

# Risk Perception of COVID-19 in Indonesia During the First Stage of the Pandemic

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## Abstract

In Indonesia, according to national data available at [www.covid19.go.id](http://www.covid19.go.id), as of April 24, 2020, the number of confirmed COVID-19 cases had reached 8,155. Cases were concentrated in the State of Jakarta, West Java, East Java, Central Java, South Sulawesi, Banten and Bali. Perceptions of COVID-19 amongst Indonesian citizens were studied by an online survey in the first week of May 2020, two months after the first case in Indonesia. The questionnaire was developed by following a standard questionnaire on risk perception of an infectious disease outbreak from ECOM (Effective Communication in Outbreak Management for Europe) 2015. Level of knowledge, newness, infectiousness, fatalities, modes of transmission, control measures, efficacy of control measures as well as motivation and hindering factors in the execution of prevention methods were investigated. The questionnaire was distributed through social media. A total of 1,043 respondents participated in this study, of whom the majority reside in those seven targeted provinces (Jakarta, West Java, Central Java, East Java, South Sulawesi, Banten and Bali). Most respondents were female (59.1%), aged 26-45 years old (66.3%), married (63.9%), bachelor's degree holders (55.2%), Muslim (71.7%) and were never in contact with a COVID-19 patient (82.5%). Most participants deemed their level of knowledge regarding COVID-19 to be average (70.9%), in which social media (85.2%) and online news (82.2%) were their main sources of information. Almost all (99.8%) of the respondents were aware that COVID-19 is caused by a virus; and that the main modes of transmission are through saliva droplets (97.1%) and contaminated surfaces (86.5%). More than 85% of the respondents perceived that COVID-19 is very infectious and spreads within days after contact with a COVID-19 patient(s) (>50% respondents). More than 95% of the respondents perceived the threat of COVID-19 as serious and very serious, however, the level of anxiety among those respondents was moderate (quite anxious and anxious). Other studies about risk perception of COVID-19 in Indonesia are compared and discussed. In conclusion, although risk perceptions of the newness, severity, contagiousness, threat and number of confirmed cases were high, respondents showed a moderate extent of anxiety due to risk tolerance in this study population. Good knowledge of control measures, belief in the efficacy and willingness to carry out measures, and perception toward ability and readiness to control the risk have balanced the risk perception.

Keywords: *risk perception, COVID-19, Indonesia.*

## 1. Introduction

On December 31, 2020, China reported a cluster of new pneumonia cases in Wuhan, Hubei Province, caused by the SARS-CoV-2 virus (World Health Organization, 2020a). The average incubation period of SARS-CoV-2 is estimated to be five days (Lauer *et al.*, 2020). Due to the rapid transmission, on March 31, 2020, COVID-19 (Coronavirus Disease) was declared as a global pandemic (World Health Organization, 2020b). Men are at a higher risk for worse outcomes and death due to COVID-19 than women (Jin *et al.*, 2020; Singh *et al.*, 2020; Wei *et al.*, 2020). COVID-19 has also been found to be more fatal in older people (Jordan, Adab and Cheng, 2020; Onder, Rezza and Brusaferro, 2020; Russell *et al.*, 2020).

In order to reduce the transmission of COVID-19, behavioural change in communities plays a crucial role (Betsch, Wieler and Habersaat, 2020; West *et al.*, 2020). The transmission of a disease is influenced by an individual's behavioural response, such as adopting preventive measures, which is shaped by their perceptions (Atchison and Dubin, 2003; Bults *et al.*, 2015; Dryhurst *et al.*, 2020). A person's risk perception has an important role in motivating that person to change their health behaviour (De Zwart *et al.*, 2009; Abraham and Sheeran, 2014; Ferrer and Klein, 2015). On the other hand, how a person perceives a risk is not always related to the real risk (Reintjes *et al.*, 2016). Learning from the Ebola outbreak in 2014, the public's perception towards a disease is influenced by their knowledge which comes from the information they receive (Gesser-Edelsburg *et al.*, 2015; RübSamen *et al.*, 2015; Sell *et al.*, 2017).

On March 2, 2020, President Joko Widodo officially declared the first two cases of COVID-19 in Indonesia. Following the announcement, an online platform was established for COVID-19-related communication between the Indonesian government and its citizens ([www.covid19.go.id](http://www.covid19.go.id)). Since then, risk communication from the Indonesian government continued not only via the website, but also through television. The characteristics of risk communication in Indonesia during the first stage of the COVID-19 pandemic were studied by

Rosfiantika et al. (2020) and presented as “warning an emergency event and triggering behavioural change aimed communication” according to the O’Neill model (2004); and non-participation communication according to Arnstein’s “eight-rung” Ladder of Citizen participation (Rosfiantika, Permana and Mahameruaji, 2020). The main aims of risk communication by the Indonesian government during that stage were to provide updates about the total number of emerging COVID-19 cases, and to suggest COVID-19 control measures e.g. hand sanitising, and staying at home. Whether the provided information, from official and other sources, is a micro-level factor that shaped risk perception and risk tolerance at an individual level of Indonesian citizens is yet to be investigated.

This study aimed to assess the risk perception and risk tolerance of Indonesian citizens residing in the areas most affected by COVID-19. According to [www.covid19.go.id](http://www.covid19.go.id), in early May 2020, the seven provinces which had the highest number of COVID-19 cases were Jakarta, West Java, Central Java, East Java, South Sulawesi, Bali and Serang. Thus, residents in these areas were the targeted respondents for this study.

## **2. Methods**

Since most people are working at home during the COVID-19 pandemic, an online survey was conducted using a self-administered questionnaire. Indonesians residing in Indonesia and aged 18 years or above were eligible to participate in this cross-sectional study. The link to the online questionnaire (a Google Form) was circulated among the potential participants via the WhatsApp messenger application with the contact details of the investigators. Snowball sampling methods were applied to gather potential participants. Ethics approval was obtained from the Research and Community Engagement Ethical Committee, Faculty of Public Health, Universitas Indonesia (164/UN2.F10.D11/PPM.00.02/2020).

A set of an online standardised self-administered questionnaires sought demographic information (i.e. gender, age, marital status, religion, job title, education background, province

of residence, and contact with COVID-19 patient/s). Regarding COVID-19, a standardised self-administered questionnaire from ECOM (Effective Communication in Outbreak Management for Europe) 2015 with multiple responses was used to gather information on knowledge (two questions), disease background (three questions), risk perception (six questions) of COVID-19, risk tolerance (four questions) and motivation/hindering factors in the implementation of available control measures (five questions).

The prevalence of responses to every question was calculated. Differences in prevalence among groups were assessed using the chi-square test. The level of significance was set at  $p < 0.05$ . All statistical analyses were conducted using Statistical Package for the Social Sciences version 23.0 (Statistical Package for the Social Sciences (SPSS) Statistics 23, 2014).

### **3. Results**

A total of 1,043 respondents participated in this study, from 30 out of the 34 Indonesian provinces. This study focused on the most heavily infected provinces at the time of this study, according to Indonesian COVID-19 data; these included Jakarta, West Java, East Java, Central Java, South Sulawesi, Banten and Bali. More than 90% of the respondents reside in those seven provinces. Sociodemographic characteristics of the respondents are presented at Table 1. The survey results are presented in the following paragraphs and the associations between perception and sociodemographic variables are provided in the supplementary materials.

Of the 1,043 respondents, 40.9% ( $n=425$ ) were male and 59.1% ( $n=615$ ) were female, while three respondents preferred not to specify. The majority of respondents (66.3%,  $n=692$ ) were 26-45 years old (adults). Based on their marital status, 63.9% ( $n=666$ ) of the respondents were married, and 36.1% ( $n=377$ ) unmarried. According to their occupational status, most of the respondents were working as an employee at a private company (30.2%,  $n=315$ ) and as civil servants (24.4%,  $n=254$ ). Half of the respondents (55.2%,  $n=576$ ) are graduates and 29.2%

(n=305) are post-graduates.

**Table 1. Sociodemographic Characteristics of the Respondents**

Characteristics	Participants	
	n	%
<b>Sex (n=1,040)</b>		
Male	425	40.9
Female	615	59.1
Preferred not to answer	3	
<b>Age (n=1,043)</b>		
(18-25)	230	22.1
(26-45)	692	66.3
(46-65)	117	11.2
(>65)	4	0.4
<b>Marital Status (n=1,043)</b>		
Married	666	63.9
Unmarried	377	36.1
<b>Religion (n=1,043)</b>		
Islam	748	71.7
Catholic	32	3.1
Christian	82	7.9
Buddha	4	0.4
Hindu	164	15.7
Preferred not to answer	13	1.2
<b>Occupation (n=1,043)</b>		
Civil servant	254	24.4
Private company	315	30.2
Student	140	13.4
Housewife	117	11.2
Others	217	20.8
<b>Educational Background (n=1,043)</b>		
Senior high school	162	15.5
Graduate	576	55.2
Post-graduate	305	29.2
<b>Contact with COVID-19 patient/s (n=1,403)</b>		
Yes	42	3.9
No	876	82.1
Unknown	149	14.0

***Level of Knowledge of COVID-19***

Four choices were provided in the questionnaire pertaining to the respondent's level of knowledge of COVID-19: none; little; average; and above average. Of the 1,043 respondents, the majority (70.9%, n=740) identified as average, 19.2% (n=200) as above average, while the remaining respondents identified as very little (9.6%, n=100) and none (0.3%, n=3). There was a significant difference in respondents' perceived level of knowledge between males and females ( $p<0.01$ ) and between educational background groups ( $p<0.01$ ).

