Study on awareness of COVID-19 and compliance with social distancing during COVID-19 pandemic in Indonesia

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Abstract
Public compliance with social distancing policy is necessary to slow down the spread of coronavirus disease 2019 (COVID-19). One of the factors that contribute to compliance with social distancing policy is awareness of COVID-19. This study aimed to examine the relationship between awareness of COVID-19 and compliance with social distancing policy. The study used an online survey through Google Form to 404 respondents aged 18–63 years. The data were collected by using awareness on the COVID-19 scale and compliance with the social distancing scale. The data were analyzed using the Spearman correlation and Kruskal–Wallis, followed by Mann–Whitney U with Bonferroni correction. The awareness of COVID-19 was significantly and positively associated with compliance with social distancing order. Based on demographic variables found that the awareness was significantly higher in postgraduates. The awareness of COVID-19 was also significantly higher in working participants. The compliance with social distancing order was found higher in women. The study's primary result is that the awareness of COVID-19 positively correlates with public compliance on social distancing order. In particular, there is a need to provide means and interventions to raise public awareness of this challenging situation.
1 | BACKGROUND

Coronavirus disease or COVID-19 has spread in 114 countries, and on March 11, 2020, it was declared a pandemic (World Health Organization, 2020a). A total of 77,083,763 cases of positive COVID-19 were confirmed globally, with 1,698,142 deaths (Worldometer, 2020). In Indonesia, the first COVID-19 case was established on March 2, 2020 (Guardian, 2020; The Straits Times Asia, 2020). Then, the latest data on December 20, 2020 confirmed 664,930 cases of positive COVID-19 with 19,880 deaths in Indonesia (Satgas Penanganan, 2020).

To minimize the spread of COVID-19, the stay at home and social distancing policy have been implemented, as well as Large-Scale Social Restrictions or Pembatasan Sosial Berskala Besar (PSBB) in 2 provinces and 22 cities in Indonesia (Kunjana, 2020). Social distancing order can minimize the spread of COVID-19 if accompanied by public compliance. Compliance with social distancing policy is needed to reduce the spread of COVID-19 (Chan, 2020). Compliance with social distancing order, especially in the workplace, will reduce virus transmission (Ahmed et al., 2018) and has been proven to reduce the spread of COVID-19 (Milne & Xie, 2020).

Unfortunately, there are instances where individuals have broken the rules that were implemented to protect their health and society. We still remember 2584 campaign activities that violated health protocols during the implementation of the 2020 regional head elections, which were held simultaneously (CNN Indonesia, 2020). Based on Garut Government’s reports (District in West Java, Indonesia), the level of public compliance in implementing social distancing was still low (Yusuf, 2020). There were still many people who did activities outside. The South Tangerang Government reported that public compliance on PSBB regulations was low, around 60%. Hence, the lockdown is said to be successful if the compliance with the order reaches 80%–90% (Kurniawan, 2020). One of the reasons for low public compliance was public dissatisfaction with the government's pandemic management policy (Li et al., 2020). If the people are dissatisfied and distrustful of the government, the public compliance on social distancing during a pandemic will be challenging to reach.

Demographic factors also contribute to the emergence of compliance. Studies have shown that being unable to work from home, having a low income when not working during a pandemic and self-employment are associated with a lack of compliance with mitigation recommendations during a pandemic (Blake et al., 2010). Based on a systematic review study conducted by Koolsstra and van Rooij (2020) shows that age, gender, and knowledge are correlated with compliance. Older individuals and women tend to exhibit submissive behavior. Likewise, individuals who have better knowledge or obtain sufficient information related to COVID-19 tend to comply with mitigation.

To be able to increase public compliance on social distancing, awareness on COVID-19 is required. Having better awareness can increase compliance (Bharucha & Kuruvilla, 2003). Other research results that also report that awareness during the COVID-19 pandemic correlated with social distancing behavior (Qazi et al., 2020). Social distancing behavior can be improved by increasing the awareness on COVID-19 through reliable information sources. Through correct and reliable information sources, the individuals will be more aware so that they can increase social distancing. According to Endsley and Garland (2000), situation awareness is an individual’s understanding of a situation obtained through information perception, information understanding, and future projection of the information. By having awareness, the individuals strive to seek and understand the information related to COVID-19 so as to make individuals aware of the symptoms, dangers, and prevention of the disease.

One of the frameworks to understand the public compliance on social distancing order for the sake of decreasing the spread of COVID-19 is Health Belief Model (HBM), an approach related to health decision-making explaining that the conditions experienced by individuals are usually related to health behaviors (Luger, 2013). Manika et al. (2017) proposed
that HBM focuses on the importance of communicating risk perceptions, namely, providing information related to recommended preventive behavior. In this context, the health decision-making process involves knowledge and understanding of information about COVID-19 so that individuals are aware to take preventive action. This approach believes that individuals will take precautions due to three factors, namely (1) severity; individuals consider how severe the physical and social consequences are if they suffer from a disease and leave it untreated; (2) vulnerability; individuals’ beliefs about the risks as a result of their behavior toward the health conditions; and (3) signs or reminders; anything that can remind individuals about the potential health problems they encounter.

