Puzzling Success Story of COVID-19 in Japan: Elementary School Education and Ritual Purification of Hands at Shrines

Sun Youn Lee, Shusaku Sasaki, Hirofumi Kurokawa, Fumio Ohtake[1]

Abstract

Using original web survey data, this paper estimates the effects of handwashing education at an elementary school and childhood experiences at shrines/temples on the current hand hygiene practices before and amid the coronavirus (COVID-19) outbreak. We find that an elementary school education for regular handwashing practices, the old Shinto tradition of handwashing before the rituals, and childhood residential area near shrines have significant effects on the handwashing and hygiene practices of Japanese citizens, which we hypothesize serves as a fundamental foundation for the resilient Japanese hand hygiene attitude that enables the country to overcome the crisis of the COVID-19.

Keywords: handwashing education, hygiene, COVID-19, reciprocity, shrines
JEL Classification Number: D90, I12, I20

1. Introduction

Since the outbreak of novel COVID-19 worldwide, the Japanese government has managed to contain the COVID-19 by encouraging self-isolation, the banning of social occasions, and the implementation of quarantine. With the concern of exponential spread of COVID-19 observed worldwide, the government announced the state of emergency declared over COVID-19 on April 7 only in major 7 cities followed by nationwide declaration April 16, which was lifted nationwide on May 25 as the number of new infections and deaths significantly had decreased to dozens. During the state of emergency, Japan had successfully minimized COVID-19-related deaths compared with other developed countries and moved towards restarting a full-scale activity. Since then, however, the country's success in containing the coronavirus outbreak seemed to unravel, with a flare up of coronavirus infections nationwide, particularly in Tokyo, where the daily new case count surged to a record-setting 450 infections. Nonetheless, the infections do not seem to spread much as other countries who suffer from ceaseless surging number of infections and deaths.

A report drafted by the Novel Coronavirus Expert Meeting (2020), who is a Japanese advisory body established in the New Coronavirus Infectious Diseases Control Headquarters of the Japanese Cabinet, listed five most successful factors in Japan: an easy access to health institutions, hygienic health care facilities, regular handwashing practices of citizens, earlier pandemic experiences of the Diamond Princess cruise ship quarantined in Yokohama, and prioritizing its policy on cautioning the public against "closed, crowded spaces with close-contact (the three Cs)". Despite some efficient interventions, the central government in Japan was also criticized for its failures to take the prompt and proactive initiative in preventing the spread of COVID-19 by delaying the declaration the state of emergency assumingly in light of Tokyo Olympics, limiting a PCR testing policy, and irresponsibly pushing forward the government's controversial "Go To" domestic travel subsidy campaign. Furthermore, in contrast to some Asian countries who have successfully controlled measures for COVID-19, Japan has prevented the exponential spread of COVID-19 without introducing strict government's interventions (e.g., city lockdowns, curfew) and prior pandemic experiences such as SARS or MERS (Lu et al., 2020).

We focus on citizens' voluntary self-restrictions and regular hygiene practices as a main driver behind this seemingly puzzling success in Japan that enables the country to overcome the crisis even under the government's belated interventions, a hasty and haphazard campaign, and non-prior pandemic experiences. Our hypothesis is that this voluntary and resilient hand hygiene attitude of Japanese citizens is cultivated through childhood handwashing practices at an elementary school, at shrines/temples, and residential area. Using original web survey, we find that these childhood experiences significantly affects the citizen's current hygiene practices, which has and will enable the country to prevent the spread of infection in the long term.

2. Research Background

Japan is well known for the longest life expectancy at birth and many have attempted to understand what has contributed to making the Japanese population healthy. Japanese people give attention to hygiene in

[1] S.Y. Lee (Meiji Gakuin University), S. Sasaki (Tohoku Gakuin University), H. Kurokawa (University of Hyogo), F. Ohtake (Osaka University)

all aspects of their daily life, and in particular, the importance of handwashing is routinely acknowledged in Japan (Ikeda, et al., 2011). We predict that the hand hygiene knowledge, attitude and behavior are attributable to an elementary school education for everyday handwashing practices, childhood handwashing experiences at shrines/temples, and childhood residential area near shrines/temples.

