

UNDERSTANDING INDONESIAN CITIZEN'S INTENTIONS TO TAKE PERSONAL PROTECTIVE MEASURES AND FOLLOW A STAY-AT-HOME ORDER TO LIMIT THE SPREAD OF COVID-19

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Article History: Received on 27th July 2020, Revised on 10th September 2020, Published on 20th September 2020

Abstract

Purpose of the study: This study is aimed to analyze the factors which influence the Intention of the Indonesian public to take personal protective measures and follow the stay-at-home order.

Methodology: This study was a cross-sectional study, using an instrument of an online questionnaire consisting of 75 questions. A total of 8 hypotheses, built on the foundation of the TPB and PMT model, was tested. The hypotheses were tested using a Structural Equation Modeling (SEM). An online questionnaire was distributed in May 2020 with the target population of the Indonesian public, especially the ones who have a stay-at-home order in their cities.

Main Findings: All 8 hypotheses were accepted. In the TPB model, It was revealed that Attitude (AT), Subjective Norms (SN), and Perceived Behavioral Control (PBC) significantly affect the public Intention to take personal protective measures. While in the PMT model, Perceived Vulnerability (PV), Perceived Severity (PS), Self-efficacy (SE), Response Efficacy (RE), and Response Cost (RC) have significant relationships with the public Intention to follow a stay-at-home order.

Applications of this study: Perceived Behavioral Control (PBC) is found to be a powerful predictor of the public Intention to take personal protective measures while for the compliance towards stay-at-home order, Response Efficacy (RE) is found to be a powerful predictor. Therefore, governments and public health organizations are encouraged to focus on giving educations to the public of how a stay-at-home order could be a crucial thing to do in combating COVID-19 promoting to the public that taking personal protective measures is a good thing and not a hard action to do.

Novelty/Originality of this study: We addressed COVID-19 in a novel way, which is understanding people's underlying psychological factors that influence particular COVID-19 related behaviors. By doing so, this study helps researchers and policymakers in making the appropriate policies and recommendations in slowing the spread of COVID-19.

Keywords: *Personal Protective Measures, Stay-at-home, SEM, COVID-19, Policy, Public Health.*

INTRODUCTION

There are almost six million recorded cases of coronavirus (COVID-19) with 367.166 recorded deaths as of May 31st, 2020 ([World Health Organization, 2020a](#)). Countries all over the world have been taking many measures to combat the pandemic. These measures, however, are varied. Different countries have implemented different measures such as stay-at-home requirements, restrictions on gathering, closing public transport, and workplace closing. The level of strictness in these measures are also varied; some countries are stricter than others. For example, as of May 15th, 2020, some countries give only a recommendation on not leaving the house (e.g., Canada, Switzerland, and Denmark) while other countries require their citizens to not leave the house with minimal exceptions (e.g., China, Russia, and Kenya).

Though varied, almost every country agrees on keeping the stay-at-home recommendations and public information campaigns (which is mainly campaigns on personal protective measures). The decision to keep these recommendations could be caused by how public health campaigns and stay-at-home recommendations does not have a significant economic downside compared to other measures such as workplace and public transport closures. The World Health Organization (WHO) also recommends these measures to governments around the world, further confirming the effectiveness and the feasibility of these measures ([World Health Organization, 2020b](#)).

A few studies have addressed COVID-19 personal protective measures and stay-at-home compliance. A study has found that from several variables investigated, only fear of COVID-19 that acts as a consistent predictor of positive behavioral changes such as personal protective measures ([Harper, Satchell, Fido, & Latzman, 2020](#)). Another study has also found that the expectation of a shorter stay-at-home order extension leads to a higher willingness to comply ([Briscese, Lacetera, Macis, & Tonin, 2020](#)). In a study with respondents from China, it has also been found that COVID-19 knowledge significantly affects personal protective measures behaviors positively ([Zhong et al., 2020](#)).

However, from research conducted in Italy, for example, only 88,8% of the sample reported compliance towards stay-at-home order ([Barari et al., 2020](#)). A similar number was also apparent in the United States, a panel survey shows that only 79.5% of the respondents in their study supported stay-at-home orders and only 74.1% always reported or often wears masks ([Czeisler et al., 2020](#)). Data from the United Kingdom also suggest similar compliance and improvement in

personal hygiene with 80% of UK citizens reported avoiding public places and 77% reported improved personal hygiene (Wolf et al., 2020). The number is lower in another survey with a more massive and global respondents, which reported that only 76.42% of the sample follow stay-at-home order. The same survey also reports an important aspect of personal protective measures statistics, that there is only 81.61% of people who washed their hands more frequently (Fetzer et al., 2020). Another research reports a significantly lower number on personal protective measures behavior, with only 42% and 52% of the sample reported good hand-washing and mask-wearing behaviors (Chen et al., 2020).