### ***Source of Information***

The respondents were asked about their sources of information, and they could provide more than one answer. The sources included online news, social media, television, newspaper, radio, word of mouth and others. Interestingly, social media (85.2%) and online news (82.2%) were the two most accessed sources, followed by television (63%) and word of mouth (45.3%). Less than 20% of the respondents retrieved information about COVID-19 from the newspaper (12.9%), radio (9.4%) and other sources (18.5%). Regarding word of mouth, more married respondents included this as a source of information about COVID-19 than unmarried respondents ( $p<0.05$ ).

### ***Disease Background Information***

Further examination of the respondents' understanding of the causative agent of COVID-19 and its modes of transmission were performed. Most of the respondents (99.8%, n=1,041) were aware that COVID-19 is a viral disease. Respondents were also asked about the modes of transmission of COVID-19, and the five answer options were saliva droplets, contaminated surfaces, food, water and animal bites, and respondents could choose more than one answer. Almost all respondents (97.1%, n=1,037) answered that saliva droplets are the main route of transmission, followed by contaminated surfaces (86.5%, n=921). Other modes (food, water and animal bites) accounted for less than 20% each. Interestingly, those who had contact with an active COVID-19 patient were more likely to perceive food ( $p<0.01$ ) and water ( $p<0.01$ ) as

modes of transmission.

Knowledge of available COVID-19 control measures was assessed, and the answer options were hand sanitising, physical distancing, wearing a face mask, staying at home, exercising and consuming nutritious food; respondents could choose several answers. The vast majority believed that hand sanitising (95.9%, n=1,000); physical distancing (95.6%, n=997); wearing a face mask (94.7%, n=988); and staying at home (91.9%, n=958) are effective to control COVID-19 infection. In addition, the respondents also believed exercising (74.7%, n=779) and consuming nutritious foods (87.6%, n=914) are effective control measures. There was no significant difference between females and males in their perception towards the effectiveness of hand sanitising and wearing a face mask. However, the male and female respondents' perception towards the remaining control measures were significantly different ( $p < 0.05$ ). Educational background and occupation also affected the respondents' perception towards the control measures' efficacy which can be seen in Table S7 in the supplementary materials.

### ***Perception of COVID-19***

It was surprising that the level of anxiety due to COVID-19 in this study population was densely distributed between quite anxious (31%, n=323), anxious (43%, n=448) and very anxious (21.4%, n=223) (Figure 1). It can be concluded that the respondents' level of anxiety was moderate.

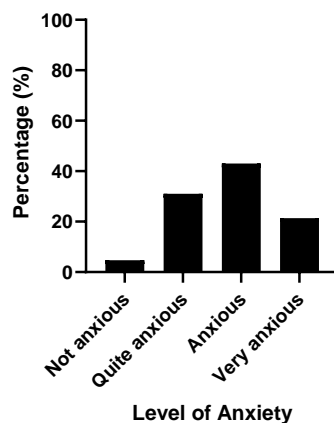


Figure 1. Level of anxiety due to COVID-19 in Indonesia (n=1,043).

To explain these findings, the respondents' risk perception and risk tolerance must be examined as many studies have stated that fear and anxiety are the result of the interaction between these two factors.

The respondents' risk perception of COVID-19 was qualitatively assessed through the respondent's perception of the newness, severity, infectiousness, contagiousness, seriousness, and total cases of the disease (Figure 2). In general, the respondents perceived COVID-19 as a high-risk disease. Most respondents (75.8%, n=791) perceived COVID-19 as an emerging disease, very infectious (85.9%, n=917), and 77% (n= 803) believed that its severity ranges from severe to very severe. About the same number (73.3%, n=764) agreed that it is a very serious disease, more than 91.4% (n=953) perceived that the virus spreads rapidly (within days to immediately) and 98.7% (n=1,020) believed that the total number of cases varied between high and very high.

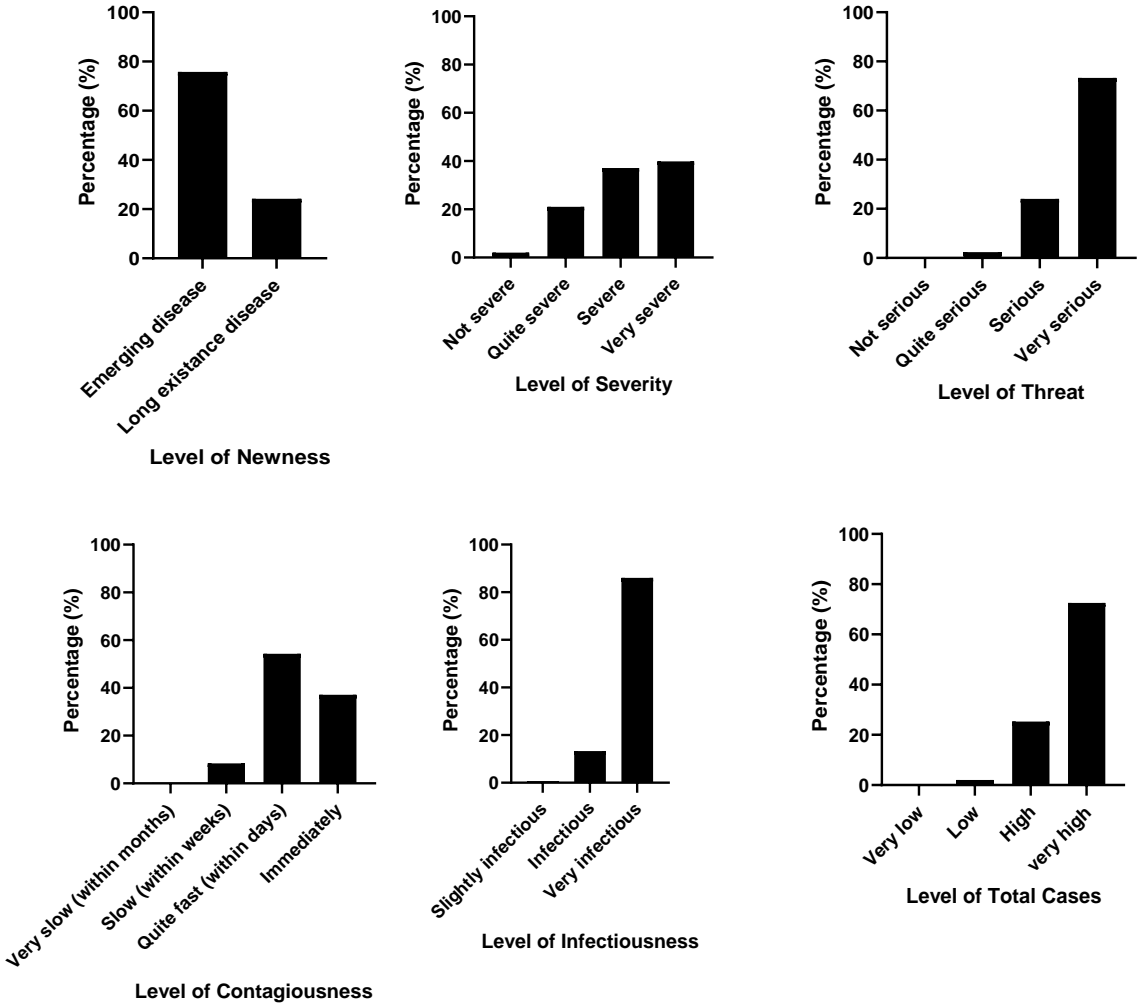




Figure 2. Perception of newness, severity, infectiousness, contagiousness, seriousness and total cases of COVID-19 in Indonesia (n=1,043).

Risk perception is associated with various individual factors. The most influential sociodemographic factors in this study were sex, occupation and level of education (Table S1 and Table S2 in supplementary materials).

Conversely, we found that the respondents' level of risk tolerance ranged from moderate to high (Figure 3). Nearly half (47.4%) of the respondents perceived that their preparedness to face COVID-19 as quite prepared, they perceived their ability to control COVID-19 risks as fairly able (41.1%) to able (43.4%), and most strikingly, more than 97% were willing to perform hand sanitising, physical distancing and wearing a face mask. Though 97% agreed that staying at home was important, only 83.4% would do so due to job requirements.