Awareness on COVID-19 will make individuals perceive COVID-19 as a dangerous disease so that individuals take prevention. To prevent COVID-19, individuals must have knowledge regarding the etiology, virus transmission, and prevention measures (Mya et al., 2020). A basic understanding of a pandemic is linked to a willingness to comply with self-quarantine, avoid public activities, and delay social gatherings (Eastwood et al., 2009). Awareness is a significant factor increasing the level of compliance (Shon et al., 2016).

HBM also emphasizes “cues to act” such as the gained information indicating an individuals' readiness to act. This allows individuals to take precautions if they are more receptive to information (Manika et al., 2017). The increased perception of knowledge about a disease will make them more likely to engage in preventive behavior. One of the behaviors to prevent COVID-19 is compliance on social distancing.

Demographic distribution makes an important contribution to public awareness of COVID-19. High levels of prevention during swine influenza pandemics were found in the group of men, who were older, had a high level of education and had a high level of knowledge (Balkhy et al., 2010). Supported by other research conducted by Labban et al. (2020) results that higher education levels and high-income levels play an important role in awareness about COVID-19. In addition, Labban et al. (2020) also found that individuals aged 30–59 years also have a better level of awareness which can be explained that many individuals of that age are actively involved in the COVID-19 campaign.

This study is needed considering the lack of compliance of the Indonesian people to social distancing which is one of the health protocols that needs to be implemented during the pandemic. Awareness of COVID-19 is one of the variables that play an important role in making people comply with health protocols. For this reason, this study seeks to reveal whether there is a positive relationship between awareness of COVID-19 and compliance with social distancing. In particular, the respondents’ demographics consisting of age, sex, education, income, and employment status were also a concern in this study. This study was conducted because the previous studies had studied more descriptively, and not so many studies had examined the relationship between awareness on COVID-19 and compliance on social distancing order in Indonesia.

2 | METHODS

2.1 | Sample size

The subjects involved in the study were Indonesians aged at least 18 years. The sample size was calculated by detecting correlation (r) of 0.2, using one tail(s), α error probability of 0.05, and power (1-β error probability) of 0.8. The sample size calculation was done with G*Power 3.1.9.7 software. Based on these criteria, the minimum sample was 153.

2.2 | Subjects

The subjects' sociodemographic characteristics are shown in Table 1. A total of 404 Indonesians aged 18–63 years (Mean = 27.17, SD = 8.468) participated in the study. There were four missing data from the initial 408 data due to filling duplication from the same subject so that the final data were 404 subjects. Subjects consisted of 95 men (23.5%) and 309 women (76.5%). In terms of education, 142 were high school graduates (35.1%), 131 were
bachelor’s degree graduates (32.4%), 131 were master or doctoral graduates (32.4%). A total of 168 subjects had an income of <1,000,000 IDR (41.6%), 91 subjects had an income of 1,000,000–3,000,000 IDR (22.5%), 90 subjects had an income of 3,000,000–5,000,000 IDR (22.3%), and 55 subjects had an income of >5,000,000 IDR. A total of 171 subjects were unemployed (42.3%), and 233 subjects worked (57.7%).

| Variables          | Distribution       | Frequency | %  |
|--------------------|--------------------|-----------|----|
| Age                | 18–30              | 300       | 74.3|
|                    | 31–45              | 84        | 20.8|
|                    | >46                | 20        | 5.0 |
| Sex                | Male               | 95        | 23.5|
|                    | Female             | 309       | 76.5|
| Education          | High school        | 142       | 35.1|
|                    | Bachelor           | 131       | 32.4|
|                    | Postgraduate       | 131       | 32.4|
| Income             | <1,000,000 IDR     | 168       | 41.6|
|                    | 1,000,000–3,000,000 IDR | 91     | 22.5|
|                    | 3,000,000–5,000,000 IDR | 90    | 22.3|
|                    | >5,000,000 IDR     | 55        | 13.6|
| Employment status  | Unemployed         | 171       | 42.3|
|                    | Employed           | 233       | 57.7|

2.3 | Research design and data collection

This study was a survey research involving two research variables. The independent variable in the study was awareness on COVID-19. The dependent variable was compliance on social distancing order. The data were collected on May 19–26, 2020. The subjects were asked to fill out the survey consisting of two measuring scales through an online survey link shared on various social media platforms, such as Instagram, WhatsApp, Email, and Facebook. At the beginning of filling out the survey, the subjects were asked consent to participate in the study. The subjects were also asked to fill out sociodemographic data including age, education, employment status, and income. The subjects were told that the researchers also provided rewards in the form of 25,000 IDR phone credit for 12 selected subjects.

2.4 | Instrumentation

Two instruments were used to collect research data, namely, awareness scale on COVID-19 and compliance scale on social distancing. Information regarding the reliability of instruments of both scales can be seen in Table 2.
2.4.1 | Awareness scale on COVID-19

The awareness scale of COVID-19 was developed by the researchers based on the situational awareness theory from Endsley and Garland (2000), which divides situational awareness into three levels, namely: perception of information, integration of data with goals, and projection of the near future. The items refer to the understanding that individuals need to know, adapted by the researchers from the World Health Organization website (World Health Organization, 2019b) including: (1) awareness on the dangers and efforts to avoid COVID-19, (2) awareness on the symptoms of COVID-19, and (3) prevention and treatment of COVID-19. The items of a Likert-scale with 5-point responses were 1 (very inappropriate), 2 (inappropriate), 3 (somewhat appropriate), 4 (appropriate), and 5 (very appropriate). The initial items of the awareness scale of COVID-19 consisted of 18 favorable items. Three items with item-total correlation lower than 0.3 were deleted (item 7, 16, 17). The 15-item of awareness on COVID-19 have item-total correlation of 0.339–0.578. The reliability of the Cronbach’s α of 15 items of the awareness scale of COVID-19 was 0.831 indicated a good internal consistency. The exploratory factor analysis (EFA) with a varimax rotation showed that awareness scale of COVID-19 loaded in a single factor. The single factor had an eigenvalue of 4.346 and accounted for 29% of variation. Sample of item from the awareness scale of COVID-19 are presented in Table 3.

