



“We Still Know What You Did During the Pandemic”: The Association Between Fear of COVID-19 and Preventive COVID-19 Behaviors

Fandy Tjiptono¹ and Andhy Setyawan²(✉)

¹ Victoria University of Wellington, Wellington, New Zealand

² University of Surabaya, Surabaya, Indonesia

andhy@staff.ubaya.ac.id

Abstract. The COVID-19 pandemic has triggered a sense of fear among many people around the world. While the effects of fear of COVID-19 on mental health have been studied intensively, its consequences on preventive health behavior have not. The current study aims to address this research gap by investigating the effects of fear of COVID-19 on preventive COVID-19 behaviors. Using an online survey involving 400 respondents in Indonesia, the one-way MANOVA analysis results provide initial empirical support that fear of COVID-19 has positive influences on the four dimensions of preventive COVID-19 behaviors (Complying Behavior; Updating and Staying Fit; Preventing and Anticipating Behavior; and Avoiding and Minimizing Risks). The higher the fear, the higher the preventive behavior.

Keywords: Fear of COVID-19 · Indonesian Consumers · Preventive COVID-19 Behavior

1 Introduction

The COVID-19 pandemic has created unprecedented long-term negative effects on the economy and society worldwide [1, 2]. The coronavirus has infected more than 678 million people, with almost 6.8 million deaths worldwide in mid-February 2023 [3]. Many restrictions (such as social or physical distancing, lockdowns, mandatory and self-isolation, and travel bans) were implemented to mitigate the transmission of the highly infectious disease. The health (e.g., the number of active cases and deaths) and economic (e.g., bankruptcy cases, unemployment, increased living costs, inflation, and economic crisis) consequences of COVID-19 have been one of the dominant headlines of all media coverage (online and offline) [1, 4]. These circumstances appear to have inflicted a sense of fear of COVID-19 among individuals worldwide [5, 6].

Fear refers to “a basic, intense emotion aroused by the detection of imminent threat, involving an immediate alarm reaction that mobilizes the organism by triggering a set of physiological changes” [7]. In the context of COVID-19, Schimmenti et al. [8] identified four domains of fear experienced during the outbreak: bodily domain (fear of the body and fear for the body), interpersonal domain (fear of others and fear for others), cognitive domain (fear of knowing and fear of not knowing), and behavioral domain (fear of action and fear of inaction).

Several scales have been proposed to be measures of Fear of COVID-19. One of them is the Fear of COVID-19 scale (FCV-19S) [5]. Consisting of 7 (seven) items, the FCV-19S has been translated into different languages and validated in some countries (such as Bangladesh, Brazil, France, Iran, Italy, Japan, and New Zealand) with evidence of satisfactory psychometric properties [6, 9]. However, Ransing et al. [10] suggested that all the existing instruments measuring fear of COVID-19 must be further assessed and validated in different countries and settings. While the FCV-19S scores were found to be positively related to anxiety and depression, Pakpour and Griffiths [1] highlighted the need to examine the relationship between Fear of COVID-19 and preventive COVID-19 behaviors (e.g., maintaining physical distance, washing hands, wearing a face mask, and so forth). Therefore, the present study aims to address this important research gap by examining the effects of Fear of COVID-19 on health-related behavior. The instrument used to measure such desirable behavior is Preventive COVID-19 Behavior, which consists of four types: Complying Behavior (CB), Updating and Staying Fit (USF), Preventing and Anticipating Behavior (PAB), and Avoiding and Minimizing Risks (AMR) [11].

2 Research Method

An online self-administered survey was conducted to investigate the effects of Fear of COVID-19 on Preventive COVID-19 Behavior. Convenience sampling was used to reach respondents aged 17 years or older during Indonesia’s Community Activities Restrictions Enforcement period. Four hundred adults responded to the survey.