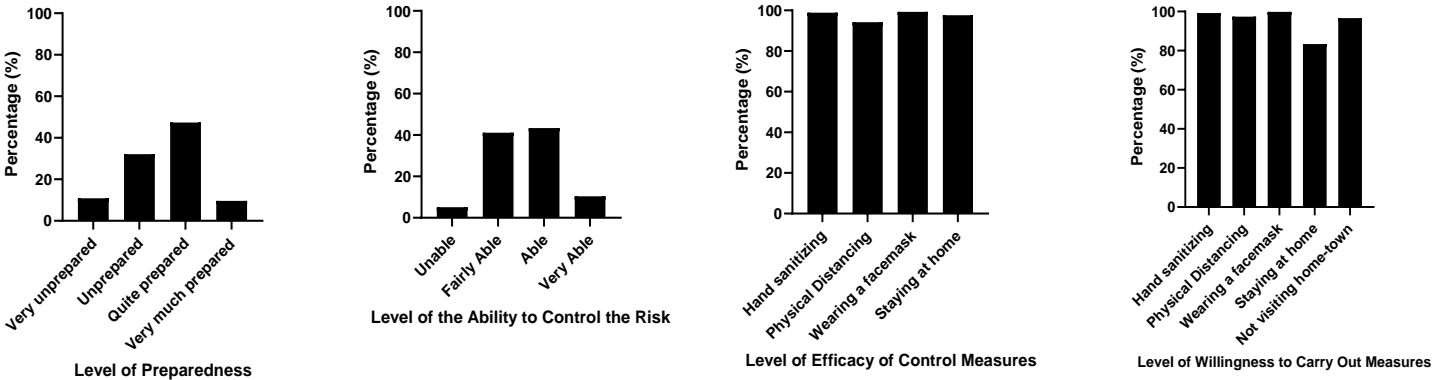


Figure 3. Perception of COVID-19 preparedness, ability to control the risk, efficacy of control measures and willingness to carry out measures in Indonesia (n=1,043).

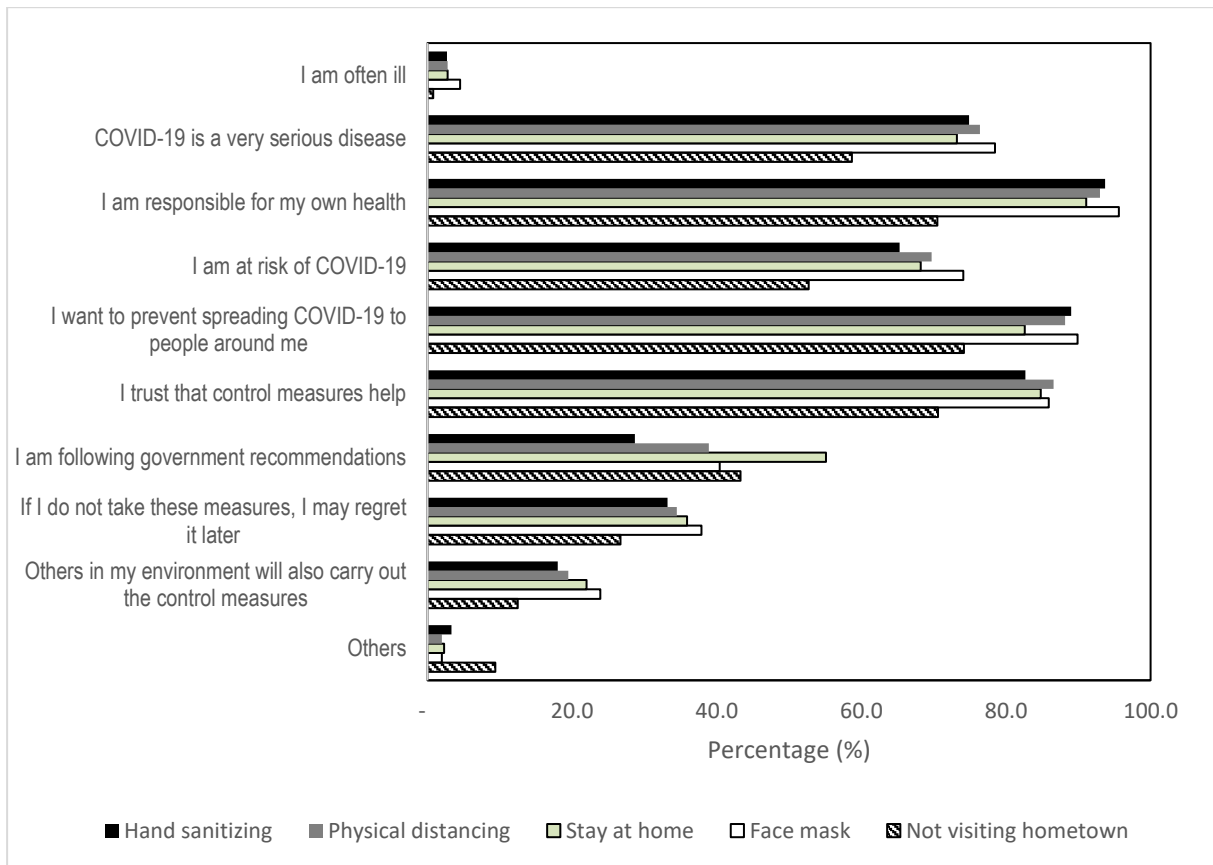
It is important to note that during this study, Eid was quickly approaching. The Government heavily emphasised the notion that if those who reside in the metropolitan areas were to visit their hometown, as is the norm during this time of year, they could infect those back home.

Interestingly, this message was accepted by the people as 96.6% said that they would not visit their hometown. This study classifies this action as a control measure as it follows the same basic principle as social distancing. As is the case with risk perception, risk tolerance is also associated with sociodemographic variables.

The trends of perception of severity, threat, contagiousness, infectiousness, and total cases are all increasing from low to high. However, the extent of anxiety lies at the middle level, consistent with respondents' perception of their preparedness and ability to control the risk. These findings highlight that the respondents' level of fear toward COVID-19 in this study was "appropriate".

#### ***Motivation and Hindering Factors in Carrying Out Control Measures***

Motivating factors are crucial to drive the implementation of control measures (Figure 4). This study shows that the main motivating factor for implementing control measures, apart from "not visiting hometown during Eid", was the respondents' sense of responsibility towards their own health, followed by their desire to avoid spreading the virus to others and their trust in the efficacy of the control measures (above 82%). Remarkably, the reason why the respondents would not visit their hometown was their sense of responsibility to protect others' health from contracting the disease, as promoted by the Government. The most dominant hindering factor, however, is caused by the lack of facilities e.g. not enough public faucets, not having face masks, etc., followed by peer pressure from those who do not carry out the measures.



**Figure 4** Motivating factors that drive the willingness to carry out preventive measures for COVID-19 in Indonesia (n=1,043).

#### 4. Discussion

Managing public health risks, including during the current COVID-19 pandemic, very much relies on a community’s ability to assess or calculate those risks (Fischhoff, 2013). Risk perceptions have been widely accepted as a main concept in navigating people toward achieving healthy behaviour (Brewer *et al.*, 2007). At the same time, however, risk tolerance, a feeling of individual capability to control the risks, may lead to optimism bias and cause a worker to become more relaxed toward unsafe behaviour (Wilde, 1994). Therefore, balancing risk perception and risk tolerance is very important for controlling the accuracy of risk calculation (Campbell Institute, 2014).

Based on several theories (e.g. Protection Motivation Theory, Risk Compensation/Risk

Homeostasis Theory, Situated Rationality Theory, Habituated Theory, Social Action Theory and Social Control Theory), The Campbell Institute created a model of factors which affect risk perception and tolerance. The various factors are categorized as: macro-level (structural or institutional factors); meso-level (peer-to-peer or community factors); and micro-level (individual factors). This study evaluated micro-level factors of risk perception, and risk tolerance at individual level that resulted in people fear toward COVID-19.

In general, the respondents of this study can be classified as well-educated individuals since the majority are graduate degree and post-graduate degree holders. Furthermore, more than 70% of the respondents were employed at the time, where one may assume that those individuals are knowledgeable. Roughly 90% of the total respondents believed that their level of knowledge was average or above average. Our study found that males were more confident than females in their level of knowledge, and consequently males showed a lower risk perception. This finding is consistent with the outcomes of a study of risk perception in ten countries (Dryhurst *et al.*, 2020).

Online news, social media and television were the most accessed sources of information by our study population. Other sources of information such as word of mouth, newspaper and radio were accessed much less than their online counterparts. These findings highlight the significance of online news, social media and television as important means of risk communication and health promotion in Indonesia; social media should be directed to support public health promotion (Depoux *et al.*, 2020).