2.4.2 | Compliance on social distancing order scale

The compliance on social distancing order scale was prepared by the researchers based on the compliance construct from Feldman (2008). Compliance is defined as a behavior influenced by social pressure. Compliance is measured through belief, acceptance, and action. Belief means that individuals believe that following the order will have a good impact on the individual. Accept means that individuals accept existing order. Action means when individuals do what is accepted and believed from a rule. Statements in compliance on the social distancing order scale were compiled based on social distancing guide from the Center for Disease Control and Prevention (CDC) in 2019 (Center for Disease Control and Prevention, 2019).

The initial items of compliance on the social distancing order scale consisted of 18 items. Three items with item-total correlation lower than 0.3 were eliminated (Item 14, 15, 17). The final item of compliance on social distancing order scale was 15 items consisting of 11 favorable items and 4 unfavorable items (Items no. 5, 8, 10, 16). Items were rated 1 for “very inappropriate,” 2 for “inappropriate,” 3 for “somewhat appropriate,” 4 for “appropriate,” and 5 for “very appropriate.” The unfavorable items were scored in reverse. Item-total correlation ranged from 0.328 to 0.545. Cronbach’s α reliability of 15 items of compliance on social distancing order scale was 0.778 indicated a good internal consistency. The EFA with a varimax rotation showed that item of compliance on social distancing order scale loaded in two factors. The favorable item loaded in Factor 1 with an eigenvalue of 3.123 and accounted for 20.8% of variation. The unfavorable item (Items no. 5, 8, 10, 16) loaded in Factor 2 with an eigenvalue of 1.717 and accounted for 11.4% of variation. The two factors accounted 32.3% of variation. Items had factor loading of 0.408–0.720.

| TABLE 2 | Reliability of instruments |
|----------|--------------------------|
| Scales               | Items | Cronbach’s α |
| Awareness on COVID-19 | 15    | 0.831        |
| Compliance on social distancing | 15    | 0.778        |

Abbreviation: COVID-19, coronavirus disease 2019.
To test the research hypothesis that awareness on COVID-19 correlated with compliance on social distancing order, the Spearman correlation test was used. The Spearman correlation was chosen because the measured data were not normally distributed based on the Shapiro–Wilk test. The Spearman correlation was done with the JASP 0.13.00 software. The rejection of the null hypothesis was carried out at the 95% confidence level. Additional analysis by Kruskal–Wallis and Mann–Whitney U test was conducted to see the awareness on COVID-19 and compliance based on the data socio-demography data. In the Kruskal–Wallis test, significant test results were followed up or post hoc tested with Bonferroni correction to avoid Type Error I (Field, 2009).

### Results

The research data were analyzed by means of a correlation test to test the main hypothesis, namely, the existence of a correlation between awareness on COVID-19 and compliance on social distancing order. To better understand the awareness on COVID-19 and compliance on social distancing order, the researchers also looked at these variables from the subjects’ sociodemographic data with different tests. Statistical descriptions of each variable (data min, max, mean) are presented in Table 4.

### Relationship between awareness on COVID-19 and compliance on social distancing

The results of the Spearman correlation test between awareness on COVID-19 and compliance on social distancing are presented in Table 5. Before the correlation test was carried out, the researchers tested the normality and linearity assumptions. Regarding abnormal data distribution, the Spearman correlation was used. Based on the analysis, results using one-tailed significance showed a significant positive correlation between awareness on COVID-19 and compliance on social distancing order ($r = 0.460; p < 0.001$).
3.2 | Awareness on COVID-19

The results of the Mann–Whitney U test for the awareness on COVID-19 variable in terms of sex and employment status are presented in Table 6. The awareness on COVID-19 did not differ significantly between men and women ($W = 140680.5, p > 0.05$). However, the awareness on COVID-19 was found significantly different in term of the employment status ($W = 17261, p < 0.05$), namely working individuals ($M = 69.485$) had a higher awareness than individuals who did not work ($M = 68.588$). The results of the Kruskal–Wallis test for the awareness on COVID-19 variable in terms of age, education level, and income are presented in Table 7. Awareness on COVID-19 did not differ from age category ($H = 4461, p > 0.05$) and income level ($H = 7768, p > 0.05$). However, the awareness on COVID-19 was found to differ significantly by level of education ($H = 4641, p < 0.01$).