Therefore, there are still many rooms for improvement; the number of people who are doing good personal protective measures behavior and complying with stay-at-home orders can be higher, especially in Indonesia, the case for this study. Indonesia, the fourth-most populous country, ranks among world countries with the lowest testing rate (Soeriaatmadja, 2020). Official publications from the Indonesian Central Bureau of Statistics also reported some suboptimal numbers, such as how there is only a 34% increase of people staying at home even after the Indonesian government announced a large scale social restrictions policy (BPS RI, 2020b). The Central Bureau of Statistics also reported that, in their survey, 80,2% of the respondent reported using face masks often. However, the bureau also noted the potentially unequal distribution of the respondents, with 71% of the sample have at least a bachelor's degree (BPS RI, 2020a).

The present study has the objective of giving additional insight into this matter by analyzing the public behavior towards these policies. By doing so, the Personal Protective Measures Campaigns and Stay-at-home recommendations can hopefully be improved, thus increasing the number of people who are doing good personal protective measures and complying with the stay-at-home order. The present study provides significant contributions to both theoretical and practical perspectives. First, the result from the present study reveals the determinants of the public Intention to use personal protective measures and follow stay-at-home order. Second, we used a structural equation model to measure the proposed model, which contributes directly to the theoretical understanding of the models used in the present study (TPB and PMT), and further confirming the applicability of the models for similar cases. Third, the findings can be used by policymakers, the public health officials, WHO, and other officials in charge of the current pandemic crisis to formulate better strategies in combating the pandemic in Indonesia, nevertheless, due to how this study focuses on the behavioral aspect of humans, the findings and recommendations could also be applied in other countries. Lastly, we also give some policy recommendations towards the Indonesian governments.

LITERATURE REVIEW

Theoretical Background

This study uses two theoretical frameworks for two different COVID-19 related behavior: personal protective measures and compliance towards stay-at-home order. The Theory of Planned Behavior (TPB) is used to investigate factors affecting public Intention to take personal protective measures, and the Protection Motivation Theory (PMT) is used to investigate factors affecting public compliance to follow stay-at-home order. The TPB posits that there are three independent determinants of behavioral intentions to do a particular action: Attitude, Subjective Norms, and Perceived Behavioral Control (Ajzen, 1991). The PMT, which is more interested in protective behavior and compliance, in particular, has the fundamental concept of how there are two main cognitive mediating processes: a threat appraisal process and a coping appraisal process. A threat appraisal process is when an individual assesses something as threatening; if they think that something is indeed threatening, they tend to decrease their maladaptive response (ignoring the threat and the protective behavior). A coping appraisal, on the other hand, is an individual's evaluation of whether or not they have the ability to avoid or to cope with danger; if they think they can cope with danger, they tend to increase their adaptive response (protecting themselves and others) (Floyd, Prentice-Dunn, & Rogers, 2000). The decision to use these models is because of the numerous past empirical evidence that shows how TPB can explain many health-related behavioral changes and how PMT is commonly used to investigate factors affecting compliance towards a rule, policy, or program, including in the public health and pandemic cases (Armitage, 2005; Babazadeh, Nadrian, Banayejdedi, & Rezapour, 2017; Camerini, Diviani, Fadda, & Schulz, 2019; Gerend & Shepherd, 2012; MacDonell et al., 2013; Montanaro & Bryan, 2014; SHARIFIRAD, YARMOHAMMADI, MOROWATI, & RAHAYI, 2011; Sharifirad, Yarmohammadi, Sharifabad, & Rahaei, 2014). Thus, this study is built on the foundation of TPB and PMT, exploring ten different variables in total.