It was not surprising that most of the respondents had an appropriate level of “fear”. The perceived level of anxiety is centrally-distributed, and ranged from quite anxious to anxious. Only 21.4% of the respondents believed that they were very anxious; and 4.7% not anxious at all. This fact is mainly supported by a balance of risk perception and risk tolerance. Even though the vast majority of respondents believed that COVID-19 is an emerging disease, its severity

ranges from severe to very severe, it is infectious, it spreads within days to immediately and that it is a very serious disease with a very high number of cases, they also believed that they are moderately capable of controlling the risks as they believed in the efficacy of the promoted control measures and were willing to implement them. Sociodemographic factors including sex, educational background, occupation and direct contact with a COVID-19 patient(s) are significantly associated with both risk perception and risk tolerance in many ways that need to be further explained.

A survey conducted by Lembaga Demografi, Faculty of Economics of Business, Universitas Indonesia (2020) found similar results. Although their sociodemographic variables differ from ours, it was found that Gen Z individuals (born 1995-2012) who actively use Instagram agree that COVID-19 is dangerous and contagious, but the majority of the respondents believed in the efficacy of health protocols (wearing a face mask and face shield, hand sanitising and social distancing), and 75% were willing to implement those controls (Lembaga Demografi FEB UI, 2020).

On the other hand, Rinaldi and Yuniasanti (2020) found that among more than 700 respondents, 64.3% showed a low level of anxiety. The risk perception of the respondents of this study was also low (71.1%). Since educational level and place of residence were not mentioned in their study, the difference with our study cannot be further explained (Rinaldi and Yuniasanti, 2020).

There were at least three studies performed by the local government in collaboration with NTU Singapore. In the State of Jakarta, a survey was conducted with 154,471 respondents. Since the sociodemographic variables of this study were mostly (47.28%) housewives and those who have graduated from high school (58.47%), it was revealed that the risk perception of Jakarta citizens was low (2.48 out of 5). However, the respondents' perception of self-protection was quite high (4.29 out of 5) which contributes to the risk perception index (RPI) (3.3 out

of 5). In the City of Bogor, the RPI was even lower (3.21 out of 5) (Amir, 2020). Moreover, 64% of the respondents in the City of Bogor believed that the likelihood of getting infected by COVID-19 was low or very low, which indicates that they have underestimated the risk. The total number of respondents was 21,544. Nevertheless, approximately 90% of the respondents claimed that they regularly washed their hands; 92% wore a face mask and 77% followed physical distancing protocols (Pemkot Bogor, Laporan Covid-19 and Nanyang Technological Institute, 2020). In Surabaya, 54% of the respondents (n=2,895) believed that the chance of contracting COVID-19 was low, although their RPI (3.52) was the highest amongst the three studied locations which may be partially attributed to respondents with a higher level of educational background (LaporCovid19.org and Social Resilience Lab NTU, 2020).

In our study, most of the respondents believed in the efficacy of the available control measures and had good intentions to carry out the measures. Self-responsibility for protecting their own health became the main motivation driving their willingness to control the risk. However, unavailable facilities, such as inaccessible hand washing facilities and unobtainable face masks, were perceived as hindering factors in performing healthy behaviour, together with peer pressure. According to Social Action Theory, a person can engage in unsafe behaviour if “other people also doing the same thing” (Harding and Eiser, 1984; Cooper, 2003).

Heterogenic findings from risk perception studies in Indonesia are mainly influenced by the diversity of sociodemographic factors between studies. As has been highlighted by Vander Linden (2015), cognitive, emotional and spatial differences significantly shape the risk perception of a community. We are aware that this study has some limitations. For instance, the study population had a high proportion of highly educated people. Therefore, any generalisations of the findings must be performed with prudence.

## **5. Conclusion**

In conclusion, the risk perception of COVID-19 in this study population was quite high

but was contradicted by the similarly high level of risk tolerance which balances the level of anxiety towards the disease. In general, sex, occupation and educational level were all associated with both risk perception and tolerance, however, the details of the interaction between those two factors need to be further explored.

## **6. Ethical Clearance**

Ethical approval for this study was obtained from the Research and Community Engagement Ethical Committee. Faculty of Public Health. Universitas Indonesia (Ethical Clearance Number: Ket-164/UN2.F10.D11/PPM.00.02/2020).

## **7. Conflict of Interest**

This study declared no conflict of interest.

## **8. Acknowledgment**

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Supplementary Material for Paper:

**Risk Perception on COVID-19 in Indonesia  
During the First Stage of Pandemic**

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**Table S1.** Association between Risk Perception and Sex, Age, and Marital Status

Risk Perception	Total	Sex(n=1040)			Age					Marital Status		
		Male	Female	P-value	18-25	26-45	46-65	>65	P-value	Married	Not married/Unmarried	P-value
<b>Newness</b>												
Emerging disease	791 (75.8)	321 (75.5)	468 (76.1)	0,833	168 (73.0)	535 (77.3)	84 (71.8)	4 (100)	0,249	506 (76.0)	285 (75.6)	0,950
Long existence disease	252 (24.2)	104 (24.5)	147 (23.9)		62 (27.0)	157 (22.7)	33 (28.2)	0 (0.0)		160 (24.0)	92 (24.4)	
<b>Severity</b>												
Not severe	21 (2.0)	12 (2.8)	9 (1.5)	0,024	5 (2.2)	15 (2.2)	1 (0.9)	0 (0.0)	0,474	14 (2.1)	7 (1.9)	0,944
Quite severe	219 (21.0)	106 (24.9)	113 (18.4)		44 (19.1)	143 (20.7)	30 (25.6)	2 (50.0)		143 (21.5)	76 (20.2)	
Severe	387 (37.1)	149 (35.1)	235 (38.2)		78 (33.9)	264 (38.2)	43 (36.8)	2 (50.0)		244 (36.6)	143 (37.9)	
Very severe	416 (39.9)	158 (37.2)	258 (42)		103 (44.8)	270 (39.0)	43 (36.8)	0 (0.0)	265 (39.8)	151 (40.1)		

Risk Perception	Total	Sex(n=1040)			Age					Marital Status		
		Male	Female	P-value	18-25	26-45	46-65	>65	P-value	Married	Not married/Unmarried	P-value
<b>Infectiousness</b>												
Slightly infectious	7 (0.7)	6 (1.4)	1 (0.2)	0,007	2 (0.9)	4 (0.6)	1 (0.9)	0 (0.0)	0,516	5 (0.8)	2 (0.5)	0,078
Infectious	139 (13.3)	67 (15.8)	72 (11.7)		39 (17)	88 (12.7)	11 (9.4)	1 (25.0)		77 (11.6)	62 (16.4)	
Very infectious	897 (86.0)	352 (82.8)	542 (88.1)		189 (82.2)	600 (86.7)	105 (89.7)	3 (75.0)		584 (87.7)	313 (83.0)	
<b>Contagiousness</b>												
Very slow (within months)	2 (0.2)	1 (0.2)	1 (0.2)	0,888	2 (0.9)	0 (0.0)	0 (0.0)	0 (0.0)	<0.001	0 (0.0)	2 (0.5)	<0.001
Slow (within weeks)	88 (8.4)	33 (7.8)	52 (8.5)		36 (15.7)	42 (6.1)	9 (7.7)	1 (25.0)		40 (6.0)	48 (12.7)	
Quite fast (within days)	566 (54.3)	237 (55.8)	329 (53.5)		117 (50.9)	379 (54.8)	67 (57.3)	3 (75.0)		365 (54.8)	201 (53.3)	
Immediately	387 (37.1)	154 (36.2)	233 (37.9)		75 (32.6)	271 (39.2)	41 (35)	0 (0.0)		261 (39.2)	126 (33.4)	
<b>Seriousness</b>												
Very serious	764 (73.3)	287 (67.5)	474 (77.1)	0,001	167 (72.6)	500 (72.3)	94 (80.3)	3 (75.0)	0,017	495 (74.3)	269 (71.4)	0,498
Serious	250 (24.0)	118 (27.8)	132 (21.5)		52 (22.6)	178 (25.7)	20 (17.1)	0 (0.0)		156 (23.4)	94 (24.9)	
Quite serious	25 (2.4)	18 (4.2)	7 (1.1)		9 (3.9)	13 (1.9)	2 (1.7)	1 (25.0)		13 (2.0)	12 (3.2)	
Not serious	4 (0.4)	2 (0.5)	2 (0.3)		2 (0.9)	1 (0.1)	1 (0.9)	0 (0.0)		2 (0.3)	2 (0.5)	
<b>Total Cases</b>												
Very low	2 (0.2)	2 (0.5)	0 (0.0)	<0.001	0 (0.0)	2 (0.3)	0 (0.0)	0 (0.0)	0,709	2 (0.3)	0 (0.0)	0,405
Low	21 (2.0)	17 (4)	4 (0.7)		3 (1.3)	16 (2.3)	2 (1.7)	0 (0.0)		14 (2.1)	7 (1.9)	
High	264 (25.3)	132 (31.1)	129 (21)		54 (23.5)	171 (24.7)	37 (31.6)	2 (50.0)		177 (26.6)	87 (23.1)	
very high	756 (72.5)	274 (64.5)	482 (78.4)		173 (75.2)	503 (72.7)	78 (66.7)	2 (50.0)		473 (71.0)	283 (75.1)	
<b>Anxiety</b>												
Not anxious	49 (4.7)	33 (7.8)	16 (2.6)	<0.001	14 (6.1)	29 (4.2)	5 (4.3)	1 (25.0)	0,005	29 (4.4)	20 (5.3)	0,026
Quite anxious	323 (31.0)	151 (35.5)	171 (27.8)		84 (36.5)	215 (31.1)	23 (19.7)	1 (25.0)		186 (27.9)	137 (36.3)	
Anxious	448 (43.0)	167 (39.3)	279 (45.4)		83 (36.1)	313 (45.2)	51 (43.6)	1 (25.0)		300 (45.0)	148 (39.3)	