To see which level of education has a higher awareness on COVID-19, the Mann–Whitney post hoc test was performed with Bonferroni correction. The significance test was carried out at the 0.0167 confidence level (obtained from 0.05 divided by 3, namely, the number of post hoc tests performed). The post hoc test with Bonferroni correction is presented in Table 8. It was found that there was no difference in the awareness on COVID-19 between high school graduates and bachelor degree graduates ($W = 8558.5, p > 0.0167$) and between bachelor degree graduates and postgraduates ($U = 7317, p > 0.0167$). Awareness on COVID-19 was significantly higher among postgraduate graduates than among high school graduates ($W = 7242, p < 0.0167$).

3.3 | Compliance on social distancing order

Based on the Mann–Whitney U test, compliance based on sex and employment status in Table 6, compliance to social distancing order was found to be higher in women (Mean = 53,155) than men (Mean = 51,421) ($W = 12031.5, p < 0.01$). However, compliance did not differ between employed and unemployed individuals ($W = 19546, p > 0.05$). Then based on the Kruskal–Wallis test to see whether there were differences in compliance based on age category, education, and income level in Table 6, it was found that there was no difference in compliance on social distancing order seen from age ($H = 2.679, p > 0.05$), education level ($H = 3.149, p > 0.05$), and income ($H = 1.640, p > 0.05$).

4 | DISCUSSION

The results showed that the awareness on COVID-19 was positively related to compliance on social distancing. The results of this study supported the previous study that social distancing was significantly correlated by situational awareness (Qazi et al., 2020). Awareness on the situation during a health crisis by using formal information sources (government and mass media) can increase protective health behavior which in turn reduces the spread of the virus (Qazi et al., 2020). Obtaining reliable information can make decisions to utilize any source of information (Calman, 2002), thus leading to protective behavior in the form of personal hygiene and safety (Johnson & Hariharan, 2017).

| TABLE 5 | Spearman correlation between awareness on COVID-19 and compliance ($N = 404$) |
|----------|-------------------------------------------------|
| Variables | Awareness | Compliance |
| Compliance | Spearman's rho | $0.460^{***}$ | – |
| p value | <0.001 | – |

$^{***}p < 0.001$. 
**TABLE 6** Mann–Whitney U awareness on COVID-19 and compliance on social distancing in terms of sex and employment status (N = 404)

| Variables          | Characteristics | N   | Awareness on COVID-19 | Compliance | Rank-biserial correlation |
|--------------------|-----------------|-----|------------------------|------------|--------------------------|
|                    |                 |     | Mean                   | W          | p                        |
| Sex                | Men             | 95  | 68.588                 | 14080.5    | 0.548                    | -0.041 |
|                    | Women           | 309 | 69.165                 | 53.155     |                          |        |
| Employment status  | Unemployed      | 171 | 68.398                 | 17261.0*   | 0.021                    | -0.134 |
|                    | Employed        | 233 | 69.485                 |            |                          |        |

Abbreviation: COVID-19, coronavirus disease 2019.

*p <0.05; **p <0.01.
With awareness on COVID-19, individuals try to find and understand information about COVID-19 and take precautions.

Several previous studies stated that compliance on social distancing was correlated by trust on the government (Bargain & Aminjonov, 2020; Newton, 2020). The lockdown policy must be accepted by the support of the wider public to be more efficient. Trust on government policy is highly correlated with the decreased mobility outside the home (Bargain & Aminjonov, 2020). Conversely, low trust on government makes people disobedient. To achieve this, it is not enough to only involve external factors such as trust on the government. This study succeeded in finding that internal factors in the form of awareness on COVID-19 can make people comply. Awareness on COVID-19 causes the public to take preventive action by complying with health protocols, one of which is compliance on social distancing.

Based on the HBM theory, individuals will take preventive steps determined by their perception of threats that can affect their health problems and the pros and cons in their action (Sarafino & Smith, 2014). HBM theory proposes that

**TABLE 7** Kruskal–Wallis awareness on COVID-19 and compliance on social distancing in terms of age, education, and income \((N = 404)\)

| Variables | Characteristics | \(N\) | Awareness on COVID-19 | Compliance on social distancing |
|-----------|----------------|------|-----------------------|-------------------------------|
|           |                |      | Mean | \(H\) | \(p\) | Mean | \(H\) | \(p\) |
| Age       | 18–30          | 300  | 68.683 | 4641 | 0.098 | 52.523 | 2679 | 0.262 |
|           | 31–45          | 84   | 70.083 | 4641 | 0.098 | 53.369 |
|           | >46            | 20   | 69.700 | 4641 | 0.098 | 53.500 |
| Education | High school    | 142  | 68.275 | 10,457** | 0.005 | 52.993 | 3149 | 0.207 |
|           | Bachelor's degree in graduate | 131 | 68.725 | 52.5993 | 0.207 |
|           | Postgraduate   | 131  | 70.137 | 53.237 |
| Income    | <1,000,000 IDR | 168  | 68.214 | 7768 | 0.051 | 52.756 | 1640 | 0.650 |
|           | 1,000,000–3,000,000 IDR | 91   | 69.791 | 52.758 |
|           | 3,000,000–5,000,000 IDR | 90   | 69.400 | 53.267 |
|           | >5,000,000 IDR  | 55   | 69.618 | 51.855 |

Abbreviation: COVID-19, coronavirus disease 2019.