Research Model and Hypotheses

A total of eight hypotheses was proposed based on the TPB and PMT models; this section will try to explain the rationale behind these hypotheses. The first set of our hypotheses is related to the use of TPB and its application for understanding personal protective measures behavior against COVID-19. In TPB, Attitude (AT) or the affective regard of a particular behavior is hypothesized to have significant predictive power on Behavioral Intention, and past empirical studies with objects similar to the present study's (such as hand hygiene and face masks wearing Intention) have also shown this to be true (Chung et al., 2018; Jeong & Kim, 2016; McLaws, Maharlouei, Yousefi, & Askarian, 2012). Subjective Norms (SN), defined as an individual's perception of social pressure to do a particular behavior, is also hypothesized to be an important factor that predicts Behavioral Intention to do that particular behavior, previous studies have also revealed that this is true in other similar cases as this study (Chung et al., 2018; Jeong & Kim, 2016; McLaws

[et al., 2012](#)). Lastly, there is the Perceived Behavioral Control (PBC) which is defined as the level of ease in doing a particular behavior. In line with the previous findings, PBC is also hypothesized to affect Behavioral Intention to a particular action ([Chung et al., 2018](#); [Jeong & Kim, 2016](#); [McLaws et al., 2012](#)).

Thus, our first set of hypotheses are as follows:

H1a: Attitude towards personal protective measures have a significant positive effect on the Behavioral Intention to take personal protective measures.

H1b: Subjective Norms towards personal protective measures have a significant positive effect on the Behavioral Intention to take personal protective measures.

H1c: Perceived Behavioral Control towards personal protective measures have a significant positive effect on the Behavioral Intention to take personal protective measures.

The second set of our hypotheses addresses the use of PMT to understand the public Intention to comply with the stay-at-home order. In our previous explanation regarding the PMT framework, we stated that there are two kinds of cognitive mediating processes: threat appraisals and coping appraisal. However, each appraisal has its own predictor variables. In threat appraisal, there are two variables: Perceived Vulnerability and Perceived Severity, and in coping appraisal, there three: Self-efficacy, Response Efficacy, and Response Cost ([Ifinedo, 2012](#)). These variables are hypothesized to predict preventive action behavior or compliance towards policies which promote the solution for combating a threat; in this study, it is the compliance or the Intention to follow towards stay-at-home order.

Perceived Vulnerability (PV) is an individual's evaluation of the likelihood of a threat affecting them, in this case, the COVID-19. The PMT hypothesizes that this belief will affect the individual's Behavioral Intention to comply with the recommended measures for preventing the threat, or in this case, compliance towards stay-at-home order. Similar research articles have also shown this relationship in the past ([Ahia, 1991](#); [Babazadeh et al., 2017](#)). Perceived Severity (PS) is an individual's perception of the severity of the consequences of a threat, or in this study, the severity of catching COVID-19. The more an individual evaluates a threat to be severe, the more likely they will comply with the recommended measures for combating it, as proven in previous empirical studies. ([Cox, Koster, & Russell, 2004](#); [Wu, Stanton, Li, Galbraith, & Cole, 2005](#)) Self-efficacy (SE) is an individual's perception of their ability to do the recommended preventive action to prevent a threat; in this case, it is the ability to keep following the stay-at-home order. SE is also hypothesized to positively influence the Behavioral Intention to do the recommended preventive action, as proven in previous studies ([Babazadeh et al., 2017](#); [Wu et al., 2005](#)). Response Efficacy (RE) is an individual's perceived benefit gained by following recommended measures or policies to confront a threat; in this case, it is the perceived benefit of lesser COVID-19 exposure risk and how doing the recommended measures could also protect other people and people who are at a higher risk for severe illness from catching COVID-19 ([Ahia, 1991](#); [Babazadeh et al., 2017](#); [McClendon & Prentice-Dunn, 2001](#)). Response Cost (RC) is an individual's perceived costs or sacrifice in terms of effort, monetary, or time by adhering to recommended measures in the event of a threat. In this study, RC is related to the monetary cost of staying at home, boredom, and inability to do things outside their home. The PMT hypothesized that RC negatively influences Behavioral Intention to do preventive action; previous findings have also been consistent with the theory ([Cox et al., 2004](#); [Wu et al., 2005](#)). Thus, our second set of hypotheses are as follows:

H2a: Perceived Vulnerability has a significant positive effect on the Behavioral Intention to follow stay-at-home order.

H2b: Perceived Severity has a significant positive effect on the Behavioral Intention to follow stay-at-home order.

H2c: Self-efficacy has a significant positive effect on the Behavioral Intention to follow stay-at-home order.