2.1 Japanese Elementary School's Hand Hygiene Education

Personal hygiene is emphasized at Japanese schools that start from Japanese nursery schools, kindergartens, to (junior-) high schools. It is instructed at schools that handwashing is the single most important factor in preventing outside-acquired infection. For students to understand infection control and maintain practical procedures, various handwashing methods are introduced repeatedly and trained under teachers' supervision. Particularly, elementary schools are established with hand-washing facilities that range from long sinks in the corridors on each floor of the school, sinks near the toilets, and sinks out in the schoolyard. These hand-washing stations are usually a row of cold-water taps each with a hand soap.

Students wash up again before lunch, after science experiments and when they come in from bathroom breaks, out in hand-washing facilities. Teachers stand in there and make sure everyone washed, but the degree of the teachers' follow-through and reinforcement could differ by school. Furthermore, this handwashing education at elementary schools has been strengthened by the association of Japan Soap and Detergent Association (JSDA), which has engaged in awareness-raising activities to deepen consumers' understandings on the importance of handwashing since 1950s. The JSDA started their educational activities by simply distributing soaps to elementary schools in the beginning and has also engaged in the activities of creating a handmade soap and conducting the handwashing poster contest at elementary schools and in the community.

2.2 Handwashing Practices at Shrines/Temples and Reciprocal Inclinations

Shinto shrines and Buddhist temples broadly and intimately engage in the life of Japanese. It is said that the spirits of the Gods of Japan exist as a sacred object which is enshrined inside the building. Shintoism originated in ancient Japan, with an idea of thousands of different Gods existing in the world such as mountains, rivers, stones, and trees. Buddhism was originally brought from India, China, to Japan and spread in Japan during the Heian era (794~1185). Even though Japanese do not express themselves to be particularly religious, both Shrines and temples are woven into the fabric of everyday life such as Japanese traditional weddings at shrines and funerals at temples. It is customary that visitors clean their hands (and mouth) to purify their body and mind before they make any prayers at shrines/temples in Japan.

Shinto is originated from the guardian of the land and is linked to many community festivals, which affects the spiritual, socio-psychological of the neighborhood. Their religious involvement in the activities of the shrines still remain the most important agencies for social mobilization of the participants. According to Kanaya (2013), those who are either highly religious or opt to frequently participate in the religious community activities at Shinto shrines are found to be active in communicating with local people and the neighborhood, and they are likely to trust others. Temples have also engaged in the life of local neighborhood, but they have been a space more strictly for ritual or meditative practices than shrines have been. Especially, as temples are served as the places for funerals, it can be assumed that people unconsciously meditate the relationships of lives between themselves and their ancestors in the blood relationship while being at temples. In contrast, Shinto shrines, which engage in the life of local people through the frequent local gatherings and community festivals, are more likely to promote social networks within and across local neighbors. We postulate that if shrines and temples are in their neighborhood and thus in their sight on daily life basis, they unconsciously are affected by the existence of shrines and temples.

3. Data and Estimation Framework

3.1 Survey Design

The data for this study was obtained via two online surveys conducted in 2020 by MyVoice.Com under the authors' directions. Two surveys were conducted over a 3-day period from April 28-30, 2020 with 6,050 samples and from May 8-12 with 5,664 samples. As coronavirus fatigue may have contributed to a general complacency around social distancing after the declaration of the state of emergency, we aim to investigate the degree of hand hygiene practices in April and May separately and its change from April to May.

3.2 Empirical Framework

We estimated the association between the childhood experience (Child_i) and respondents' hand hygiene practices (H_i) based on the following equation:

$$H_i = \alpha + \beta \text{Child}_i + \mathbf{X_i}\gamma + \varepsilon_i \quad (1)$$

where i indexes individuals, $\mathbf{X_i}$ is the vector of controls, which are expected to affect hand hygiene practices, and ε_i is an unobserved component affecting H_i. We assumed that E [ε_i]=0, and α, β and γ are the parameters to be estimated. H_i consist of handwashing and hygiene practices. First, handwashing practices before the COVID-19, in April, and in May are constructed as dummies based on the responses to following statements: (1) washing hands after coming home, (2) before the meal, (3) after toilet use (urine), and (4) after toilet use (faeces). We also use the average of aforementioned four practices. Secondly, we also asked the degree of hygiene practices in April and in May using the following statements on a scale of from 0 to 7: (1) always wearing a mask when talking; (2) placing a mask or handkerchief over my mouth when coughing or sneezing; (3) trying to avoid sharking hands; (4) always wearing a mask when going out; (5) gargling, frequently handwashing, and disinfection of hands and fingers with alcohol; (6) trying to get plenty of rest and sleep. While the first to third statements are practices involving others, the rest of statements are rather self-practices.

