

Risk Perception and Coping Strategy Towards the Covid-19 Pandemic in Indonesia:

A Survey on the Government Employees in the Ministry of Education and Culture

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Abstract—The differences in risk perception regarding the pandemic will cause different responses to the situation or condition which will affect someone's mental health and person's protection to their health. Lazarus and Folkman, stated two types of coping strategies, namely Problem-Focused Coping (PFC) and Emotion-Focused Coping (EFC). Based on the results of previous studies, the EFC strategy was correlated with the emergence of negative emotions which affected mental health. This study applied a quantitative method, aimed at exploring perceptions and coping strategies of the COVID-19 pandemic in the government employees of the Ministry of Education and Culture, Republic of Indonesia. The data was conducted by an online survey for one week, with the incidental sampling technique. Two questionnaires were developed, consisted of a risk perception questionnaire of the COVID-19 pandemic, and a coping strategy questionnaire. Data analysis was conducted to examine the perceptual trends and coping strategies of the participants. The results of this study are useful for providing health promotion and counseling for during the COVID-19 pandemic, especially in the Ministry of Education and Culture, Republic of Indonesia.

Keywords—*perception, coping strategy, covid-19, Indonesia introduction*

I. INTRODUCTION

The COVID-19 pandemic happened suddenly without being able to predict in advance. On January 30, 2020, the World Health Organization [1] declared that the COVID-19 pandemic was a global public health emergency (Public Health Emergency of International Concern or PHEIC), because thousands of people from various countries have died due to COVID-19. The COVID-19 pandemic cannot be predicted how long it will last. At the beginning of the pandemic, government and public attention focused on health issues, after a while, awareness began to emerge about the importance of psychological aspects in dealing with the COVID-19 pandemic. Therefore, it is very important for studying people's mental health during the COVID-19 pandemic, so that relevant agencies can organize counseling programs to support. Based on this situation, it is urgent to determine government

employee's perception regarding the risks of the COVID-19 and how they cope with it.

To date, the spread of the COVID-19 cannot be stopped and is expected to last for a long time, and have an impact on global social and economic conditions. In dealing with such situations and conditions, it is very important to understand people's perception about the risk of the COVID-19 pandemic to their self. The perception referred to a person's subjective assessment of the risk of a situation or condition they experience [2]. Risk is a negative possibility that will occur as a result of an event [3]. There were individual variation in risk perception between people from different countries [4].

A large body of research indicated that risk perception is influenced by cognitive, emotional, social, and cultural. The majority studies on risk perception were conducted on previous pandemics, such as the H1N1 swine flu pandemic in 2009 [5]; the Ebola outbreak [6] and the SARS and Avian influenza (bird flu) epidemics [7]. Differences in risk perceptions will cause differences in response and decision making [8], and can predict a person's efforts in relation to protect their health during the COVID-19 pandemic [9], such as wearing facial masks, frequent hand washing, and physical distancing.

Coping, is a basic process that is inseparable from one's adjustment and survival. Like someone who is traveling in a storm, coping describes how a person detects, assesses, handles, and learns from various situations and conditions that cannot be controlled, and cause stress or stress [10]. According to Folkman et al. [11], coping refers to a person's cognitive and behavioral efforts to manage (reduce, minimize, control, or tolerate) internal and external demands resulting from a person's interaction with the environment which is considered to burden or exceed that person's resources. Coping can be a mediator of emotions when a person is faced with stress [12].

Folkman et al. [11], divided coping strategies into two types, namely Problem-Focused Coping (PFC) and Emotion-Focused Coping (EFC). PFC is a person's active and rational effort to change and solve problems related to stressful

situations and conditions. EFC focuses on keeping away, avoiding, running away, seeking social support, or giving up on what might happen to them. Everyone uses both coping strategies when faced with stressful situations. Even so, there is a tendency for a person to use one of the coping strategies more often, depending on his perception or assessment of the situation or condition being faced, as well as making decisions on the chosen problem solving to deal with that situation or condition.

II. METHODS

This study applied quantitative method to explore risk perceptions and coping strategies on the government employees at the Ministry of Education and Culture, Republic of Indonesia in relation to the COVID-19 pandemic. Two instruments were developed to obtain the data, consisted of the Risk Perception questionnaire and Coping Strategy towards COVID-19 scale which organized through an online survey.

The Risk Perception of COVID-19 pandemic questionnaire was developed based on Paul Slovic's Perception of Risk theory [2], which divided into 4 sub aspects, namely knowledge, worry, risk perception, and information sources. Risk Perceptions of the COVID-19 pandemic were measured from two aspects, namely cognitive and affective [2]. Items on the cognitive aspect aimed to reveal respondents' personal judgments in relation to their knowledge and possibility of contracting COVID-19, while those on the affective aspect focus on respondents' fears and concerns regarding COVID-19 in general.

