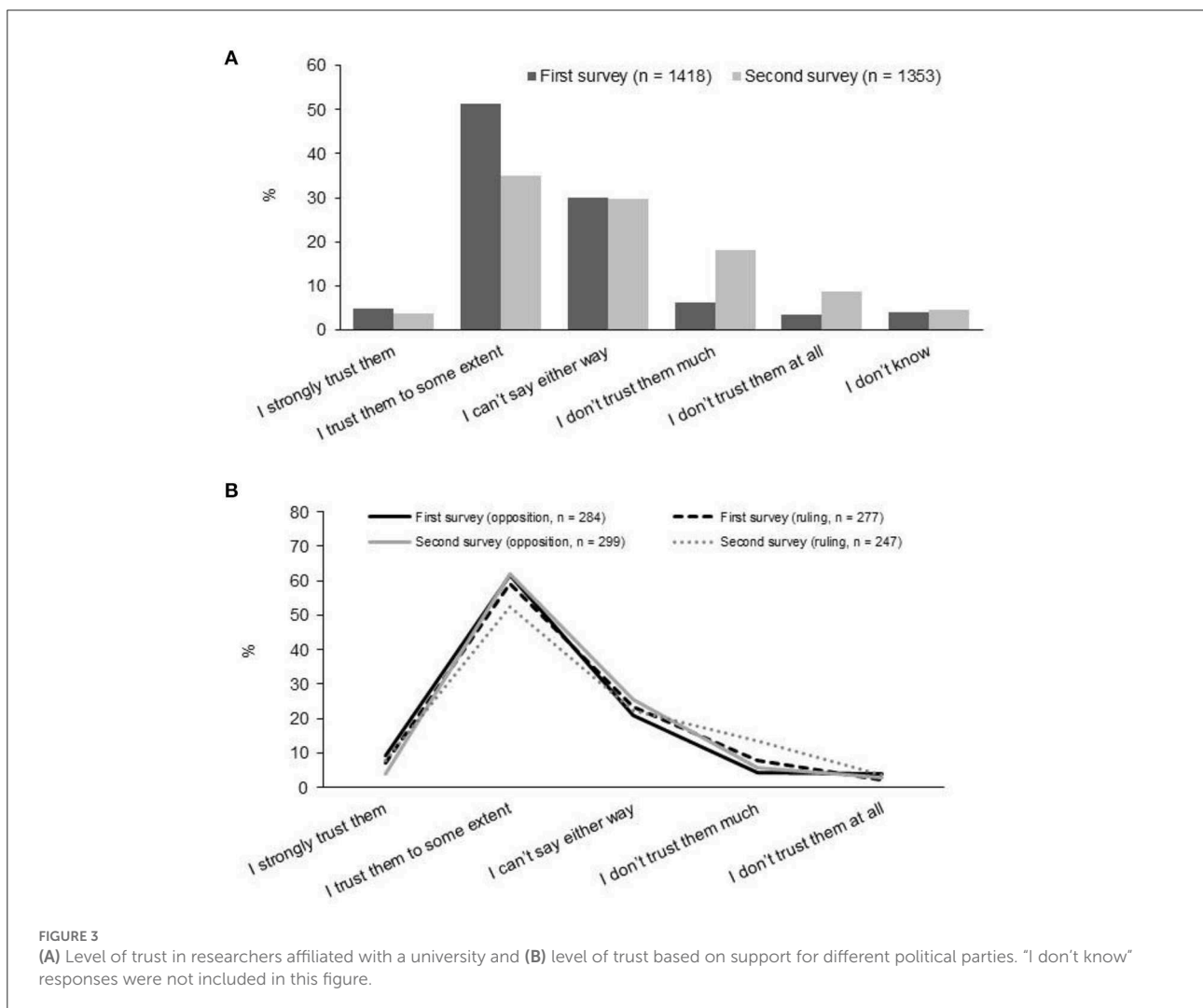
### RQ3. COVID-19 expert trust factors

Respondents assigned greater importance (i.e., the sum of “I strongly assign importance” and “I assign importance”) to motivation (integrity, enthusiastic, impartial) and perceived competence (knowledgeable, competent, specialized) than to salient value similarity (sharing important ideas, understanding) (Figures 4A,B).