Our main focus is given to Child_i which denotes three effects on hygenic practices that involve elementary education, childhood handwashing experiences at shrines/temples, and childhood residential area near shrines/temples, constructed as dummies with the responses to the following statements: (1) everyone in my class at elementary school washed their hands in turn before lunch and after physics classes under teachers' supervision ; (2) there was a handmade soap making class at elementary school; (3) When you are child, did you wash your hands in the shrines and/or temples? (base: did not wash at all; most of the time, did not wash hands; most of the time, washed hands; always, washed hands; do not remember; I have never been to shrines/temples); (4) there were shrines near my house or along the school route in my childhood; (5) there were temples near my house or along the school route in my childhood.

Other confounding variables are gender dummy, birth cohort dummies, dummies for prefecture where a respondent lived at age 6, education attainment (1~11), being married (=1), number of children, whether to live with a person aged 65 or more (=1), having a child who are aged 12 or lower (assuming handwashing and hygiene practices are rigorously educated and trained from nursery, kindergarten to elementary school; =1). Note that the generational and regional differences in hand hygiene education at an elementary school are implicitly controlled by birth cohort and prefecture fixed effects. We also control for some behavioral factors that are predicted to affect the hand hygiene practices: altruistic behavior (intention to donate (1~5) and volunteer participation (1~6)); risk-averse inclinations (0~10); and willingness to giving up the present pleasure for a better distant reward (0~10). For labor variables, we used questions about household income, kinds of occupation, types of employment status, and whether to work remotely, which are all constructed as dummies to include non-responses and those who are not working. Note that we consider the bias caused by using retrospective questionnaires that can be seen in the individual-level omitted variable. For examples, if people with good memories remember the elementary school education and achieve good attitude on hand hygiene for their future health, an upward bias can occur in the coefficients of Child_i. We attempt to solve this problem, although not completely, by adding the dummy variable of "do not remember" to our empirical model. We further check the robustness by restricting the sample to the younger cohort who can better remember their childhood and find that the results do not significantly differ by age group (undocumented).

After we estimate Eq. (1) in each survey month separately, we also compare the results of handwashing practices in April with those when we controlled for handwashing practices before the COVID-19 (C of Table 1). Similarly, the results of handwashing practices in May are compared with those when we controlled for handwashing practices in April ($H_i^{\text{May}} = \alpha + \beta \text{Child}_i + \mathbf{X_i}\gamma + H_i^{\text{April}} + \varepsilon_i$) (C of Table 2) In this case, the coefficient, β, implies the extent to which childhood experiences at school, at shrines/temples, and in the residential areas near shrines/temples affects the increase in the handwashing and hygiene practices.

3.3 Empirical Results

Table 1 reports the results of handwashing practices before the COVID-19 outbreak (A), amid the

COVID-19 in April (B), and amid the COVID-19 in April when handwashing practices before the COVID-19 are controlled for (C). In both cases before and amid the COVID-19, elementary school's interventions on students' handwashing attitudes significantly affect their current handwashing practices. Furthermore, children who handwashed at shrines/temples and lived near shrines in childhood are more likely to comply regular handwashing practices. The results of C indicate that those who had regular handwashing practices before the COVID-19 are likely to handwash on a regular basis amid the COVID-19. In addition, these handwashing practices are likely to be strengthened after the declaration of the state of emergency, if they handwashed at shrines/temples in childhood. The results of handwashing practices in May (undocumented) are similar to those in April, which emphasizes the importance of elementary school hygiene education, childhood handwashing experiences at shrines, and childhood residential area near shrines. Table 2 reports the results of hygiene practices amid the COVID-19 in April (A), amid the COVID-19 in May (B) and amid the COVID-19 in May when hygiene practices in April are controlled for (C). The overall results are similar to those in Table 1. Those who received elementary handwashing education, handwashed in shrines/temples, and lived near shrines in childhood are more likely to comply hygiene practices. In addition, hygiene practices are strengthened from April to May among those who received elementary handwashing education, lived near shrines, handwashed in shrines/temples, and lived near shrines in childhood.