H2d: Response Efficacy has a significant positive effect on the Behavioral Intention to follow stay-at-home order.

H2e: Response Cost have a significant negative effect on the Behavioral Intention to follow stay-at-home order.

The two research models are presented in Figure 1.

METHODS

This study uses a cross-sectional survey with the target population of the Indonesian public, especially the ones who have a stay-at-home order in their cities. An online survey was distributed in May 2020 using a convenient sampling method. We have collected a total of 219 respondents in this study, which come from 27 different cities in Indonesia. The number of data gathered in this study (219) is in accordance with the rule of the sample-to-item ratio which is not less than 1:5 (for every item, there should be five samples). For the TPB model, 85 samples is needed (17 items x 5 samples), and for the PMT model, a 110 sample is required (22 items x 5 samples) ([Gorsuch, 1983](#); [Hatcher, 1994](#); [Suhr, 2006](#)). 41.6% of the respondents are male, 57.1% are females, and 1.4% prefer not to answer. Due to how our survey is distributed online, our respondents' ages ranged only from 17 to 30 years old. We have also asked our respondents some behavioral questions related to COVID-19, from these questions (summarized in Table 1), we can confirm that there is a behavioral change from our respondents before and after COVID-19 and the stay-at-home order; our respondents tend to take personal protective measures more often after COVID-19 and are less frequent to go outside after the stay-at-home

order. This change in behavior, though it cannot be interpreted further because of its descriptive nature, can be used as a good measurement in evaluating the effectiveness of stay-at-home order and personal protective measures campaign.

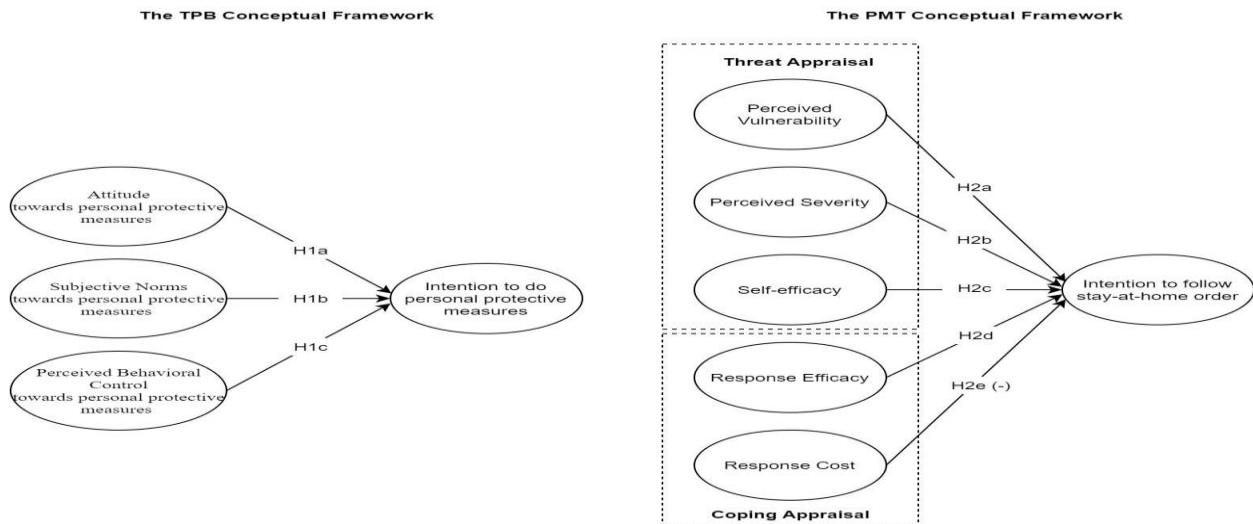


Figure 1: The Conceptual Framework

Table 1: Behavioral Questions

Frequency (%) Question	Never	Rarely	Occasionally	Frequently	Frequently
How often you take personal protective measures before COVID-19?	24.2%	41.6%	8.2%	24.2%	1.8%
How often you take personal protective measures after COVID-19?	0.9%	8.7%	45.7%	44.3%	0.5%
How often you go outside before the stay-at-home order?	11%	14.2%	32%	40.6%	2.3%
How often you go outside after the stay-at-home order?	65.3%	18.3%	1.4%	2.7%	12.3%

Source: Questionnaire result

For the measurement instrument, we adopted several works with a similar subject as this study. We used a 5-point Likert scale ranging from 1 with "Strongly Disagree" to 5 with "Strongly Agree." For questions related to the TPB framework, we used instruments from the original TPB publication and an article by Buunk-Werkhoven et al., which investigated oral hygiene (Ajzen, 1991; Buunk-Werkhoven, Dijkstra, & van der Schans, 2011). For questions related to the PMT framework, we used the work of Ifinedo about the use of PMT on system security policy compliance and Milne et al. about exercise participation (Milne, Orbell, & Sheeran, 2002). The complete list of the measurement items is presented in Table 2 and Table 3.