The Coping Strategy scale was constructed based on the aspects of the Ways of Coping Scale [11], which divided into two types of coping strategies: 1) problem-focused coping (PFC) and 2) emotion-focused coping (EFC). It involved 30 items, 15 PFC items and 15 EFC items. A 5 point Likert scale was applied for this scale (from “strongly disagree” to “strongly agree”).

III. RESULTS AND DISCUSSION

A quantitative online survey was implemented using google form between 20 to 30 July 2020. The total number of respondents who completed out the online questionnaire were 342 government employees, consisted of 181 men and 161 women (Mean = 0.53, SD = 0.500). The majority age of the participants were between 50 – 60 and have an undergraduate educational background.

The descriptive statistics data analysis using SPSS v26 results indicated that the instruments of this study were valid and reliable. The reliability coefficient of the Risk Perceptions questionnaire is 0.506, and the Coping Strategy scale were 0.893 for PFC and 0.772 for EFC. The characteristics of the participants were presented in the table 1 below.

TABLE I. THE PARTICIPANTS

NO	Characteristics	Total	%
1.	Age		
	20 – 30	55	16
	31 – 40	89	26
	41 – 50	67	20
	51 – 60	125	37
	61 – 70	6	2
2.	Education		
	High School	31	9
	Diploma	7	2
	Bachelor	187	55
	Master	101	30
	Doctor	16	5
N = 342			

Table 1 represents the majority of the participants in this study were aged between 51-60 years, and had a Bachelor degree. According to the Centers for Disease Control and Prevention [13], elderly and men are risk factors for the COVID-19 virus. The number of male respondents in this study was more than women. Caramelo and Oliveiro [14] stated that men and elderly people are more susceptible to COVID-19 than women and young people. Data from WHO [1] indicated that the percentage of COVID-19 sufferers in men is 51% and women 47%. Smokers, people with hypertension, cancer, acute respiratory infections and diabetes mellitus are also more likely to be risk factors for infection with COVID-19 [15].

Thus, it can be concluded that the majority of respondents in this study, based on gender and age, are people at risk of contracting the COVID-19 virus. In an attempt to prevent the transmission of COVID-19 within the employees of the Secretary General of the Ministry of Education and Culture, Republic of Indonesia, had published a regulation which permitted to work from home (WFH) for the employees who were older than 45 years of age [16].

A. Risk Perception of the COVID-19 Pandemic

Risk Perceptions of the COVID-19 pandemic can be measured from two aspects, namely cognitive and affective [2]. Items on the cognitive aspect aimed to measure respondents' personal judgments about their knowledge and possibility of contracting COVID-19, while those on the affective aspect focus on respondents' fears and concerns regarding COVID-19 in general. The results of data analysis can be seen in the table 2 below.

TABLE II. KNOWLEDGE ABOUT COVID-19

Knowledge about COVID-19	Response		
	Do not know	False	Right
Covid-19 attacks the respiratory tract	13 (3.8%)	5 (1.4%)	324 (94.7%)
Covid-19 has no specific symptoms	25 (7.3%)	122 (35.6%)	195 (57.0%)
Covid-19 already had a cure	78 (22.8%)	19 (5.5%)	245 (71.6%)
Covid-19 can cause death	14 (4.0%)	18 (5.2%)	310 (90.6%)
Covid-19 can spread quickly	14 (4.0%)	7 (2.0%)	321 (93.8%)

Knowledge about COVID-19 is assessed using 5 questions as written in table 2. It can be concluded that the majority of the participants in this study (more than 50%) already have a good knowledge about COVID-19. However, there are still around 1-35% of all participants who still need to get education about COVID-19.

According to Dryhurst et al. [17], knowledge is a psychological predictor to determine a person's perception of the risk of the COVID-19 pandemic. The more knowledge one has, the better a person's perception of the pandemic will be, and the less worry they will experience. Good knowledge is very important in preventing a disease [8].

Risk perception regarding a condition or situation that poses a threat to a person is almost the same as a cognitive appraisal (cognitive appraisal). According to Folkman, Lazarus, Gruen, and DeLongis [11], cognitive assessment is a process in which a person evaluates the situation or environmental conditions he experienced, threatened, or endangered himself or not. There are two types of cognitive assessment, namely: primary and secondary assessments. In the primary assessment, the assessment focuses on the harm or benefit of the situation or condition at hand, as well as the resources it has. Meanwhile, secondary assessment, is focused on evaluating what, can be done to overcome or prevent harm that may occur or to take advantage of the situation. For example, how to change a situation, accept it, seek more information, or refrain from acting impulsively. The more knowledge or information's about a disease will reduce a risk of contracting the disease.