4. Discussion

Our robust and significant results on the significant effects of handwashing practices at an elementary school indicate that handwashing education in childhood has a long-term effect on the hand hygiene practices in adulthood. The results on the effects of regular handwashing practices at shrines/temples suggest that people are unconsciously affected by the old Shinto tradition of purifying the body and mind (Horiuchi 2011). We aim to find the mechanism behind the effects of living near shrines. First, we examine a possibility that the effects of shrines are linked with respondents' religious devotion, by adding two dummy variables constructed from the following questions: when I was child, there was (1) Shinto altar; (2) Buddhist altar at home. We find that the coefficients of shrines in the residential area are not significantly changed, suggesting a weak link with the religions devotion (undocumented).

We then investigated the mechanism based on the argument pushed forward by Ito et al. (2019) indicating that, as shrines are engaged in the community festivals, locals who lived near shrines have more chances to get engaged in other locals and could accordingly have higher reciprocal inclinations toward others. To investigate the extent to which the existence of shrines affects the hand hygiene practices through *reciprocity* other than handwashing practices at shrines, we used variables of reciprocity constructed based on two questions (if others do me a favor, I am prepared to return it (1~5); if others treat me in a very hostile manner, I will make sacrifices until I can exact revenge on them (1~5)). Without the effects of reciprocity and handwashing at shrines, the coefficients of shrines in the residential area are found significant and larger in both handwashing and hygiene practices. When we added the reciprocity variables to Eq. (1), whereby handwashing experiences at shrines are not included, the significant coefficients of shrines become either insignificant or smaller, while the positive reciprocity is significant. Even when handwashing practices at shrines are additionally included, the positive reciprocity stay significant, and handwashing at shrines are also significant as shown in Table 1 and 2. These results suggest that shrines in the residential area could affect people's handwashing and hygiene practices through *reciprocal* inclinations (separately from their handwashing practices at shrines), which implies they are hygienic because they care about others. In sum, our overall results indicate that childhood handwashing education, handwashing experiences at shrines, and reciprocal inclinations have long-lasting effects on the hand hygiene practices of Japanese citizens.

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Table 1. Handwashing Practices (Before COVID-19 and in April)