**TABLE 8** Mann–Whitney \(U\) for post hoc Kruskal–Wallis test awareness on COVID-19 in term of education \((N = 404)\)

| Variables | Characteristics | \(F\) | Awareness on COVID-19 |
|-----------|----------------|------|-----------------------|
|           |                |      | Mean | \(W\) | \(p\) |
| Education | High school    | 142  | 68.275 | 8558.5 | 0.253 |
|           | Bachelor's degree graduate | 131 | 68.725 |
|           | High school    | 142  | 68.275 | 7242.5**** | 0.002 |
|           | Postgraduate   | 131  | 70.137 |
|           | Bachelor's degree graduate | 131 | 68.725 | 7317.0 | 0.038 |
|           | Postgraduate   | 131  | 70.137 |

Abbreviation: COVID-19, coronavirus disease 2019.

****\(p < 0.0167\) for Bonferroni correction.
individuals will take precautions due to three factors, namely (1) severity, individuals consider how severe the physical and social consequences are if they suffer from a disease and leave it untreated; (2) vulnerability, individual beliefs about the risks that arise from their behavior toward health conditions; and (3) signs or reminders, anything that can remind individuals of their potential health problems. Awareness on COVID-19 will make individuals perceive COVID-19 as a dangerous disease so that individuals take action for prevention. To prevent COVID-19, individuals must have knowledge regarding the etiology, virus transmission, and prevention measures (Mya et al., 2020). A basic understanding of pandemic influenza is associated with a willingness to comply with self-quarantine, avoid public activities, and delay social gatherings (Eastwood et al., 2009). Awareness is a significant factor increasing the level of compliance (Shon et al., 2016).

Previous study conducted by Alahdal et al. (2020) successfully showed that there was a correlation between awareness with attitude and the correlation between attitude with practice during pandemic COVID-19. Awareness is significant positive correlation with attitude, indicating that high level of awareness is reflected in individual attitude in turn individuals will practice complying with health protocols. By having awareness of COVID-19, individuals will show positive attitude, and from that attitude, it can lead to practice which in this study is compliance with social distancing. On the other hand, if individuals have lacks of awareness, it will lead to undesirable attitudes and practices that contribute to negative impacts of controlling the virus infection (Desai & Patel, 2020).

There is a difference in awareness on COVID-19 in term of employment status. Individuals who work have a higher level of awareness on COVID-19 because they are aware of the need for self-protection to prevent COVID-19 while working. Rabinowitz et al. (2013) found that 78% of workers had awareness on the risk of influenza, 93% of workers took a shower after going outside, 97% of workers participated in occupational health and safety programs, and 93% of workers were aware of following influenza guidelines. Workers also reported using personal protective equipment and washing hands after work.

Another finding is that there is a difference in awareness on COVID-19 based on the education level. This is in line with the findings of Bawazir et al. (2018) which stated that a higher level of education affected individual and group awareness on preventing the spread of a pandemic outbreak. In addition, Labban et al. (2020) also showed that educational backgrounds differentiate the level of awareness on COVID-19, namely, individuals with bachelor degree had a higher level of awareness. Higher education subjects had awareness on COVID-19 because they had better knowledge and understanding of the disease, so they seek to take preventive action.

For compliance on social distancing, this study found differences in compliance on social distancing in term of sex. Most women are more willing to obey the stay at home policy than men, possibly because women display more positive health-related behaviors so that they better comply with order related to social distancing to prevent the spread of COVID-19 (Bass et al., 2010). A research by Marshall et al. (2012) found that when faced with H1N1 in 2007 and 2009, women were more likely to comply with the use of masks and to the stay-at-home order. Employment status, age, education, and income did not appear to differentiate the compliance in this study.

This study also shows that awareness on COVID-19 is linked to compliance on social distancing during a pandemic. With awareness on COVID-19, the public will seek information related to disease such as disease symptoms, risks or impacts of disease, and treatment so that they seek to take preventive measures, one of which is compliance on social distancing order.

5 | CONCLUSION

The research found that there was a significant positive relationship between the variable awareness of COVID-19 and compliance to social distancing. Awareness of COVID-19 was found significantly in working individuals, as well as in individuals with postgraduate education levels. The difference in adherence to social distancing was found to be higher in women than men. Based on the results of the study, awareness of COVID-19 is an important indicator to increase adherence to health protocols. Awareness of COVID-19 can be obtained by searching for valid
information related to COVID-19, thus the public will gain sufficient knowledge so that it can lead to healthy behavior to prevent being infected with COVID-19.

6 | LIMITATIONS

Online data collection via Google Form is a limitation in this study. This is because there may be groups that cannot be reached as research respondents, namely, groups who are unfamiliar with online survey such as groups with lower education and older age. Most of the research respondents who graduated from high school in this study belong to a highly educated group. This may be why the data in this study were not normally distributed, namely, the relatively high awareness of COVID-19 and relatively high compliance. The variable of compliance with a government order in preventing the spread of COVID-19 needs to be supported by many parties. A research is needed from various other variables such as public political trust (Painter & Qiu, 2021) to get a more comprehensive view of what factors can predict public compliance besides awareness on COVID-19. Besides that, the construct validity or internal structure of the instruments need to be improved. Both instruments have variance <50% (29% for awareness scale on COVID-19% and 32.3% for compliance on social distancing order scale).