Risk Perception	Total	Sex(n=1040)			Age					Marital Status		
		Male	Female	P-value	18-25	26-45	46-65	>65	P-value	Married	Not married/Unmarried	P-value
Very anxious	223 (21.4)	74 (17.4)	149 (24.2)		49 (21.3)	135 (19.5)	38 (32.5)	1 (25.0)		151 (22.7)	72 (19.1)	

**Table S2.** Association between Risk Perception and Occupation and Education

Risk Perception	Total	Education				Occupation					
		Highschool	Bachelor's degree	Postgraduate Degree	P-value	Civil Servant	Private Sectors Employee	Students	Housewife	Others	P-value
<b>Newness</b>											
Emerging disease	791 (75.8)	114 (70.4)	424 (73.6)	253 (83.0)	0,002	213 (83.9)	227 (72.1)	107 (76.4)	83 (70.9)	161 (74.2)	0,010
Long existence disease	252 (24.2)	48 (29.6)	152 (26.4)	52 (17.0)		41 (16.1)	88 (27.9)	33 (23.6)	34 (29.1)	56 (25.8)	
<b>Severity</b>											
Not severe	21 (2.0)	3 (1.9)	14 (2.4)	4 (1.3)	0,234	5 (2.0)	7 (2.2)	4 (2.9)	0. (0.0)	5 (2.3)	0,625
Quite severe	219 (21.0)	27 (16.7)	124 (21.5)	68 (22.3)		60 (23.6)	70 (22.2)	28 (20.0)	17 (14.5)	44 (20.3)	
Severe	387 (37.1)	53 (32.7)	221 (38.4)	113 (37.0)		91 (35.8)	120 (38.1)	47 (33.6)	51 (43.6)	78 (35.9)	
Very severe	416 (39.9)	79 (48.8)	217 (37.7)	120 (39.3)		98 (38.6)	118 (37.5)	61 (43.6)	49 (41.9)	90 (41.5)	
<b>Infectiousness</b>											
Slightly infectious	7 (0.7)	1 (0.6)	5 (0.9)	1 (0.3)	0,010	0. (0.0)	4 (1.3)	0. (0.0)	0. (0.0)	3 (1.4)	<0,001
Infectious	139 (13.3)	32 (19.8)	81 (14.1)	26 (8.5)		14 (5.5)	50 (15.9)	28 (20.0)	15 (12.8)	32 (14.7)	
Very infectious	897 (86.0)	129 (79.6)	490 (85.1)	278 (91.1)		240 (94.5)	261 (82.9)	112 (80.0)	102 (87.2)	182 (83.9)	
<b>Contagiousness</b>											
Very slow (within months)	2 (0.2)	1 (0.6)	1 (0.2)	0 (0.0)	0,001	0. (0.0)	0. (0.0)	1 (0.7)	0. (0.0)	1 (0.5)	0,016
Slow (within weeks)	88 (8.4)	21 (13.0)	44 (7.6)	23 (7.5)		18 (7.1)	22 (7.0)	25 (17.9)	6 (5.1)	17 (7.8)	
Quite fast (within days)	566 (54.3)	71 (43.8)	345 (59.9)	150 (49.2)		138 (54.3)	181 (57.5)	68 (48.6)	63 (53.8)	116 (53.5)	

Risk Perception	Total	Education				Occupation					
		Highschool	Bachelor's degree	Postgraduate Degree	P-value	Civil Servant	Private Sectors Employee	Students	Housewife	Others	P-value
Immediately	387 (37.1)	69 (42.6)	186 (32.3)	132 (43.3)		98 (38.6)	112 (35.6)	46 (32.9)	48 (41.0)	83 (38.2)	
<b>Seriousness</b>											
Very serious	764 (73.3)	124 (76.5)	414 (71.9)	226 (74.1)	0,615	194 (76.4)	220 (69.8)	100 (71.4)	95 (81.2)	155 (71.4)	0,015
Serious	250 (24.0)	32 (19.8)	146 (25.3)	72 (23.6)		59 (23.2)	85 (27.0)	30 (21.4)	22 (18.8)	54 (24.9)	
Quite serious	25 (2.4)	6 (3.7)	13 (2.3)	6 (2.0)		1 (0.4)	9 (2.9)	8 (5.7)	0 (0.0)	7 (3.2)	
Not serious	4 (0.4)	0 (0.0)	3 (0.5)	1 (0.3)		0 (0.0)	1 (0.3)	2 (1.4)	0 (0.0)	1 (0.5)	
<b>Total Cases</b>											
Very low	2 (0.2)	0 (0.0)	1 (0.2)	1 (0.3)	0,503	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.9)	0,243
Low	21 (2.0)	1 (0.6)	10 (1.7)	10 (3.3)		5 (2.0)	8 (2.5)	1 (0.7)	3 (2.6)	4 (1.8)	
High	264 (25.3)	39 (24.1)	150 (26.0)	75 (24.6)		65 (25.6)	88 (27.9)	29 (20.7)	23 (19.7)	59 (27.2)	
very high	756 (72.5)	122 (75.3)	415 (72.0)	219 (71.8)		184 (72.4)	219 (69.5)	110 (78.6)	91 (77.8)	152 (70.0)	
<b>Anxiety</b>											
Not anxious	49 (4.7)	6 (3.7)	25 (4.3)	18 (5.9)	0,420	9 (3.5)	21 (6.7)	9 (6.4)	0 (0.0)	10 (4.6)	0,012
Quite anxious	323 (31.0)	57 (35.2)	182 (31.6)	84 (27.5)		63 (24.8)	104 (33.0)	57 (40.7)	34 (29.1)	65 (30.0)	
Anxious	448 (43.0)	63 (38.9)	242 (42.0)	143 (46.9)		123 (48.4)	132 (41.9)	47 (33.6)	55 (47.0)	91 (41.9)	
Very anxious	223 (21.4)	36 (22.2)	127 (22.0)	60 (19.7)		59 (23.2)	58 (18.4)	27 (19.3)	28 (23.9)	51 (23.5)	

**Table S3.** Association between Risk Perception and Religion and Physical Contact

Risk Perception	Total	Religion						Physical Contact			
		Muslim	Catholic	Christian	Buddhism	Hinduism	Prefer not to disclose	Yes	No	Unknown	P-value
<b>Newness</b>											
Emerging disease	791 (75.8)	566 (75.7)	21 (65.6)	61 (74.4)	3 (75.0)	131 (79.9)	9 (69.2)	23 (60.5)	656 (76.3)	112 (77.2)	0,078
Long existence disease	252 (24.2)	182 (24.3)	11 (34.4)	21 (25.6)	1 (25.0)	33 (20.1)	4 (30.8)	15 (39.5)	204 (23.7)	33 (22.8)	
<b>Severity</b>											
Not severe	21 (2.0)	17 (2.3)	0 (0.0)	0 (0.0)	0 (0.0)	4 (2.4)	0 (0.0)	1 (2.6)	15 (1.7)	5 (3.4)	0,073
Quite severe	219 (21.0)	143 (19.1)	6 (18.8)	23 (28.0)	1 (25.0)	44 (26.8)	2 (15.4)	10 (26.3)	185 (21.5)	24 (16.6)	
Severe	387 (37.1)	275 (36.8)	10 (31.3)	30 (36.6)	2 (50.0)	65 (39.6)	5 (38.5)	20 (52.6)	309 (35.9)	58 (40.0)	
Very severe	416 (39.9)	313 (41.8)	16 (50.0)	29 (35.4)	1 (25.0)	51 (31.1)	6 (46.2)	7 (18.4)	351 (40.8)	58 (40.0)	
<b>Infectiousness</b>											
Slightly infectious	7 (0.7)	3 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	4 (2.4)	0 (0.0)	0 (0.0)	7 (0.8)	0 (0.0)	0,797
Infectious	139 (13.3)	97 (13.0)	5 (15.6)	14 (17.1)	0 (0.0)	20 (12.2)	3 (23.1)	5 (13.2)	113 (13.1)	21 (14.5)	
Very infectious	897 (86.0)	648 (86.6)	27 (84.4)	68 (82.9)	4 (100)	140 (85.4)	10 (76.9)	33 (86.8)	740 (86)	124 (85.5)	
<b>Contagiousness</b>											
Very slow (within months)	2 (0.2)	0 (0.0)	0 (0.0)	1 (1.2)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	2 (0.2)	0 (0.0)	0,039
Slow (within weeks)	88 (8.4)	58 (7.8)	3 (9.4)	4 (4.9)	0 (0.0)	19 (11.6)	4 (30.8)	3 (7.9)	63 (7.3)	22 (15.2)	
Quite fast (within days)	566 (54.3)	423 (56.6)	17 (53.1)	38 (46.3)	4 (100)	77 (47.0)	7 (53.8)	18 (47.4)	482 (56.0)	66 (45.5)	
Immediately	387 (37.1)	267 (35.7)	12 (37.5)	39 (47.6)	0 (0.0)	67 (40.9)	2 (15.4)	17 (44.7)	313 (36.4)	57 (39.3)	
<b>Seriousness</b>											
Very serious	764 (73.3)	553 (73.9)	26 (81.3)	51 (62.2)	3 (75.0)	121 (73.8)	10 (76.9)	29 (76.3)	629 (73.1)	106 (73.1)	0,979
Serious	250 (24.0)	173 (23.1)	4 (12.5)	31 (37.8)	0 (0.0)	39 (23.8)	3 (23.1)	8 (21.1)	207 (24.1)	35 (24.1)	
Quite serious	25 (2.4)	18 (2.4)	2 (6.3)	0 (0.0)	1 (25.0)	4 (2.4)	0 (0.0)	1 (2.6)	20 (2.3)	4 (2.8)	
Not serious	4 (0.4)	4 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.5)	0 (0.0)	
<b>Total Cases</b>											
Very low	2 (0.2)	1 (0.1)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.6)	0 (0.0)	0 (0.0)	2 (0.2)	0 (0.0)	0,348