	A. Handwashing Practices (Before COVID-19)					B. Handwashing Practices (April)					C. Handwashing (April) + Controlled (Before COVID-19)				
	Washing hands after coming home	Washing hands before eating	Washing hands after toilet use (urine)	Washing hands after toilet use (faeces)	Average of four items	Washing hands after coming home	Washing hands before eating	Washing hands after toilet use (urine)	Washing hands after toilet use (faeces)	Average of four items	Washing hands after coming home	Washing hands before eating	Washing hands after toilet use (urine)	Washing hands after toilet use (faeces)	Average of four items
VARIA VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Elementary School Education															
Students washed hands before lunch and after physics classes under teachers' supervision	0.0312***	0.0603***	0.0106	0.0119	0.0285***	0.0151**	0.0345***	0.0145**	0.0125*	0.0191***	0.0032	-0.0046	0.0065	0.0031	-0.0007
	(0.011)	(0.015)	(0.008)	(0.007)	(0.008)	(0.008)	(0.013)	(0.007)	(0.007)	(0.007)	(0.006)	(0.008)	(0.004)	(0.004)	(0.004)
There was a handmade soap making class	0.0367***	0.0858***	0.0187**	0.0087	0.0375***	0.0150	0.0658***	0.0129	0.0093	0.0257***	0.0010	0.0102	-0.0014	0.0025	-0.0004
	(0.014)	(0.018)	(0.009)	(0.009)	(0.009)	(0.009)	(0.015)	(0.009)	(0.009)	(0.008)	(0.008)	(0.010)	(0.005)	(0.005)	(0.005)
Childhood Handwashing Experiences at shrines/Temples															
Never washed hands (Base)															
Most of the time, did not wash hands	0.0297**	0.0293	0.0230**	0.0225**	0.0261***	0.0280***	0.0498***	0.0274***	0.0299***	0.0338***	0.0166**	0.0308***	0.0100*	0.0122**	0.0156***
	(0.015)	(0.019)	(0.010)	(0.010)	(0.010)	(0.010)	(0.016)	(0.009)	(0.009)	(0.009)	(0.008)	(0.011)	(0.006)	(0.005)	(0.005)
Most of time, washed hands	0.0656***	0.0770***	0.0277***	0.0279***	0.0496***	0.0368***	0.0834***	0.0378***	0.0363***	0.0485***	0.0117	0.0335***	0.0167***	0.0143***	0.0140***
	(0.014)	(0.018)	(0.009)	(0.009)	(0.009)	(0.009)	(0.016)	(0.009)	(0.009)	(0.008)	(0.008)	(0.010)	(0.005)	(0.005)	(0.005)
Always washed hands	0.0812***	0.1306***	0.0302***	0.0305***	0.0681***	0.0384***	0.1103***	0.0383***	0.0376***	0.0562***	0.0074	0.0257**	0.0154***	0.0136**	0.0086
	(0.015)	(0.019)	(0.010)	(0.010)	(0.010)	(0.010)	(0.017)	(0.010)	(0.009)	(0.009)	(0.008)	(0.011)	(0.006)	(0.005)	(0.005)
Never been to shirnes/temples	0.0369**	0.0417**	-0.0222**	-0.0329***	0.0059	-0.0096	0.0227	-0.0160	-0.0151	-0.0045	-0.0237***	-0.0044	0.0009	0.0108*	-0.0086
	(0.015)	(0.020)	(0.010)	(0.010)	(0.010)	(0.010)	(0.017)	(0.010)	(0.010)	(0.009)	(0.009)	(0.011)	(0.006)	(0.006)	(0.006)
Childhood Residential Area near Shrines/Temples															
There were shrines near my house or along the school route	0.0126	-0.0063	0.0127*	0.0098	0.0072	0.0116	-0.0001	0.0095	0.0124*	0.0083	0.0068	0.0039	-0.0001	0.0047	0.0033
	(0.011)	(0.014)	(0.007)	(0.007)	(0.007)	(0.007)	(0.012)	(0.007)	(0.007)	(0.006)	(0.006)	(0.008)	(0.004)	(0.004)	(0.004)
There were temples near my house or along the school route	-0.0105	-0.0019	-0.0040	-0.0038	-0.0051	-0.0048	0.0036	-0.0012	-0.0002	-0.0006	-0.0008	0.0049	0.0018	0.0028	0.0029
	(0.011)	(0.014)	(0.007)	(0.007)	(0.007)	(0.007)	(0.012)	(0.007)	(0.007)	(0.006)	(0.006)	(0.008)	(0.004)	(0.004)	(0.004)
Handwashing Practices before the COVID-19															
Washing hands after coming home											0.3825***				
											(0.007)				
Washing hands before eating												0.6479***			
												(0.007)			
Washing hands after toilet use (urine)													0.7586***		
													(0.008)		
Washing hands after toilet use (faeces)														0.7867***	
														(0.007)	
Average of four items above															0.6975***
															(0.007)
Constant	0.7834***	0.5630***	0.7971***	0.8023***	0.7364***	0.8577***	0.5797***	0.7508***	0.7733***	0.7404***	0.5581***	0.2150***	0.1462***	0.1422***	0.2267***
	(0.074)	(0.096)	(0.050)	(0.049)	(0.050)	(0.050)	(0.083)	(0.047)	(0.047)	(0.044)	(0.042)	(0.055)	(0.030)	(0.027)	(0.027)
Observations	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050	6,050
R-squared	0.066	0.080	0.094	0.085	0.100	0.079	0.085	0.088	0.078	0.108	0.374	0.600	0.661	0.700	0.671

Note: Individual characteristics, behavioral factors, and labor-related variables are additionally controlled for. The results of handwashing practices in May are not reported here due to space constraints

Standards errors are given in parentheses. ***, **, and * indicate $p < .01$, $p < .05$, and $p < .1$.