TABLE III. RISK PERCEPTION OF THE COVID-19 PANDEMIC

Worry	Participants	%
The COVID-19 pandemic makes me worry.	308	90.05
I am afraid of being infected by COVID-19.	320	93.56
News of COVID-19 causes feelings of anxiety.	150	43.85
<i>Risk Perception</i>		
COVID-19 is dangerous	233	68.12
Everyone has a very high potential of infected by COVID-19	188	54.97
Elderly people have a greater risk of infected by COVID-19	300	87.71
My family and I don't have the risk of infected by COVID-19	146	42.69
<i>Information Sources</i>		
Friends	124	36.25
Family	105	30.70
Mass Media	329	96.19
Social Media	180	52.63
Medical officer	69	20.17
Health book	24	7.01

Table 3 shows that more than 75% of the participants in this study are worried about the COVID-19 pandemic, and are afraid of being infected by the COVID-19. The COVID-19 pandemic is a situation that can generate a person to contract a disease for which there is no cure, and can cause death to the sufferer. Worry and fear in this study are experienced when a

person thinks that he or she has the possibility of contracting or being infected by the COVID-19.

According to Slovic et al. [2], the affective aspect of risk perception of an emergency situation or condition includes worry and fear. This worry or fear is a reaction to a negative risk of a disease that is believed to occur [9]. Those feelings are not pathological, because it can be controlled. Schmiede et al., stated that worry and fear are positively correlated with efforts to prevent a disease and can predict a person's risk of suffering from a dangerous disease, such as COVID-19 [9].

According to Shoshana Shiloh, Wade, Roberts, Alford, and B. [18], a person's behavioral responses related to health are more predictable based on their affective rather than cognitive components. Feelings of worry are the most common emotional response a person feels when facing a situation or condition that is considered to be harmful to him [9]. A person's perception of the size of the risk of a disease will affect the level of worry he feels [19]. Diseases that have no cure, such as cancer, heart disease, and diabetes mellitus, tend to be perceived as diseases that have a high risk, so the level of concern about the risk of these diseases is generally high.

The levels of worry or fear depends on a person's perception of the risk of a disease. If a disease is perceived as being very dangerous for someone's life, then the feeling of worry will increase. News about COVID-19 for some participants in this study does not cause feelings of anxiety, because news is considered a source of information, so that for some participant's news will increase knowledge about COVID-19. This can be observed in the aspect of Information Sources, which shows that more than 50% of the participants received information about COVID-19 from the mass media.

The risk perception aspect shows that more than 50% of the participants have a perception that COVID-19 is dangerous, and everyone has the possibility to catch it, especially people who are elderly. However, on the other hand, there are more than 40% of the participants who have the perception that themselves and their families are not at risk of contracting COVID-19. This finding is quite interesting, because according to the World Health Organization [20] COVID-19 has a high transmission rate. If a person has the perception that he or she has a small risk of infected by a COVID-19, then that person usually doesn't worry too much about the COVID-19 pandemic. Lack of worry can impact prevention efforts. Seeking information is one strategy to reduce feelings of worry when faced with situations that are unpredictable and considered to be dangerous or life threatening to someone [11]. The most widely sources of information on COVID-19 used by largely of the participants (96%) are mass media (television, radio, newspapers, magazines, internet), then social media (52%). This finding is not too surprising considering that almost all mass media and social media provide information about COVID-19 that is easily accessible by everyone from cellphones owned by all of the participants. These findings are very useful for health promotion related to COVID-19 and other health problems in the future. In conclusion, the Ministry

of Education and Culture is expected to provide more official information about COVID through social media that is easily accessible by the government employees.

The COVID-19 is considered by the participants in this study to be very dangerous for everyone, especially the elderly. From the results of data analysis, it was found that more than 90% of respondents had concerns about being infected with the COVID-19 virus. Feelings of worry (worry) are the most common emotional response a person feels when facing a situation or condition that is considered to be harmful to him [9]. A person's perception of the size of the risk of a disease will affect the level of worry he feels [19]. Based on the results of the discussion, it is known that most respondents have good knowledge of COVID-19, and get information through mass media and social media.