Table 2: The TPB Measurements Items

Constructs	Questions (indicators)
Attitude	"I think taking personal protective measures to protect myself from COVID-19 is important "(AT1)
	"I think taking personal protective measures to protect myself from COVID-19 is healthy "(AT2)
	"I think taking personal protective measures to protect myself from COVID-19 is a positive thing "(AT3)
	"I think taking personal protective measures to protect myself from COVID-19 is pleasant" *
	"I think taking personal protective measures to protect myself from COVID-19 is not annoying" *
	"I think taking personal protective measures to protect myself from COVID-19 is useful "(AT4)
	"I think taking personal protective measures to protect myself from COVID-19 is exciting" *
	"I think taking personal protective measures to protect myself from COVID-19 is painless" *
	"I think taking personal protective measures to protect myself from COVID-19 is smart

	"(AT5)
Subjective Norms	"My family thinks that I should take personal protective measures to protect myself from COVID-19 "(SN1)
	"My partner thinks that I should take personal protective measures to protect myself from COVID-19 "(SN2)
	"My friends think that I should take personal protective measures to protect myself from COVID-19 "(SN3)
	"My colleagues think that I should take personal protective measures to protect myself from COVID-19 "(SN4)
	"Health professionals think that I should take personal protective measures to protect myself from COVID-19 "(SN5)
Perceived Behavioral Control	"If I wanted to, I could take personal protective measures to protect myself from COVID-19 as recommended "(PBC1)
	"I find it easy to take personal protective measures to protect myself from COVID-19 "(PBC1)
	"I am able to take personal protective measures to protect myself from COVID-19 as recommended "(PBC2)
	"I am confident that I could take personal protective measures to protect myself from COVID-19 "(PBC3)
	"It is up to me whether or not I take personal protective measures to protect myself from COVID-19 "(PBC4)
	"If I wanted to, I could take personal protective measures to protect myself from COVID-19" *
Behavioral Intention to take personal protective measures	"I intend to take personal protective measures to protect myself from COVID-19 "(I1)
	"I plan to take personal protective measures to protect myself from COVID-19 "(I2)
	"It is likely for me to keep taking personal protective measures to protect myself from COVID-19 "(I3)
* = Item dropped from the SEM analysis due to low factor loadings (<0.5)	

Table 3: The PMT Measurements Items

Construct	Items
Perceived Vulnerability	"My chances of catching COVID-19 in the future are very high "(PV1)
	"I am likely to catch COVID-19 in the future "(PV2)
	"I am vulnerable to catching COVID-19 "(PV3)
	"If I don't stay home, I would be more likely to catch COVID-19" *
	"In general, I am very susceptible to colds, flu and other infectious diseases including COVID-19" *
Perceived Severity	"COVID-19 can cause death" *
	"If I had COVID-19, I would not be able to manage daily activities "(PS1)
	"If I were to catch COVID-19, I would suffer a lot of unpleasant symptoms "(PS2)
	"If I were to catch COVID-19, I could put my family and friends in danger "(PS3)
	"If I were to catch COVID-19, I could die prematurely" *
Self-efficacy	"It will be possible for me to stay at home during the stay-at-home order if I want to" *
	"If I want to, I am confident that I can stay at home during the stay-at-home order" *
	"I am able to stay home during the stay-at-home order "(SE1)
	"It would not be difficult for me to stay home during the stay-at-home order "(SE2)
Response Efficacy	"Staying home during the stay-at-home order would be easy for me "(SE3)
	"Because of the wide range of positive effects staying home, it is a good way of reducing the risk of catching COVID-19 "(RE1)
	"If I were to follow stay-at-home order, it would lessen my chances of catching COVID-19 "(RE2)
	"If I were to follow stay-at-home order, I will be protecting others from COVID-19 "(RE3)