Table 2. Hygiene Practices (April and May)

	A. Hygiene Practices (April)						B. Hygiene Practices (May)						C. Hygiene Practices (May) + Controlled (April)					
	Hygiene for Others			Hygiene for Myself			Hygiene for Others			Hygiene for Myself			Hygiene for Others			Hygiene for Myself		
	Always wearing a mask when talking	Placing a mask or handkerchief over my mouth when coughing or sneezing,	Trying to avoid sharking hands	Always wearing a mask when going out	Gargling, handwashing, and disinfection of hands and fingers with alcohol	Getting plenty of rest and sleep	Always wearing a mask when talking	Placing a mask or handkerchief over my mouth when coughing or sneezing,	Trying to avoid sharking hands	Always wearing a mask when going out	Gargling, handwashing, and disinfection of hands and fingers with alcohol	Getting plenty of rest and sleep	Always wearing a mask when talking	Placing a mask or handkerchief over my mouth when coughing or sneezing,	Trying to avoid sharking hands	Always wearing a mask when going out	Gargling, handwashing, and disinfection of hands and fingers with alcohol	Getting plenty of rest and sleep
VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Elementary School Education																		
Students washed hands before lunch and after physics classes under teachers'	0.2748***	0.1875**	0.2220***	0.1960***	0.2021***	0.2336***	0.2796***	0.2552***	0.2926***	0.1845**	0.2531***	0.2708***	0.1455**	0.1627*	0.2031**	0.0810	0.1391**	0.1425**
	(0.081)	(0.087)	(0.086)	(0.072)	(0.062)	(0.067)	(0.082)	(0.094)	(0.090)	(0.073)	(0.064)	(0.070)	(0.068)	(0.083)	(0.080)	(0.061)	(0.055)	(0.058)
There was a handmade soap making class	0.3139***	-0.0041	0.1410	0.1748**	0.1275*	0.1247	0.3872***	-0.1582	0.1289	0.1223	0.0665	0.0061	0.2198***	-0.1677*	0.0436	0.0325	0.0138	-0.0684
	(0.097)	(0.105)	(0.103)	(0.086)	(0.074)	(0.081)	(0.099)	(0.113)	(0.109)	(0.088)	(0.078)	(0.084)	(0.082)	(0.101)	(0.097)	(0.073)	(0.066)	(0.070)
Childhood Handwashing Experiences at shrines/Temples																		
Never washed hands (Base)																		
Most of the time, did not wash hands	0.2335**	0.4352***	0.1456	0.1335	0.1968**		0.(0.2126**	0.3046**	0.1510	0.0798	0.1765**	0.0108	0.0709	0.1049	0.0753	-0.0069	0.0682	-0.0045
	(0.105)	(0.113)	(0.112)	(0.093)	(0.080)		(0. (0.106)	(0.122)	(0.117)	(0.095)	(0.084)	(0.090)	(0.088)	(0.108)	(0.104)	(0.079)	(0.071)	(0.075)
Most of time, washed hands	0.3256***	0.5050***	0.2442**	0.1448	0.3430***		-0. 0.4551***	0.5510***	0.3459***	0.2026**	0.3195***	0.0305	0.2823***	0.3241***	0.2345**	0.1335*	0.1478**	0.0593
	(0.099)	(0.107)	(0.106)	(0.088)	(0.076)		(0. (0.101)	(0.115)	(0.111)	(0.090)	(0.079)	(0.086)	(0.084)	(0.103)	(0.098)	(0.075)	(0.068)	(0.071)
Always washed hands	0.5669***	0.6691***	0.3075***	0.2753***	0.4485***		0.10.6301***	0.6110***	0.3380***	0.2423**	0.4054***	0.1553*	0.3212***	0.3114***	0.1894*	0.0885	0.1631**	0.0835
	(0.107)	(0.115)	(0.114)	(0.095)	(0.082)		(0. (0.109)	(0.124)	(0.120)	(0.097)	(0.085)	(0.092)	(0.090)	(0.111)	(0.106)	(0.080)	(0.073)	(0.076)