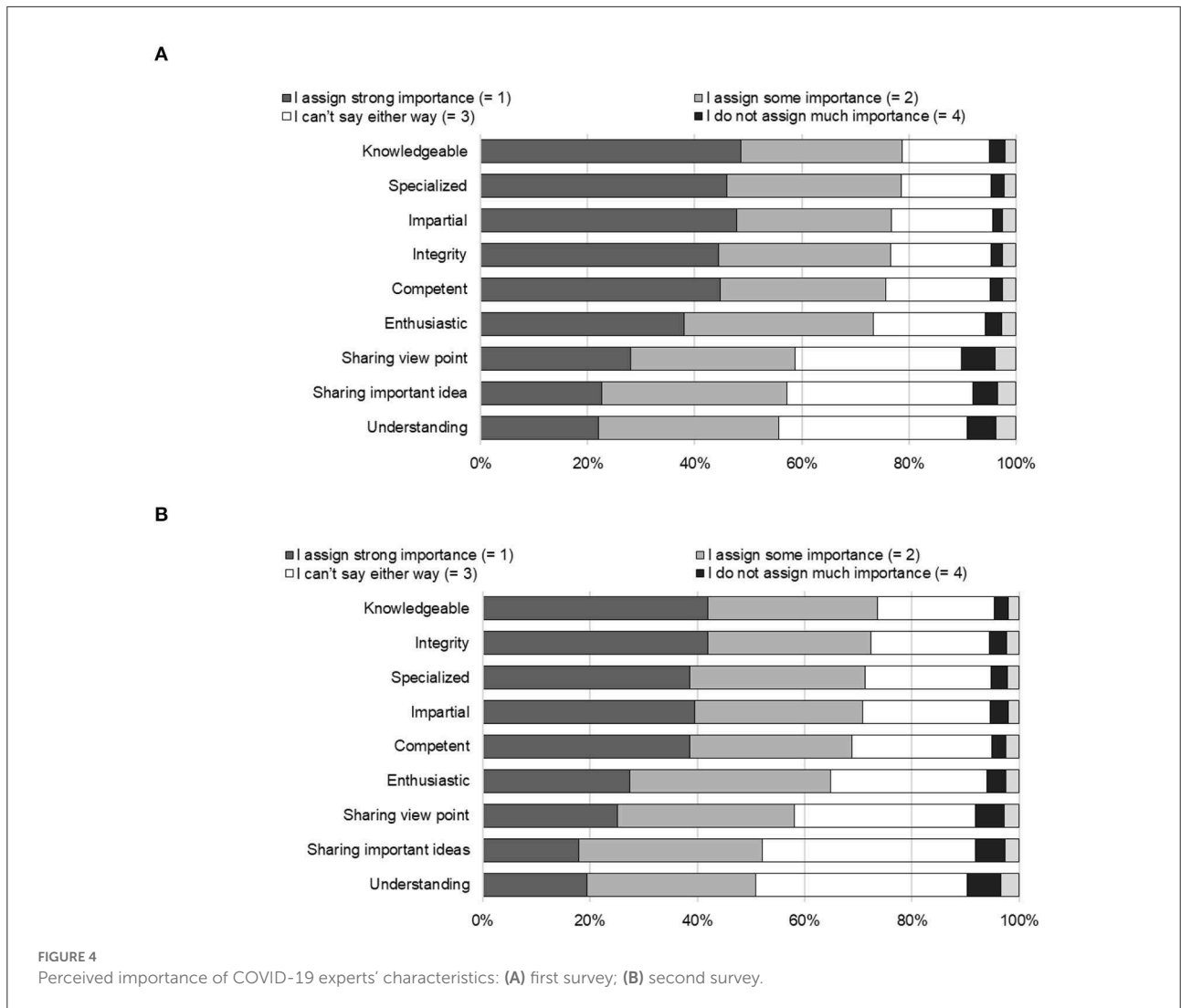
## Discussion

Our findings indicate that the government’s COVID-19 measures won public support if they were considered reasonable, regardless of whether the respondents supported the ruling or opposition parties. In particular, the second survey showed an increase in support for the government among opposition supporters. In response to public criticism, the third Kishida cabinet adopted a more flexible approach. During the sixth wave, it refrained from imposing emergency regulations or unpopular restrictions on restaurant operating hours, which seemed to increase public acceptance. This suggests that attention should be paid to time variation when using the SVS model. Regardless of ruling or opposition party support, it is conceivable that one may support a government implementing reasonable policies if the salient value is COVID-19 measures.

We also asked about support for the components of the traditional trust model and the SVS model. In this case, we found







high levels of motivation and competence in the traditional trust model but low levels for the question of salient value. It is possible that the question of whether the COVID-19 experts share the same values as the respondents without setting specific key values was vague and difficult to answer. This indicates that the SVS model's validation results may vary greatly depending on what is set as the primary value.

During the COVID-19 pandemic, the ease of transmission of new mutant strains and the rate of severe illness are always matters of science in action, and the relationship between politics and science continues to change. It has been noted that the number of deaths due to coronas not counted is several times higher. The number of deaths in Japan is not small, and many believe that many deaths could have been prevented by prompt testing and hospitalization. However, the number of PCR tests available is low, and hospital beds are insufficient. Thus, both the government and COVID-19 experts continue

to be bitterly criticized. In the future, it will be necessary to identify the characteristics of the critical group and to analyze their salient values.