Risk Perception	Total	Religion						Physical Contact			
		Muslim	Catholic	Christian	Buddhism	Hinduism	Prefer not to disclose	Yes	No	Unknown	P-value
Low	21 (2.0)	14 (1.9)	0 (0.0)	4 (4.9)	0 (0.0)	1 (0.6)	2 (15.4)	2 (5.3)	19 (2.2)	0 (0.0)	
High	264 (25.3)	176 (23.5)	9 (28.1)	20 (24.4)	2 (50.0)	52 (31.7)	5 (38.5)	12 (31.6)	216 (25.1)	36 (24.8)	
very high	756 (72.5)	557 (74.5)	23 (71.9)	58 (70.7)	2 (50.0)	110 (67.1)	6 (46.2)	24 (63.2)	623 (72.4)	109 (75.2)	
<b>Anxiety</b>											
Not anxious	49 (4.7)	31 (4.1)	1 (3.1)	5 (6.1)	1 (25.0)	9 (5.5)	2 (15.4)	2 (5.3)	40 (4.7)	7 (4.8)	0,668
Quite anxious	323 (31.0)	239 (32.0)	8 (25.0)	30 (36.6)	1 (25.0)	41 (25.0)	4 (30.8)	13 (34.2)	275 (32)	35 (24.1)	
Anxious	448 (43.0)	312 (41.7)	18 (56.3)	37 (45.1)	1 (25.0)	75 (45.7)	5 (38.5)	15 (39.5)	366 (42.6)	67 (46.2)	
Very anxious	223 (21.4)	166 (22.2)	5 (15.6)	10 (12.2)	1 (25.0)	39 (23.8)	2 (15.4)	8 (21.1)	179 (20.8)	36 (24.8)	

**Table S4.** Association between Risk Perception and Residence

Risk Perception	Total	Residence								P-value
		Jakarta	West Java	East Java	Central java	South Sulawesi	Banten	Bali	Others	
<b>Newness</b>										
Emerging disease	791 (75.8)	148 (72.9)	155 (73.1)	31 (81.6)	115 (69.7)	65 (83.3)	58 (86.6)	139 (77.7)	80 (79.2)	0,062
Long existence disease	252 (24.2)	55 (27.1)	57 (26.9)	7 (18.4)	50 (30.3)	13 (16.7)	9 (13.4)	40 (22.3)	21 (20.8)	
<b>Severity</b>										
Not severe	21 (2.0)	6 (3)	3 (1.4)	0 (0.0)	1 (0.6)	2 (2.6)	0 (0.0)	5 (2.8)	4 (4.0)	0,234
Quite severe	219 (21.0)	40 (19.7)	42 (19.8)	11 (28.9)	31 (18.8)	15 (19.2)	12 (17.9)	47 (26.3)	21 (20.8)	
Severe	387 (37.1)	77 (37.9)	90 (42.5)	14 (36.8)	56 (33.9)	29 (37.2)	28 (41.8)	67 (37.4)	26 (25.7)	
Very severe	416 (39.9)	80 (39.4)	77 (36.3)	13 (34.2)	77 (46.7)	32 (41)	27 (40.3)	60 (33.5)	50 (49.5)	
<b>Infectiousness</b>										
Slightly infectious	7 (0.7)	1 (0.5)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)	4 (2.2)	1 (1.0)	0,257



Risk Perception	Total	Residence								P-value
		Jakarta	West Java	East Java	Central java	South Sulawesi	Banten	Bali	Others	
Infectious	139 (13.3)	31 (15.3)	25 (11.8)	3 (7.9)	29 (17.6)	11 (14.1)	8 (11.9)	23 (12.8)	9 (8.9)	
Very infectious	897 (86.0)	171 (84.2)	187 (88.2)	35 (92.1)	136 (82.4)	66 (84.6)	59 (88.1)	152 (84.9)	91 (90.1)	
<b>Contagiousness</b>										
Very slow (within months)	2 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (1.1)	0 (0.0)	0,030
Slow (within weeks)	88 (8.4)	11 (5.4)	15 (7.1)	2 (5.3)	15 (9.1)	9 (11.5)	7 (10.4)	22 (12.3)	7 (6.9)	
Quite fast (within days)	566 (54.3)	118 (58.1)	131 (61.8)	21 (55.3)	98 (59.4)	31 (39.7)	34 (50.7)	83 (46.4)	50 (49.5)	
Immediately	387 (37.1)	74 (36.5)	66 (31.1)	15 (39.5)	52 (31.5)	38 (48.7)	26 (38.8)	72 (40.2)	44 (43.6)	
<b>Seriousness</b>										
Very serious	764 (73.3)	155 (76.4)	150 (70.8)	23 (60.5)	124 (75.2)	58 (74.4)	50 (74.6)	131 (73.2)	73 (72.3)	0,001
Serious	250 (24.0)	43 (21.2)	58 (27.4)	15 (39.5)	36 (21.8)	18 (23.1)	15 (22.4)	44 (24.6)	21 (20.8)	
Quite serious	25 (2.4)	5 (2.5)	4 (1.9)	0 (0.0)	5 (3)	2 (2.6)	2 (3.0)	4 (2.2)	3 (3.0)	
Not serious	4 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (4.0)	
<b>Total Cases</b>										
Very low	2 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (1.3)	0 (0.0)	1 (0.6)	0 (0.0)	0,127
Low	21 (2.0)	7 (3.4)	3 (1.4)	0 (0.0)	1 (0.6)	2 (2.6)	1 (1.5)	2 (1.1)	5 (5.0)	
High	264 (25.3)	50 (24.6)	58 (27.4)	7 (18.4)	35 (21.2)	21 (26.9)	17 (25.4)	58 (32.4)	18 (17.8)	
very high	756 (72.5)	146 (71.9)	151 (71.2)	31 (81.6)	129 (78.2)	54 (69.2)	49 (73.1)	118 (65.9)	78 (77.2)	
<b>Anxiety</b>										
Not anxious	49 (4.7)	9 (4.4)	7 (3.3)	1 (2.6)	7 (4.2)	1 (1.3)	3 (4.5)	11 (6.1)	10 (9.9)	0,085
Quite anxious	323 (31.0)	63 (31.0)	73 (34.4)	19 (50.0)	49 (29.7)	27 (34.6)	21 (31.3)	40 (22.3)	31 (30.7)	
Anxious	448 (43.0)	86 (42.4)	86 (40.6)	15 (39.5)	74 (44.8)	34 (43.6)	34 (50.7)	84 (46.9)	35 (34.7)	
Very anxious	223 (21.4)	45 (22.2)	46 (21.7)	3 (7.9)	35 (21.2)	16 (20.5)	9 (13.4)	44 (24.6)	25 (24.8)	