	"If I were to follow stay-at-home order, I would be protecting others who are at high-risk from COVID-19 "(RE4)
	"The benefits of staying home during the stay-at-home order outweigh the costs" *
	"Staying home during the stay-at-home order would cause me too many problems "(RC1)
Response Cost	"Staying home during the stay-at-home order would make me get bored or frustrated "(RC2)
	"Staying home during the stay-at-home order would make me not be able to get on with things I want to do "(RC3)
	"Staying home during the stay-at-home order would hurt my finances "(RC4)
	"I would be discouraged from staying home during the stay-at-home order as it would inconvenience me "(RC5)
Behavioral Intention to follow stay-at-home order	"I intend to stay home during the stay-at-home order "(BI1)
	"I want to stay home during the stay-at-home order "(BI2)
	"I will try to stay home during the stay-at-home order "(BI3)
	"I am likely to stay home during the stay-at-home order "(BI4)

* = Item dropped from the SEM analysis due to low factor loadings (<0.5)

RESULTS

Data Analysis

The present study used Structural Equation Modeling (SEM). SEM is used in this research because it can analyze latent variables, which is the variable that is existed in the TPB and PMT model (Kline, 2015). An SEM model requires reliability, validity, and model fitness tests. For the reliability tests, there are two measurements: composite reliability (CR) and Cronbach α ; both require values of 0.70 or above. For the validity tests, the standardized factor loadings (FL) and the Average Variance Extracted (AVE) were the measurement used with the minimum value of 0.5 for both measurements; it was found that all measures were reliable and valid. Table 4 details the reliability and validity of this study's data. Hence, the data from this study truly measures what it intended to measure (valid) and will yield consistent findings (reliable).

Table 4: Data Reliability and Validity

Construct	Cronbach α	CR	AVE	Items	FL
Attitude	0.81	0.83	0.5	AT1	0.63
				AT2	0.78
				AT3	0.79
				AT4	0.70
				AT5	0.60
Subjective Norms	0.81	0.82	0.5	SN1	0.63
				SN2	0.57
				SN3	0.80
				SN4	0.84
				SN5	0.58
Perceived Behavioral Control	0.78	0.80	0.5	PBC1	0.63
				PBC2	0.67
				PBC3	0.83
				PBC4	0.68
Behavioral Intention to take personal protective measures	0.84	0.80	0.6	I1	0.79
				I2	0.77
				I3	0.70
Perceived Vulnerability	0.74	0.76	0.5	PV1	0.79
				PV2	0.94
				PV3	0.61
Perceived Severity	0.82	0.83	0.6	PS1	0.68
				PS2	0.88
				PS3	0.56
Self-efficacy	0.83	0.84	0.6	SE1	0.61
				SE2	0.89
				SE3	0.88

Response Efficacy	0.89	0.90	0.7	RE1	0.79
				RE2	0.86
				RE3	0.87
				RE4	0.79
Response Cost	0.82	0.82	0.5	RC1	0.63
				RC2	0.74
				RC3	0.68
				RC4	0.65
				RC5	0.77
Behavioral Intention to follow stay-at-home order	0.90	0.89	0.7	BI1	0.87
				BI2	0.87
				BI3	0.70
				BI4	0.80

The fitness of the model was evaluated by using some indexes (acceptable value) commonly used in an SEM model: GFI (≥ 0.8), CFI (≥ 0.8), and RMSEA (≤ 0.08) (Byrne, 2013; Hsu & Lin, 2008; Perez-Lloret et al., 2013). The model fit resulted in the acceptance of both models, where the TPB model showed fitness in two out of the three indexes (GFI= 0.81 and CFI= 0.81), and the PMT model showed fitness in all indexes (GFI= 0.85 and CFI= 0.90, and RMSEA = 0.076). With the data reliability and validity and the fitness of the model has been evaluated, we then performed hypotheses testing. We presented the full illustration of the hypotheses evaluation results in Figure 2.