We observed no difference between opposition and ruling party supporters in terms of trust in university researchers. This may be attributed to their being far away from political activities and responsibilities, and to the fact that the trust of researchers in general is not bad.

However, trust in COVID-19 experts was lower among opposition supporters in both measurements. It is conceivable that supporters of the ruling party would tend to view the activities of the COVID-19 experts as activities that support the government, as a result, according to the SVS model, salient value may be like the COVID-19 experts.

However, supporters of the opposition party would tend to view them as targets of criticism, just like the government. Based on SVS model, if supporters of the opposition party

recognize COVID-19 experts are government side, their salient value is different from COVID-19 experts. Moreover, based on traditional trust model, supporters of the opposition party can be easy to suspect both competence and motivation of COVID-19 experts. The competence and motivation had higher expectations than the elements of the SVS model, salient value for COVID-19 experts. Particularly in Japan, the COVID-19 experts' motivations and competence were questioned regarding the recommendations that encourage restraint but do not improve access to healthcare, PCR tests, increasing visibility and voice in the media. Each wave of the pandemic was met with approval or disapproval of the statements and actions of the COVID-19 experts. These possibilities need further study.

Women in Japan are more likely than men to trust experts. However, the fact that Japanese women with small children have heightened prevention awareness (Uddin et al., 2021) is not simply because they are women. Rather, it is because they bear a considerably heavier household chore burden, including child-rearing, than women in the West (Gender Equality Bureau Cabinet Office Japan, 2020). This phenomenon was also observed in the cases of low-dose exposure to radiation from the Great East Japan Earthquake and the Fukushima nuclear power plant accident in 2011. For example, parents with children living in the Tohoku region, mothers were more anxious (Tateno and Yokoyama, 2013). Despite continuing failures in PCR testing and the Olympic Games or improvements to the medical system or recruitment, women may respond better to experts' appeals for routine preventive action because of their strong sense of responsibility and insecurity.

This research has several limitations. If we had used key values like number of PCR tests as a salient value, the level could have been higher (Cvetkovich and Nakayachi, 2007). A survey is needed to study what are the salient values that divide people's opinions.

Moreover, this study measured trust in COVID-19 experts rather than in science. Although most scientific information is disseminated to society by experts, the important relationship between trust in science and trust in experts is unclear and warrants further study.

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## Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

## Author contributions

HY conceived of the paper idea. YI took data and analyzed. Both of us discussed the results and contributed to the final manuscript. All authors contributed to the article and approved the submitted version.

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## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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## Appendix: Details of the questionnaire items

(1) Age; gender (male, female); location (Hokkaido, Tohoku, Kanto, Chubu, Kinki, Chugoku, Shikoku, Kyushu, and Okinawa); education; political party supported.

Participant education categories: “below university level” (elementary school/junior high school, high school, and junior college/vocational school); “university or higher” (university or graduate school); and “other” (other or don’t know).

Political party categories: “Ruling parties” (liberal democratic party [自民党] and Komeito [立憲民主党]); “opposition parties” (Constitutional Democratic Party of Japan [立憲民主党]; People’s Democratic Party [国民民主党]; Japanese Communist Party [共産党]; Nippon Ishin [日本維新の会]; Social Democratic Party [社民党]; Party to protect the people from NHK/to protect those who do not pay the NHK license fee [NHKから国民を守る党/NHK受信料を支払わない国民を守る党]; and Reiwa Shinsengumi [れいわ新選組]); and “others” (“another political party,” “I do not support any party,” “I don’t know,” and “I don’t want to answer”).

(2) Support for the Japanese government’s approach to COVID-19: “Do you support the government response to COVID-19?” Rated on a five-point scale: “I strongly support it” (=1); “I support it to some extent” (=2); “I can’t say either way” (=3); “I don’t support it much” (=4); and “I don’t support it at all” (=5). Higher scores indicate a lack of support for the government’s approach.

(3) Trust in COVID-19 experts: “To what extent do you trust the experts and expert panels currently advising the government on measures to combat COVID-19?” Six options: “I strongly trust them,” “I trust them to some extent,” “I can’t say either way,” “I don’t trust them much,” “I don’t trust them at all,” and “I don’t know.”

(4) Trust in researchers affiliated with a university: “To what extent do you usually trust researchers affiliated with a university?” Six options: “I strongly trust them,” “I trust them to some extent,” “I can’t say either way,” “I don’t trust them much,” “I don’t trust them at all,” and “I don’t know.”