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

AUTHOR CONTRIBUTIONS

All authors have made substantial contributions to all of the following: (a) the conception and design of the study, or acquisition of data, or analysis and interpretation of data, (b) drafting the article or revising it critically for important intellectual content, and (c) final approval of the version to be submitted.

PEER REVIEW

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DATA AVAILABILITY STATEMENT

The datasets used and/or analyzed during the current study are available at https://osf.io/zemdv and https://mfr.osf.io/render?url=https%3A%2F%2Fosf.io%2Ftuhd9%2Fdownload

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REFERENCES
Ahmed, F., Zviédrite, N., & Uzicanin, A. (2018). Effectiveness of workplace social distancing measures in reducing influenza transmission: A systematic review. *BMC Public Health*, 18(1), 1–13. https://doi.org/10.1186/s12889-018-5446-1
Alahdhal, H., Basingab, F., & Alotaibi, R. (2020). An analytical study on the awareness, attitude and practice during the COVID-19 pandemic in Riyadh, Saudi Arabia. *Journal of Infection and Public Health*, 13(10), 1446–1452. https://doi.org/10.1016/j.jiph.2020.06.015
Balkhy, H. H. H., Abolfotouh, M. A., Al-Hathloul, R. H., & Al-Jumah, M. A. (2010). Awareness, attitudes, and practices related to the swine influenza pandemic among the Saudi public. *BMC Infectious Diseases*, 10(1), 42. https://doi.org/10.1186/1471-2334-10-42
Bargain, O., & Aminjonov, U. (2020). Trust and compliance to public health policies in times of COVID-19. *Journal of Public Economics*, 192, 104316. https://doi.org/10.1016/j.jpubeco.2020.104316
Bass, S. B., Ruzek, S. B., Ward, L., Gordon, T. F., Hanlon, A., Hausman, A. J., & Hagen, M. (2010). If you ask them, will they come? Predictors of quarantine compliance during a hypothetical avian influenza pandemic: Results from a statewide survey. *Disaster Medicine and Public Health Preparedness*, 4(2), 135–144. https://doi.org/10.1001/dmph.D-09-00052R2
Bawazir, A., Al-Mazroo, E., Jradi, H., Ahmed, A., & Badri, M. (2018). MERS-CoV infection: Mind the public knowledge gap. *Journal of Infection and Public Health*, 11(1), 89–93. https://doi.org/10.1016/j.jiph.2017.05.003
Bharucha, N. E., & Kuruvilla, T. (2003). Hypertension in the Parsi community of Bombay: A study on prevalence, awareness and compliance to treatment. *BMC Public Health*, 3(1), 1. https://doi.org/10.1186/1471-2458-3-1
Blake, K. D., Blendon, R. J., & Viswanath, K. (2010). Employment and compliance with pandemic influenza mitigation recommendations. *Emerging Infectious Diseases*, 16(2), 212–218. https://doi.org/10.3201/eid1602.090638
Calman, K. C. (2002). Communication of risk: Choice, consent, and trust. *The Lancet*, 360(9327), 166–168. https://doi.org/10.1016/S0140-6736(02)08094-7
Center for Disease Control and Prevention. (2019). How to protects yourself & others. Accessed January 26. https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/prevention.html
Chan, E. Y. (2020). Moral foundations underlying behavioral compliance during the COVID-19 pandemic. *Personality and Individual Differences*, 171, 110463. https://doi.org/10.1016/j.paid.2020.110463
CNN Indonesia. (2020). Bawaslu: Total 2.584 Kegiatan Kampanye Langgar Protokol. In CNN Indonesia. https://www.cnnindonesia.com/nasional/20201211202144-32-581160/bawaslu-total-2584-kegiatan-kampanye-langgar-protokol/
Desai A. N., & Patel P. (2020). Stopping the Spread of COVID-19. *JAMA*, 323(15), 1516. http://dx.doi.org/10.1001/jama.2020.4269
Eastwood K., Durrheim D., Francis J., & Tursan d (2013). The Lancet, 381(9869), 1553–1559. http://dx.doi.org/10.1016/S0140-6736(13)61248-7
Foldager, O. (2010). Assessing the Level of Awareness and Knowledge of COVID-19 Pandemic among Syrians. *Archives of Medicine*, 12(3), 1–5. http://dx.doi.org/10.36648/1989-5216.12.3.309
Li, S., Wang, Y., Xue, J., Zhao, N., & Zhu, T. (2020). The impact of COVID-19 epidemic declaration on psychological consequences: A study on active weibo users. *International Journal of Environmental Research and Public Health*, 17(6), 2023. https://doi.org/10.3390/ijerph17062032
Luger, T. M. (2013). In M. D. Gellman, & J. R. Turner (Eds.), Health Beliefs/Health Belief Model. Encyclopedia of Behavioral Medicine, (pp. 907–908). Springer. https://doi.org/10.1007/978-1-4419-1005-9_1227

Manika, D., Golden, L. L., & Brockett, P. L. (2017). In C. L. Campbell (Ed.), H1N1 Prevention Behaviors in Australia: Implications from an Extended Health Belief Model. The Customer is NOT Always Right? Marketing Orientations in a Dynamic Business World. Developments in Marketing Science: Proceedings of the Academy of Marketing Science, (pp. 285–286). Springer, Cham. https://doi.org/10.1007/978-3-319-50008-9_72