Two recently developed scales were used to measure the key variables of interest. Fear of COVID-19 was measured using the FCV-19S [5]. It consists of seven items (such as “I am most afraid of coronavirus-19”, “I am afraid of losing my life because of coronavirus-19”, and “I cannot sleep because I’m worrying about getting coronavirus-19”). Preventive COVID-19 behavior comprises four dimensions: Complying behavior (4 items, such as “wearing a face mask” and “stick to the social distancing guidelines”), Updating and Staying Fit (3 items, such as “reading online news about COVID-19 in Indonesia), Preventing and Anticipating Behavior (3 items, such as “increased use of disinfectants”), and Avoiding and Minimizing Risks (6 items, such as “avoiding crowds” and “avoiding the use of public transportation”) [11]. A five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) was used for all items.

Data were analyzed using a one-way MANOVA technique to examine how Fear of COVID-19 relates to the four preventive COVID-19 behaviors [12]. Following Ahorsu et al. [5], the scores of all seven items of FCV-19S for each respondent were added up. The total score was then averaged for each respondent to form the individual average FCV-19S score (the higher the average, the greater the fear of COVID-19). For the one-way MANOVA analysis purpose, a median split was used to categorize the respondents into two groups (High Fear of COVID-19 and Low Fear of COVID-19). More specifically, the median score of all individual average FCV-19S scores is 2.71. Respondents with an average FCV-19S lower than 2.17 are categorized as having a Low Fear of COVID-19. The rest is grouped into High Fear of COVID-19.

3 Results and Discussion

Fear has been suggested as an important factor affecting how people respond to behavioral measures and guidelines set to prevent coronavirus transmission [1, 13]. The current study's findings provide initial empirical evidence for the positive relationships between Fear of COVID-19 and preventive health behaviors in Indonesia, the world's fourth most populated country.

Table 1 shows that 56.8% (227 people) of the respondents can be categorized as individuals with low fear of COVID-19 based on the median split. With the exception of updating and staying fit ($M = 3.179$), the respondents show reasonably high preventive and anticipative actions ($M = 3.764$), risk avoidance and minimization efforts ($M = 4.466$) as well as compliant behavior ($M = 4.624$).

The one-way MANOVA testing results indicate a statistically significant difference in preventive COVID-19 behavior based on individuals' Fear level of COVID-19 ($F = 16.776$; $p < .001$; Wilk's $\Lambda = .855$, partial $\eta^2 = .145$ (see Table 2).

To determine how CB, USF, PAB, and AMR differ between high and low FCV-19S groups, a closer look at the tests of between-subjects effects is needed [12]. The results reveal that fear of COVID-19 has a significant positive effect on CB ($F = 13.656$; $p < .001$; partial $\eta^2 = .033$), USF ($F = 52.760$; $p < .001$; partial $\eta^2 = .117$), PAB ($F = 40.403$; $p < .001$; partial $\eta^2 = .092$), and AMR ($F = 18.867$; $p < .001$; partial $\eta^2 = .045$) (see Table 3). Overall, the findings suggest that the higher the Fear of COVID-19, the more likely an individual is to take preventive actions.

4 Conclusion

The main contribution of the present study is the preliminary empirical support for the association between fear of COVID-19 and preventive COVID-19 behaviors. Not only it contributes to the literature on fear appeals in attitude and behavior change [1, 8, 10], but it also examines the application of two relatively new scales (FCV-19S and preventive COVID-19 behaviors) in the Indonesian context [5, 11].

Table 1. The Results of Descriptive statistics

| Dependent Variable | Independent Variable | Mean | S.D. | N |
|--|----------------------|-------|------|-----|
| Complying Behavior (CB) | Low FCV-19S | 4.541 | .587 | 227 |
| | High FCV-19S | 4.733 | .399 | 173 |
| | Total | 4.624 | .523 | 400 |
| Updating and Staying Fit (USF) | Low FCV-19S | 2.922 | .812 | 227 |
| | High FCV-19S | 3.516 | .809 | 173 |
| | Total | 3.179 | .862 | 400 |
| Preventing and Anticipating Behavior (PAB) | Low FCV-19S | 3.526 | .908 | 227 |
| | High FCV-19S | 4.077 | .792 | 173 |
| | Total | 3.764 | .901 | 400 |
| Avoiding and Minimizing Risks (AMR) | Low FCV-19S | 4.347 | .719 | 227 |
| | High FCV-19S | 4.622 | .482 | 173 |
| | Total | 4.466 | .641 | 400 |