Never been to shirnes/temples	0.0693	0.4768***	0.0627	0.1100	0.2526**		0.(0.3120**	0.4223**	0.3821**	0.2256*	0.2141*	0.1625	0.2953**	0.2075	0.3400**	0.1661	0.0832	0.1285
	(0.149)	(0.160)	(0.159)	(0.132)	(0.114)		(0. (0.151)	(0.172)	(0.166)	(0.134)	(0.118)	(0.128)	(0.125)	(0.153)	(0.147)	(0.111)	(0.101)	(0.106)
Childhood Residential Area near Shrines/Temples																		
There were shrines near my house or along the school route	0.0685	0.1222	0.0443	0.1281*	0.1300**	0.1424**	0.0445	0.1089	0.1600*	0.1295*	0.1213**	0.2008***	0.0056	0.0422	0.1432*	0.0660	0.0442	0.1334**
	(0.077)	(0.083)	(0.082)	(0.069)	(0.059)	(0.064)	(0.079)	(0.090)	(0.087)	(0.070)	(0.062)	(0.067)	(0.065)	(0.080)	(0.077)	(0.058)	(0.053)	(0.055)
There were temples near my house or along the school route	0.0459	-0.0485	-0.0452	0.0081	0.0212	0.1003	0.0393	-0.0449	-0.0918	-0.0397	-0.0294	-0.0128	0.0177	-0.0205	-0.0661	-0.0464	-0.0383	-0.0680
	(0.077)	(0.083)	(0.082)	(0.068)	(0.059)	(0.064)	(0.078)	(0.090)	(0.086)	(0.070)	(0.062)	(0.067)	(0.065)	(0.080)	(0.076)	(0.058)	(0.052)	(0.055)
Most of the time, did not wash hands	0.2335**	0.4352***	0.1456	0.1335	0.1968**	0.0321	0.2126**	0.3046**	0.1510	0.0798	0.1765**	0.0108	0.0709	0.1049	0.0753	-0.0069	0.0682	-0.0045
	(0.105)	(0.113)	(0.112)	(0.093)	(0.080)	(0.088)	(0.106)	(0.122)	(0.117)	(0.095)	(0.084)	(0.090)	(0.088)	(0.108)	(0.104)	(0.079)	(0.071)	(0.075)
Hygiene Practices in April																		
Always wearing a mask when talking													0.5477***					
													(0.011)					
Placing a mask or handkerchief over my mouth when coughing or sneezing,														0.4754***				
														(0.012)				
Trying to avoid sharking hands															0.4674***			
															(0.012)			
Always wearing a mask when going out																0.5519***		
																(0.011)		
Gargling, handwashing, and disinfection of hands and fingers with alcohol																	0.5277***	
																	(0.012)	
Getting plenty of rest and sleep																		0.5590***
																		(0.011)
Constant	2.8791***	2.6384***	3.8428***	3.3314***	4.2901***	4.0461***	3.2427***	2.7283***	3.7875***	3.9973***	4.0533***	3.9089***	1.7665***	1.5783***	1.9610***	2.2078***	1.8104***	1.6256***
	(0.531)	(0.573)	(0.566)	(0.471)	(0.406)	(0.443)	(0.549)	(0.627)	(0.603)	(0.489)	(0.431)	(0.466)	(0.456)	(0.559)	(0.537)	(0.407)	(0.370)	(0.388)
Observations	6,050	6,050	6,050	6,050	6,050	6,050	5,664	5,664	5,664	5,664	5,664	5,664	5,664	5,664	5,664	5,664	5,664	5,664
R-squared	0.135	0.103	0.084	0.160	0.144	0.100	0.136	0.098	0.094	0.148	0.140	0.090	0.405	0.287	0.289	0.416	0.377	0.376

Note: Individual characteristics, behavioral factors, and labor-related variables are additionally controlled for. We only report the results of hygiene practices in April and May, two time periods after the COVID-19 outbreak, since in our survey, respondents were not asked about hygiene practices before the COVID-19. Standards errors are given in parentheses. ***, **, and * indicate p < .01, p < .05, and p < .1.