Marshall, H., Tooher, R., Collins, J., Mensah, F., Braunack-Mayer, A., Street, J., & Ryan, P. (2012). Awareness, anxiety, compliance: Community perceptions and response to the threat and reality of an influenza pandemic. American Journal of Infection Control, 40(3), 270–272. https://doi.org/10.1016/j.ajic.2011.03.015

Milne, G. J., & Xie, S. (2020). The effectiveness of social distancing in mitigating COVID-19 spread: A modelling analysis. MedRxiv [The Preprint Server for Health Sciences]. 2020.03.20.20040055. https://doi.org/10.1101/2020.03.20.20040055

Mya, K. S., M. S., A., Hlaing, W. A., Hlaing, S. S., Aung, T., Lwin, S. M. M., S. U., E., Tun, T., Lwin, K. S., & Win, H. H. (2020, May). Awareness, perceived risk and protective behaviours of Myanmar adults on COVID-19. International Journal Of Community Medicine And Public Health, 7(5), 1627–1636. https://doi.org/10.18203/2394-6040.ijcphp20201530

Newton, K. (2020). Government communications, political trust and compliant social behaviour: The politics of Covid-19 in Britain. The Political Quarterly, 91(3), 502–513. https://doi.org/10.1111/1467-923X.12901

Painter, M., & Qiu, T. (2021). Political beliefs affect compliance with goverment mandates (March 8, 2021). Journal of Economic Behavior and Organization, Forthcoming. Available at SSRN: https://ssrn.com/abstract=3569098; https://dx. doi.org/10.2139/ssrn.3569098

Qazi, A., Qazi, J., Naseer, K., Zeeshan, M., Hardaker, G., Maitama, J. Z., & Haruna, K. (2020). Analyzing situational awareness through public opinion to predict adoption of social distancing amid pandemic COVID-19. Journal of Medical Virology, 92, 0–2. https://doi.org/10.1002/jmv.25840

Rabinowitz, P. M., Huang, E., Paccha, B., Vegso, S., & Gurzau, A. (2013). Awareness and practices regarding zoonotic influenza prevention in Romanian swine workers. Influenza and Other Respiratory Viruses, 7(s4), 27–31. https://doi.org/10.1111/irv.12191

Sarafino, E. P., & Smith, T. W. (2014). Health psychology: Biopsychosocial interactions, 8, United States of America: John Wiley & Sons, Inc. https://www.wiley.com/en-us/Health%2BPysychology%3A%2Biopsychosocial%2BInteractions%2C%2B9th%2BEdition-p-9781119299486

Satgas Penanganan, COVID-19. (2020). Peta Sebaran. https://covid19.go.id/peta-sebaran

Shon, J. A., Yang, Y., & Park, J. H. (2016). Factors influencing compliance for influenza infection control by nurses. Journal of Korean Academy of Fundamentals of Nursing, 23(2), 161–171. https://doi.org/10.7739/jkafn.2016.23.2.161

Yulisman, L. (2020, March 2). Mother and daughter test positive for coronavirus in Indonesia, first confirmed cases in the country. The Strait Times. https://www.straitstimes.com/asia/se-asia/indonesia-confirms-two-coronavirus-cases-president

World Health Organization. (2020a). Coronavirus disease (COVID-19) outbreak: Rights, roles and responsibilities of health workers, including key considerations for occupational safety and health. (pp. 1–3). https://www.who.int/docs/default-source/coronavirus-who-rights-roles-respon-hw-covid-19.pdf?sfvrsn=bcabd401_0

World Health Organization. (2019b). Clinical management of severe acute respiratory infection when Middle East respiratory syndrome coronavirus (MERS-CoV) infection is suspected: Interim guidance, Updated January 2019 (WHO/MERS/Clinical/15.1 Revision 1). (pp. 1–12). World Health Organization. https://apps.who.int/iris/handle/10665/178529

Worldometer. (2020). COVID-19 coronavirus pandemic. https://www.worldometers.info/coronavirus

Yusuf, T. A. (2020). Tingkat Kesadaran Masyarakat dalam Social and Physical Distancing Masih Rendah (p. 1). Harian Pelita. Accessed April 8, 2021. https://harianpelita.co/2020/04/08/tingkat-kesadaran-masyarakat-dalam-social-and-physical-distancing-masih-rendah/