Risk Tolerance	Preparedness				p-value	Ability to control the risk				p-value
	Very unprepared	Unprepared	Quite prepared	Very much prepared		Unable	Fairly Able	Able	Very Able	
Civil Servant	31 (12.2)	81 (31.9)	122 (48.0)	20 (7.9)	0,639	16 (6.3)	115 (45.3)	94 (37.0)	29 (11.4)	0,251
Private Sectors Employee	36 (11.4)	92 (29.2)	158 (50.2)	29 (9.2)		13 (4.1)	143 (45.4)	130 (41.3)	29 (9.2)	
Students	11 (7.9)	51 (36.4)	65 (46.4)	13 (9.3)		7 (5)	53 (37.9)	67 (47.9)	13 (9.3)	
Housewife	15 (12.8)	44 (37.6)	47 (40.2)	11 (9.4)		8 (6.8)	42 (35.9)	56 (47.9)	11 (9.4)	
Others	21 (9.7)	67 (30.9)	102 (47.0)	27 (12.4)		9 (4.1)	76 (35.0)	106 (48.8)	26 (12.0)	
<b>Residence</b>										
Jakarta	30 (14.8)	58 (28.6)	91 (44.8)	24 (11.8)	<0.001	11 (5.4)	87 (42.9)	89 (43.8)	16 (7.9)	0,121
West Java	24 (11.3)	70 (33.0)	110 (51.9)	8 (3.8)		11 (5.2)	100 (47.2)	75 (35.4)	26 (12.3)	
East Java	1 (2.6)	11 (28.9)	23 (60.5)	3 (7.9)		1 (2.6)	11 (28.9)	25 (65.8)	1 (2.6)	
Central java	12 (7.3)	66 (40)	64 (38.8)	23 (13.9)		10 (6.1)	62 (37.6)	76 (46.1)	17 (10.3)	
South Sulawesi	14 (17.9)	23 (29.5)	37 (47.4)	4 (5.1)		6 (7.7)	26 (33.3)	40 (51.3)	6 (7.7)	
Banten	6 (9.0)	27 (40.3)	31 (46.3)	3 (4.5)		1 (1.5)	33 (49.3)	26 (38.8)	7 (10.4)	
Bali	18 (10.1)	54 (30.2)	79 (44.1)	28 (15.6)		8 (4.5)	73 (40.8)	72 (40.2)	26 (14.5)	
Others	9 (8.9)	26 (25.7)	59 (58.4)	7 (6.9)		5 (5)	37 (36.6)	50 (49.5)	9 (8.9)	

**Table S6.** Association between Willingness to Carry Out Measures and Individual Factors (Sex, Age, Marital Status, Religion, Education, Physical Contact, Occupation, and Residence)

Risk Tolerance	Willingness to carry out measures														
	Hand sanitizers			Physical distancing			Wearing a mask			Stay at home		Not visiting hometown			
	Yes	No	p-value	Yes	No	p-value	Yes	No	p-value	Yes	No	p-value	Yes	No	p-value
<b>Sex (n=1040)</b>															
Male	423 (99.5)	2 (0.5)	0,483	409 (96.2)	16 (3.8)	0,076	425 (100.0)	0 (0.0)	1,000	346 (81.4)	79 (18.6)	0,139	22 (5.2)	403 (94.8)	0,007
Female	609 (99.0)	6 (1.0)		604 (98.2)	11 (1.8)		614 (99.8)	1 (0.2)		522 (84.9)	93 (15.1)		13 (2.1)	602 (97.9)	
<b>Age</b>															
18-25	227 (98.7)	3 (1.3)	0,609	219 (95.2)	11 (4.8)	0,118	230 (100.0)	0 (0.0)	0,917	200 (87.0)	30 (13.0)	0,161	12 (5.2)	218 (94.8)	0,285
26-45	687 (99.3)	5 (0.7)		679 (98.1)	13 (1.2)		691 (99.9)	1 (0.1)		565 (81.6)	127 (18.4)		21 (3.0)	671 (97.0)	
46-65	117 (100.0)	0 (0.0)		114 (97.4)	3 (2.6)		117 (100.0)	0 (0.0)		101 (86.3)	16 (13.7)	2 (1.7)	115 (98.3)		
>65	4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)	0 (0.0)	4 (100.0)		
<b>Marital Status</b>															

Risk Tolerance	Willingness to carry out measures														
	Hand sanitizers			Physical distancing			Wearing a mask			Stay at home		Not visiting hometown			
	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value
Married	662 (99.4)	4 (0.6)	0,470	652 (97.9)	14 (2.1)	0,266	665 (99.8)	1 (0.2)	1,000	553 (83.0)	113 (17.0)	0,661	23 (3.5)	643 (96.5)	0,816
Not married	373 (98.9)	4 (1.1)		364 (96.6)	13 (3.4)		377 (100.0)	0 (0.0)		317 (84.1)	60 (15.9)		12 (3.2)	365 (96.8)	
<b>Religion</b>															
Muslim	741 (99.1)	7 (0.9)	0,930	725 (96.9)	23 (3.1)	0,425				626 (83.7)	122 (16.3)	0,766	31 (4.1)	717 (95,9)	0,014
Catholic	32 (100.0)	0 (0.0)		32 (100.0)	0 (0.0)		26 (1.3)	6 (18.8)	1 (3.0)	32 (96.9)					
Christian	82 (100.0)	0 (0.0)		79 (96.3)	3 (3.7)		71 (86.6)	11 (13.4)	1 (1.2)	81 (98.8)					
Buddhism	4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)	0 (0.0)	4 (100.0)					
Hinduism	163 (99.4)	1 (0.6)		163 (99.4)	1 (0.6)		132 (80.5)	32 (19.5)	0 (0.0)	164 (100.0)					
Prefer not to disclose	13 (100.0)	0 (0.0)		13 (100.0)	0 (0.0)		11 (84.6)	2 (15.4)	2 (15.4)	11 (84.6)					
<b>Education</b>															
Highschool	159 (98.1)	3 (1.9)	0,190	156 (96.3)	6 (3.7)	0,531	161 (99.4)	1 (0.6)	0,066	144 (88.9)	18 (11.1)	0,000	8 (4.9)	154 (95.1)	0,414
Bachelor's degree	572 (99.3)	4 (0.7)		561 (97.4)	15 (2.6)		576 (100.0)	0 (0.0)		448 (77.8)	128 (22.2)		19 (3.3)	557 (96.7)	
Postgraduate	304 (99.6)	1 (0.3)		299 (98.0)	6 (2.0)		305 (100.0)	0 (0.0)		278 (91.1)	27 (8.9)		8 (2.6)	297 (97.3)	
<b>Physical Contact</b>															
Yes	37 (97.4)	1 (2.6)	0,242	37 (97.4)	1 (2.6)	0,779	38 (100.0)	0 (0.0)	0,899	24 (63.2)	14 (36.8)	0,000	3 (7.9)	35 (92.1)	0,225
No	855 (99.4)	5 (0.6)		839 (97.6)	21 (2.4)		859 (99.9)	1 (0.1)		747 (86.9)	113 (13.1)		26 (3.0)	834 (97.0)	
Unknown	143 (98.6)	2 (1.4)		140 (96.6)	5 (3.4)		145 (100.0)	0 (0.0)		99 (68.3)	46 (31.7)		6 (4.1)	139 (95.9)	
<b>Occupation</b>															
Civil Servant	253 (99.6)	1 (0.4)	0,367	249 (98.0)	5 (2.0)	0,043	254 (100.0)	0 (0.0)	0,094	211 (83.1)	43 (16.9)	0,000	7 (2.8)	247 (97.2)	0,163
Private Sectors Employee	313 (99.4)	2 (0.6)		305 (96.8)	10 (3.2)		315 (100.0)	0 (0.0)		234 (74.3)	81 (25.7)		12 (3.8)	303 (96.2)	
Students	137 (97.9)	3 (2.1)		132 (94.3)	8 (5.7)		140 (100.0)	0 (0.0)		133 (95)	7 (5)		5 (3.6)	135 (96.4)	
Housewife	116(99.1)	1 (0.9)		117 (100.0)	0 (0.0)		116 (99.1)	1 (0.9)		105 (89.7)	12 (10.3)		0 (0.0)	117 (100)	
Others	216 (99.5)	1 (0.5)		213 (98.2)	4 (1.8)		217 (100.0)	0 (0.0)		187 (86.2)	30 (13.8)		11 (5.1)	206 (94,9)	
<b>Residence</b>															
Jakarta	199 (98.0)	4 (2.0)	0,200	199 (98.0)	4 (2.0)	0,375	203 (100.0)	0 (0.0)	0,089	169 (83.3)	34 (16.7)	0,485	4 (2.0)	199 (98.0)	0,001
West Java	211 (99.5)	1 (0.5)		205 (96.7)	7 (3.3)		212 (100.0)	0 (0.0)		175 (82.5)	37 (17.5)		7 (3.1)	205 (96.7)	
East Java	38 (100.0)	0 (0.0)		35 (92.1)	3 (7.9)		38 (100.0)	0 (0.0)		30 (78.9)	8 (21.1)		1 (2.6)	37 (97.4)	