B. Coping Strategy towards the COVID-19 Pandemic

To assess the strategies used by the government employees in dealing with the COVID-19 pandemic, a Coping Strategy scale was developed based on the aspects developed by Folkman and Lazarus [12] totaling 30 items, consisting of 15 items Problem-focused Coping (PFC), and 15 Emotion-focused Coping (EFC) items. The PFC reliability coefficients were 0.893 and 0.772 for EFC. The results of the Coping Strategy questionnaire analysis are shown in the table 4 below.

TABLE IV. COPING STRATEGY TOWARDS COVID-19 PANDEMIC

Coping Strategy	Female		Male	
	Total	%	Total	%
<i>Problem-Focused Coping (PFC)</i>				
Listen to the opinions of the experts and follow their advice.	160	46.7	175	51.1
Be careful before commit and comply with existing rules.	160	46.7	181	52.9
Avoid various things that cause transmission of COVID-19.	160	46.7	179	52.3
Using various equipment to avoid transmission of COVID-19 (ex: masks and hand sanitizers).	160	46.7	178	52.0
Changing patterns of life in order to adapt to current conditions.	159	46.4	175	51.1
<i>Emotion-Focused Coping (EFC)</i>				
Hope that COVID-19 will be overcome soon.	160	46.4	179	52.3
Hoping that the COVID-19 pandemic will end soon.	161	47.0	175	51.1
Surrender and pray to God.	158	46.1	170	49.7

From table 4 it can be concluded that the government employees in the Ministry of Education and Culture (more than 50%) carry out problem-focused coping strategies (PFC) by: Listening to the opinions of experts and following their suggestions; Be careful before commit and comply with existing rules; Using various equipment to prevent transmission of COVID-19 (ex: masks and hand sanitizers); and Changing patterns of life in order to adapt to current conditions. This strategy supports the government's recommended health

protocol during the COVID-19 pandemic. The goal is to minimize the risk of contracting the COVID-19 virus, as well as a form of prevention efforts against COVID-19. In this study, there was no difference in PFC strategy between female and male government employees. The EFC coping strategies that were mostly carried out by the participants in this study (more than 50%) were: "Hoping that COVID-19 will be resolved soon"; "Hopefully the COVID-19 pandemic will end soon"; and "Surrender and pray to God". This finding are in accordance with Folkman and Lazarus [12], who stated that the EFC strategy most often used in dealing with health problems is surrendering to God and hoping to avoid the disease at hand. The COVID-19 pandemic is a situation that cannot be predicted when it will end, so what the government employees can do is hope and pray (Using faith for support).

Polizzi, Lynn, and Perry [21] stated that the COVID-19 pandemic apart from being a health problem, can also cause psychological problems, such as anxiety, worry, stress, and even depression. In a COVID-19 pandemic situation, coping strategies can worsen or improve a person's health condition. A number of studies have shown that health behavior correlates with coping strategies that a person undertakes. Based on the results of previous studies, EFC has a correlation with the emergence of negative emotions that can reduce immunity, thus making a person susceptible to disease [12].

IV. CONCLUSION

The government employees in the Ministry of Education and Culture's perceived the risk of the COVID-19 pandemic influenced by their feelings of worry to be infected by COVID-19. This is in accordance with the opinion of Schmiede et al. [9] which states that worrying is the most common emotional response a person feels when facing a situation or condition that is considered dangerous. The coping strategy that is mostly carried out by the government employees in the Ministry of Education and Culture is Problem-Focused Coping (PFC) in the form of concrete actions to reduce the risk of contracting COVID-19, for example using equipment to minimize transmission, comply with rules, and change lifestyle. According to Folkman and Lazarus [12], one of the PFC coping strategies to deal with unpredictable situations (stressors) such as the COVID-19 pandemic is to seek information (information seeking). The knowledge or information that the government employees have about COVID-19 is quite good and mostly comes from mass media and social media. With complete information, it is hoped that ASN can develop appropriate action plans to deal with stressors. If a person is unable to determine the right steps or actions to deal with a stressor, feelings of anxiety, worry, stress will drag on and affect the immune system, because their energy is spent controlling the stress experienced. The weak immune system causes the body's resistance to disease to become weak, so it is easy to be infected the disease, in this case COVID-19. To reduce the anxiety experienced, the majority of the government employees in the Ministry of Education and Culture's uses Emotion-Focused Coping in the

form of surrendering and praying to God (Using faith for support).

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ACKNOWLEDGMENT

We acknowledge support from Asrijanty, Ph.D, the Head of the Center of Assessment and Learning, Research and Development Agency, Ministry of Education and Culture, Republic of Indonesia for the data collection. Additionally, we would like to thank all of the government employees of the Ministry of Education and Culture, Republic of Indonesia who participated in this study, and those who helped to spread the information about this study.

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