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### APPENDIX A

**TABLE A.1. Items of awareness on the COVID-19 scale (English and Bahasa Indonesia Version)**

| Num | Item                                                                 |
|-----|----------------------------------------------------------------------|
| 1   | I am aware that the covid-19 virus is dangerous                      |
|     | Saya menyadari bahwa virus covid-19 berbahaya                        |
| 2   | I understand that anyone can catch Covid-19, including me            |
|     | Saya memahami bahwa siapa saja bisa terjangkit covid-19, termasuk saya|
| 3   | Even though young people are less vulnerable, they can spread Covid-19 to others |
|     | Meski orang usia muda lebih tidak rentan, mereka bisa menjadi agen penyebab covid-19 bagi orang lain |
| 4   | I know that elderly people with high blood pressure, heart, lung, and cancer have a higher risk of contracting Covid-19       |
|     | Saya tahu bahwa orang usia lanjut dengan masalah tekanan darah tinggi, jantung, paru-paru, kanker memiliki resiko lebih tinggi terinfeksi covid-19 |
| 5   | I know that Covid-19 spreads from person to person through nasal or mouth fluids from the sneeze or cough of a person with Covid-19 |
|     | Saya tahu bahwa covid-19 menyebar dari orang ke orang melalui cairan hidung atau mulut dari bersin atau batuk orang terkena covid-19 |
| 6   | I realized that we can become infected with Covid-19 by touching an object that is exposed to the virus                     |
|     | Saya menyadari bahwa kita dapat terinfeksi covid-19 dengan menyentuh objek yang terpapar virus                             |
| 7   | I know that people without symptoms can spread the covid-19 virus   |
|     | Saya tahu bahwa orang tanpa gejala dapat ikut menyebarkan virus covid-19                                               |
| 8   | I know that fever, dry cough, and fatigue can all indicate covid-19 infection                                            |
|     | Saya mengetahui bahwa demam, batuk kering, kelelahan bisa mengindikasikan terinfeksi covid-19                              |
| 9   | I know that some people infected with Covid-19 have only a mild cough without serious symptoms                           |
|     | Saya tahu bahwa beberapa orang yang terinfeksi covid-19 hanya mengalami batuk ringan tanpa gejala serius                   |
| 10  | I know that some people infected with Covid-19 have serious symptoms that make them difficult to breathe                   |
|     | Saya tahu bahwa beberapa orang yang terinfeksi covid-19 memiliki gejala serius hingga kesulitan bernafas                   |
| 11  | It is very important to wash your hands regularly with soap and water                                                  |
|     | Sangat penting untuk rutin mencuci tangan dengan sabun dan air                                                        |
| 12  | It is important to always keep a distance of at least 1 meter from other people                                         |
|     | Penting untuk selalu menjaga jarak paling tidak 1 meter dari orang lain                                                |
| 13  | I realize the importance of wearing a mask when going out of the house                                                 |
|     | Saya menyadari pentingnya untuk penggunaan masker ketika pergi keluar rumah                                              |
| 14  | I recognize the importance of staying at home during the Covid-19 pandemic                                              |
|     | Saya menyadari pentingnya untuk tetap di rumah selama masa pandemi covid-19                                              |
| 15  | I know that until now, no vaccine has been found for Covid-19                                                          |
|     | Saya mengetahui bahwa hingga detik ini, belum ditemukan vaksin untuk covid-19                                          |
## APPENDIX B

### TABLE B.1. Items of compliance with social distancing scale (English and Bahasa Indonesia Version)

| Num | Item                                                                                           | Indonesian                                                                                   |
|-----|------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 1   | I am sure that following the order to stay at home will prevent COVID-19                      | Saya yakin menaati aturan tetap di rumah akan terhindar dari COVID-19                         |
| 2   | I am willing to abide by the order of staying at home during a pandemic                       | Saya bersedia menaati aturan tetap berada di rumah selama pandemik                           |
| 3   | I reduced my outdoor activities during the pandemic                                           | Saya mengurangi kegiatan di luar rumah selama masa pandemik                                 |
| 4   | I believe that distancing regulations during a pandemic can reduce virus transmission        | Saya yakin bahwa aturan menjaga jarak selama pandemik dapat mengurangi penularan virus        |
| 5   | The travel restrictions imposed by the government makes absolutely no sense to me            | Larangan bepergian yang diterapkan pemerintah sama sekali tidak masuk akal buat saya          |
| 6   | I stay away from crowded places during the pandemic                                           | Saya menjauhi tempat-tempat yang ramai selama pandemik                                      |
| 7   | I am sure wearing a mask when going out of the house will keep me from being threatened by this pandemic | Saya yakin mengenakan masker saat keluar rumah akan menghindarkan saya dari ancaman pandemi ini |
| 8   | In my opinion, order for social distancing are less effective                                | Himbauan untuk melakukan social distancing menurut saya kurang efektif                      |
| 9   | I avoid outside group or mass gatherings                                                      | Saya menghindari pertemuan kelompok atau massa di luar                                       |
| 10  | For me, the government’s order regarding the prevention of COVID-19 does not really matter   | Bagi saya, himbauan pemerintah terkait pencegahan COVID-19 tidak terlalu penting              |
| 11  | I feel that sanctions are necessary for those who break the order of staying at home         | Saya merasa sanksi diperlukan bagi mereka yang melanggar aturan tetap berada di rumah         |
| 12  | I keep 2 meters away when I have to leave the house                                           | Saya tetap menjaga jarak 2 meter apabila saya terpaksa harus keluar rumah                     |
| 13  | Government’s restrictions on social and physical activity are the best step for me           | Pembatasan aktivitas sosial dan fisik yang diterapkan pemerintah merupakan langkah yang terbaik bagi saya |
| 14  | The sanctions given to those who violate the Large-Scale Social Restrictions (PSBB) regulations only suffer the people | Sanksi yang diberikan bagi yang melanggar aturan PSBB hanya menyengsaraan rakyat              |
| 15  | I immediately sought help if my body felt the symptoms as informed by the government       | Saya segera mencari pertolongan jika tubuh saya merasakan gejala-gejala seperti yang diinformasikan pemerintah |

**Note:** F is a favorable item, UF is an unfavorable item.