Risk Tolerance	Willingness to carry out measures														
	Hand sanitizers			Physical distancing			Wearing a mask			Stay at home		Not visiting hometown			
	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value
Central java	165 (100.0)	0 (0.0)		160 (97.0)	5 (3.0)		165 (100.0)	0 (0.0)		136 (82.4)	29 (17.6)		14 (8.5)	151 (91.5)	
South Sulawesi	77 (98.7)	1 (1.3)		76 (97.4)	2 (2.6)		77 (98.7)	1 (1.3)		72 (92.3)	6 (7.7)		1 (1.3)	77 (98.7)	
Banten	67 (100.0)	0 (0.0)		67 (100.0)	0 (0.0)		67 (100.0)	0 (0.0)		58 (86.6)	9 (13.4)		2 (3.0)	65 (97)	
Bali	179 (100.0)	0 (0.0)		176 (98.3)	3 (1.7)		179 (100.0)	0 (0.0)		149 (83.2)	30 (16.8)		0 (0.0)	179 (100)	
Others	99 (98.0)	2 (2.0)		98 (97.0)	3 (3.0)		101 (100.0)	0 (0.0)		81 (80.2)	20 (19.8)		6 (5.9)	95 (94.1)	

**Table S7.** Association between Efficacy of Control Measures and Individual Factors (Sex, Age, Marital Status, Religion, Education, Physical Contact, Occupation, and Residence)

Risk Tolerance	Efficacy of Control Measures														
	Hand sanitizers			Physical distancing			Wearing a mask			Stay at home			Not visiting hometown		
	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value
<b>Sex (n=1040)</b>															
Male	417 (98.1)	8 (1.9)	0,019	383 (90.1)	42 (9.9)	<0.001	419 (98.6)	6 (1.4)	0,021	411 (96.7)	14 (3.3)	0,119	22 (5.2)	403 (94.8)	0,007
Female	613 (99.7)	2 (0.3)		597 (97.1)	18 (2.9)		614 (99.8)	1(0.2)		604 (98.2)	11 (1.8)		13 (2.1)	602 (97.9)	
<b>Age</b>															
18-25	228 (99.1)	2 (0.9)	0,894	215 (93.5)	15 (6.5)	0,231	229 (99.6)	1 (0.4)	0,959	221 (96.1)	9 (3.9)	0,367	12 (5.2)	218 (94.8)	0,285
26-45	685 (99.0)	7 (1.0)		649 (93.8)	43(6.2)		687 (99.3)	5 (0.7)		679 (98.1)	13 (1.9)		21 (3.0)	671 (97.0)	
46-65	115 (98.3)	2 (1.7)		115 (98.3)	2 (1.7)		116 (99.1)	1 (0.9)		114 (97.4)	3 (2.6)		2 (1.7)	115 (98.3)	
>65	4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)		4 (100.0)	0 (0.0)		0 (0.0)	4 (100.0)	
<b>Marital Status</b>															
Married	659 (98.9)	7 (1.1)	1,000	640 (96.1)	26 (3.9)	0,001	662 (99.4)	4 (0.6)	0,708	653 (98.0)	13 (2.0)	0,212	23 (3.5)	643 (96.5)	0,816
Not married	373 (98.9)	4 (1.1)		343 (91.0)	34 (9.0)		374 (99.2)	3 (0.8)		365 (96.8)	12 (3.2)		12 (3.2)	365 (96.8)	
<b>Religion</b>															

Risk Tolerance	Efficacy of Control Measures														
	Hand sanitizers			Physical distancing			Wearing a mask			Stay at home			Not visiting hometown		
	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value
Muslim	740 (98.9)	8 (1.1)	0,800	705 (94.3)	43 (5.7)	0,407	743 (99.3)	5 (0.7)	0,000	735 (98.3)	13 (1.7)	0,080	31 (4.1)	717 (95,9)	0,014
Catholic	32 (100.0)	0 (0.0)		31 (96.9)	1 (3.1)		32 (100.0)	0 (0.0)		32 (100)	0 (0.0)		1 (3.0)	32 (96.9)	
Christian	80 (97.6)	2 (2.4)		75 (91.5)	7 (8.5)		81 (98.8)	1 (1.2)		77 (93.9)	5 (6.1)		1 (1.2)	81 (98.8)	
Buddhism	4 (100.0)	0 (0.0)		3 (75.0)	1 (25.0)		3 (75.0)	1 (25.0)		4 (100)	0 (0.0)		0 (0.0)	4 (100.0)	
Hinduism	163 (99.4)	1 (0.6)		157 (95.7)	7 (4.3)		164 (100.0)	0 (0.0)		157 (95.7)	7 (4.3)		0 (0.0)	164 (100.0)	
Prefer not to disclose	13 (100.0)	0 (0.0)		12 (92.3)	1 (7.7)		13 (100.0)	0 (0.0)		13 (100.0)	0 (0.0)		2 (15.4)	11 (84.6)	
<b>Education</b>															
Highschool	160 (98.8)	2 (1.2)	0,804	151 (93.2)	11 (6.8)	0,827	162 (100.0)	0 (0.0)	0,489	155 (95.7)	7 (4.3)	0,206	8 (4.9)	154 (95.1)	0,414
Bachelor's degree	571 (99.1)	5 (0.9)		544 (94.4)	32 (5.6)		571 (99.1)	5 (0.9)		565 (98.1)	11 (1.9)		19 (3.3)	557 (96.7)	
Postgraduate	301 (98.7)	4 (1.3)		288 (94.4)	17 (5.6)		303 (99.3)	2 (0.7)		298 (97.7)	7 (2.3)		8 (2.6)	297 (97.3)	
<b>Physical Contact</b>															
Yes	36 (94.7)	2 (5.3)	0,012	34 (89.5)	4 (10.5)	0,232	38 (100.0)	0 (0.0)	0,080	37 (97.4)	1 (2.6)	0,328	3 (7.9)	35 (92.1)	0,225
No	854 (99.3)	6 (0.7)		815 (94.8)	45 (5.2)		856(99.5)	4 (0.5)		842(97.9)	18 (2.1)		26 (3.0)	834 (97.0)	
Unknown	142 (97.9)	3 (2.1)		134 (92.4)	11 (7.6)		142 (97.9)	3 (2.1)		139 (95.9)	6 (4.1)		6 (4.1)	139 (95.9)	
<b>Occupation</b>															
Civil Servant	249 (98.0)	5 (2.0)	0,477	246 (96.9)	8 (3.1)	0,038	253 (99.6)	1 (0.4)	0,189	248 (97.6)	6 (2.4)	0,702	7 (2.8)	247 (97.2)	0,163
Private Sectors Employee	312 (99.0)	3 (1.0)		288 (91.4)	27 (8.6)		310 (98.4)	5 (1.6)		308 (97.8)	7 (2.2)		12 (3.8)	303 (96.2)	
Students	139 (99.3)	1 (0.7)		131 (93.6)	9 (6.4)		140 (100.0)	0 (0.0)		135 (96.4)	5 (3.6)		5 (3.6)	135 (96.4)	
Housewife	117 (100.0)	0 (0.0)		114 (97.4)	3 (2.6)		117 (100.0)	0 (0.0)		116 (99.1)	1 (0.9)		0 (0.0)	117 (100)	
Others	215 (99.1)	2 (0.9)		204 (94.0)	13 (6.0)		216 (99.5)	1 (0.5)		211 (97.2)	6 (2.8)		11 (5.1)	206 (94,9)	
<b>Residence</b>															
Jakarta	201 (99.0)	2 (1.0)	0,572	194 (95.6)	9 (4.4)	0,113	199 (98.0)	4 (2.0)	0,306	199 (98.0)	4 (2.0)	0,655	4 (2.0)	199 (98.0)	0,001

Risk Tolerance	Efficacy of Control Measures														
	Hand sanitizers			Physical distancing			Wearing a mask			Stay at home			Not visiting hometown		
	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value	Yes	No	P-value
West Java	209 (98.6)	3 (1.4)		196 (92.5)	16 (7.5)		211 (99.5)	1 (0.5)		209 (98.6)	3 (1.4)		7 (3.1)	205 (96.7)	
East Java	38 (100.0)	0 (0.0)		38 (100.0)	0 (0.0)		38 (100.0)	0 (0.0)		38 (100)	0 (0.0)		1 (2.6)	37 (97.4)	
Central java	164 (99.4)	1 (0.6)		155 (93.9)	10 (6.1)		164 (99.4)	1 (0.6)		161 (97.6)	4 (2.4)		14 (8.5)	151 (91.5)	
South Sulawesi	77 (98.7)	1 (1.3)		74 (94.9)	4 (5.1)		77 (98.7)	1 (1.3)		76 (97.4)	2 (2.6)		1 (1.3)	77 (98.7)	
Banten	67 (100.0)	0 (0.0)		66 (98.5)	1 (1.5)		67 (100.0)	0 (0.0)		64 (95.5)	3 (4.5)		2 (3.0)	65 (97)	
Bali	178 (99.4)	1 (0.6)		170 (95.0)	9 (5.0)		179 (100.0)	0 (0.0)		172 (96.1)	7 (3.9)		0 (0.0)	179 (100)	
Others	98 (97.0)	3 (3.0)		90 (89.1)	11 (10.9)		101 (100.0)	0 (0.0)		99 (98.0)	2 (2.0)		6 (5.9)	95 (94.1)	