Table 2. The Results of Multivariate tests

| Effect | | Value | F | Hypothesis | | | Partial Eta Squared |
|----------------|--------------------|--------|-----------------------|------------|----------|------|---------------------|
| | | | | df | Error df | Sig. | |
| Intercept | Pillai’s Trace | .989 | 8812.957 ^b | 4.000 | 395.000 | .000 | .989 |
| | Wilks’ Lambda | .011 | 8812.957 ^b | 4.000 | 395.000 | .000 | .989 |
| | Hotelling’s Trace | 89.245 | 8812.957 ^b | 4.000 | 395.000 | .000 | .989 |
| | Roy’s Largest Root | 89.245 | 8812.957 ^b | 4.000 | 395.000 | .000 | .989 |
| FCV-19S Groups | Pillai’s Trace | .145 | 16.776 ^b | 4.000 | 395.000 | .000 | .145 |
| | Wilks’ Lambda | .855 | 16.776 ^b | 4.000 | 395.000 | .000 | .145 |
| | Hotelling’s Trace | .170 | 16.776 ^b | 4.000 | 395.000 | .000 | .145 |
| | Roy’s Largest Root | .170 | 16.776 ^b | 4.000 | 395.000 | .000 | .145 |

a. Design: Intercept + G_FCV; b. Exact statistic.

Negative emotions such as fear are common during a pandemic because infectious diseases are transmitted rapidly with a high risk of mortality [6, 8]. Although this study focuses on the COVID-19 pandemic, the findings are relevant to other health-related

Table 3. The Results of Tests of between-subjects effects

| Source | Dependent Variable | Type III Sum of Squares | df | Mean Square | F | Sig. | Partial Eta squared |
|-----------------|--------------------|-------------------------|-----|-------------|-----------|------|---------------------|
| Corrected Model | M_CB | 3.616 ^a | 1 | 3.616 | 13.656 | .000 | .033 |
| | M_USF | 34.664 ^b | 1 | 34.664 | 52.760 | .000 | .117 |
| | M_PAB | 29.847 ^c | 1 | 29.847 | 40.403 | .000 | .092 |
| | M_AMR | 7.428 ^d | 1 | 7.428 | 18.867 | .000 | .045 |
| Intercept | M_CB | 8442.881 | 1 | 8442.881 | 31886.066 | .000 | .988 |
| | M_USF | 4069.942 | 1 | 4069.942 | 6194.516 | .000 | .940 |
| | M_PAB | 5674.865 | 1 | 5674.865 | 7681.858 | .000 | .951 |
| | M_AMR | 7898.806 | 1 | 7898.806 | 20062.135 | .000 | .981 |
| FCV-19S Groups | M_CB | 3.616 | 1 | 3.616 | 13.656 | .000 | .033 |
| | M_USF | 34.664 | 1 | 34.664 | 52.760 | .000 | .117 |
| | M_PAB | 29.847 | 1 | 29.847 | 40.403 | .000 | .092 |
| | M_AMR | 7.428 | 1 | 7.428 | 18.867 | .000 | .045 |
| Error | M_CB | 105.384 | 398 | .265 | | | |
| | M_USF | 261.495 | 398 | .657 | | | |
| | M_PAB | 294.017 | 398 | .739 | | | |
| | M_AMR | 156.699 | 398 | .394 | | | |
| Total | M_CB | 8660.625 | 400 | | | | |
| | M_USF | 4339.000 | 400 | | | | |
| | M_PAB | 5991.444 | 400 | | | | |
| | M_AMR | 8143.083 | 400 | | | | |
| Corrected Total | M_CB | 108.999 | 399 | | | | |
| | M_USF | 296.160 | 399 | | | | |
| | M_PAB | 323.864 | 399 | | | | |
| | M_AMR | 164.128 | 399 | | | | |

a. R Squared = ,033 (Adjusted R Squared = ,031); b. R Squared = ,117 (Adjusted R Squared = ,115); c. R Squared = ,092 (Adjusted R Squared = ,090); d. R Squared = ,045 (Adjusted R Squared = ,043)

and non-health-related crises. Therefore, future research may explore other relevant antecedents of preventive behaviors as well as both positive and negative consequences of fear [1, 10].

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