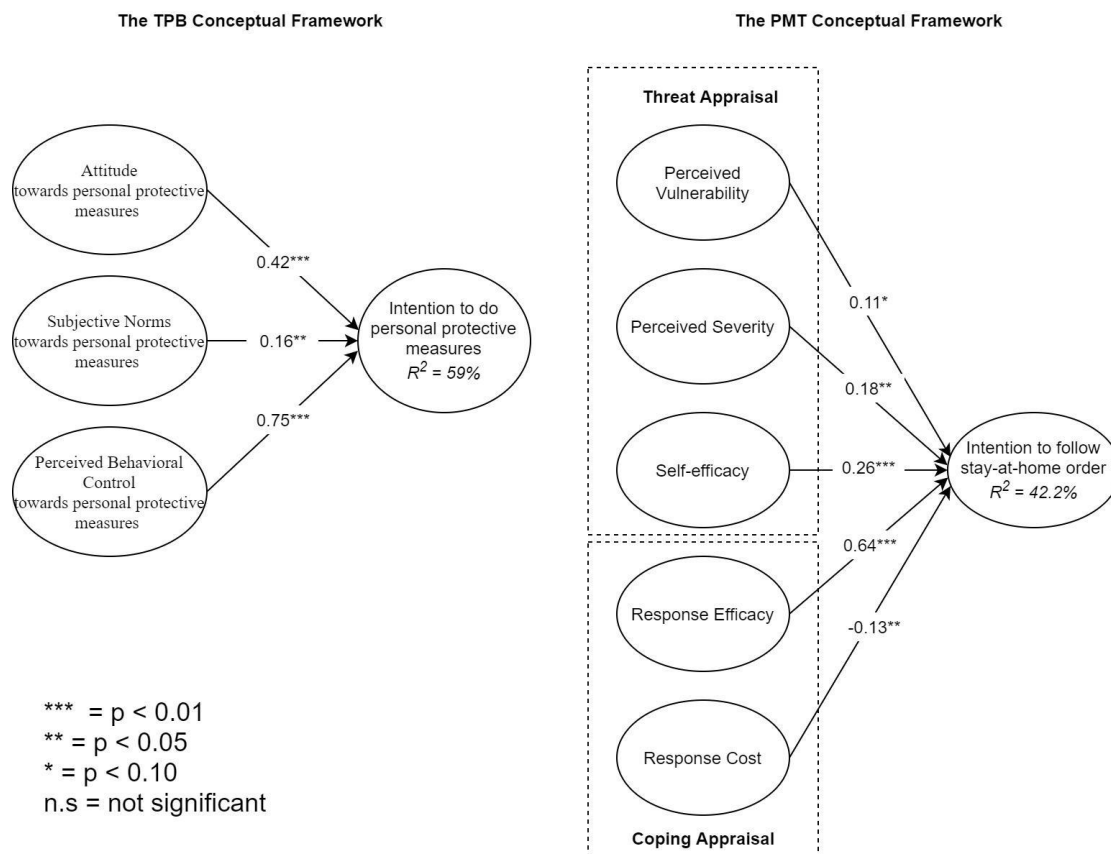


Figure 2: Hypotheses Testing Result

In figure 2, it is apparent that the two models show a good explanatory power, indicated by the high R^2 of both models; The TPB model is able to explain 59% of the respondents' Intention to take personal protective measures, and the PMT model is able to explain 42.2% of the respondents' Intention to follow stay-at-home order. All hypotheses were also proved to be accepted with Perceived Behavioral Control having the most significant predicting power for the respondents' Intention to take personal protective measures ($\beta = 0.75$), and Response Efficacy having the most significant predicting power for the respondents' Intention to follow stay-at-home order ($\beta = 0.64$). Thus, all factors from the TPB framework are shown to have a significant effect on the Indonesian citizens' Intention to take personal protective measures, and all factors from the PMT framework is proven to affect their Intention follow a stay-at-home order as well.

Discussion

Results from this study revealed that both the TPB and the PMT model have the ability to explain both the Intention to take personal protective measures and follow stay-at-home order. The result is important because while there is a study that predicts how the end of COVID-19 will be in December, it is also known that prediction is uncertain by nature, and there is also the challenge of second-wave of infections (Luo, 2020; Xu & Li, 2020). Thus, expanding our understanding of what we can do at the time is extremely important to reduce fatality and other losses. The three predictors hypothesized in the TPB model: Attitude, Subjective Norms, and Perceived Behavioral Control have proven to be significantly affecting the public Intention to use personal protective measures with Perceived Behavioral Control as the most significant predictor. The policymakers, especially the Indonesian policymakers as the case for this study, should utilize this fact and focuses on these three behavioral aspects to create a better campaign that would increase the number of people who take personal protective measures. Policymakers could use the fact that people's perception of their ability to take personal protective measures (PBC), is the main predictor of their Intention to take the measures and create a campaign on how easy it is to take personal protective measures (Kassem, Lee, Modeste, & Johnston, 2003; Paek, Oh, & Hove, 2012). Other predictors, that is, Attitude and Subjective Norms, should also be utilized. Public health communicators should explain to the public and increase the favorable public feelings to take personal protective measures and explain how it is socially responsible behavior (Cho & Salmon, 2006; Poutanen, Lahti, & Hausen, 2005; Wang, 2009). The significant effect of Subjective Norms on the public Intention to take personal protective measures is also a message for the public, and the public should also encourage each other to take personal protective measures. For the PMT model, all hypotheses were also proven to be true. Response Efficacy, however, stands out as the most significant predictor of the public Intention to follow stay-at-home order. This means that the governments can focus on public Response Efficacy behavior; governments should make it very clear and understandable that staying at home is a crucial thing to do for the COVID-19 to be suppressed and do not cause more preventable deaths. The government should also utilize other accepted PMT hypotheses aspects. For example, with Response Cost negatively affects public Intention to follow stay-at-home order, the government could reduce the public perceived Response Cost when following a stay-at-home order such as by giving financial aid or entertainment while staying at home.

The result of this study also contributes to the theoretical body of behavioral models, especially the TPB and PMT, in explaining many kinds of behaviors, including health-related behavior. The result of this study is also consistent with what previous studies have suggested, such as the use of TPB in healthy eating (Conner, Norman, & Bell, 2002) and vaccine uptake (Gerend & Shepherd, 2012), or the use of PMT in exercise participation (Milne et al., 2002), antismoking advertisement (Pechmann, Zhao, Goldberg, & Reibling, 2003), and preventive health psychology (Sturges & Rogers, 1996). The relatively high Squared Multiple Correlation (R^2) also shows how the TPB and the PMT are the suitable frameworks in explaining the Behavioral Intention investigated in this research (Laitinen, 2006; Mat & Sentosa, 2008; Ringle, Sarstedt, & Straub, 2012). Future research could use the theoretical findings in this study and uses the same frameworks in similar cases.

CONCLUSIONS

This study has successfully identified the factors that affect the two primary behavior that plays an important role in the spread of COVID-19. The present research has found that the TPB, as well as PMT factors, influences the majority of Indonesian citizens' Intention in taking personal protective measures and follow stay-at-home order. The TPB model was used to find the factors influencing the Indonesian public Intention to take personal protective measures, and the PMT model was used to find the factors influencing the Indonesian public Intention to follow a stay-at-home order. We analyzed the model using a Structural Equation Modeling (SEM) and revealed that all 8 of our hypotheses were accepted. The three constructs from the TPB model (Attitude, Subjective Norms, and Perceived Behavioral Control) was proven to be significantly affecting the public Intention to take personal protective measures. The five constructs from the PMT model (Perceived Vulnerability, Perceived Severity, Self-efficacy, Response Efficacy, and Response Cost) was also found to be affecting the public Intention to follow a stay-at-home order; the result from this study is in line with the result found in a similar study (Prasetyo et al., 2020). The results presented in this study can be used by governments around the world, especially the Indonesian governments, to create a better public health campaign or policies.

LIMITATIONS AND STUDY FORWARD

This study notes a limitation in our sampling, as mentioned in 'Methods,' our sample consisted mainly of the young population. Nonetheless, our respondents were diverse (by gender and city of origin). Future research can be built upon the present research with the addition of more construct and a more international sample. Future research could also use other methods such as experiment building on the same idea as the present study, which is understanding the COVID-19 related behavior of the public. In summary, the scope of further research could include better sample size and selection, the addition of related variables, and different methodological approaches.

AUTHORS CONTRIBUTIONS

The first author conceptualizes the idea of the research, draft the manuscript, and lead the research team. The second author is in charge of the main writing, compiling references, and preparing the document for publication. The third author assisted in writing recommendations, implication, abstract, and the limitations of the study. The fourth author

assisted in data analysis, interpretations, and worked with statistical software and providing clean data to be reviewed by the whole research team. The last author contributes to the collection of the data for this study.

ACKNOWLEDGMENT

The authors would like to thank any stakeholders, especially respondents who willing to participate in this research. This finding is without a doubt due to their contributions.

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