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COVID-19 Perceptions, Subjective Norms, and Perceived Benefits to Attitude and Behavior of Continuous Using of Medical Mask

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Abstract---The purpose of this study was to examine and explain the effect of COVID-19 Perception, subjective norms, and Perceived Benefits on attitudes and Behavior continuous use of medical mask. The population of this study is people in Indonesia who have used medical masks for at least a year. The size of the sample used is 146 people with purposive sampling method. The analytical technique used is Path Analysis using SEM-PLS. The results showed that the COVID-19 perception, subjective norm, and perceived benefits had a positive and significant effect on attitudes and behavior in using medical masks continuously, and attitudes about using medical masks also had a positive and significant effect on the intention to continue using them continuously. Therefore, it is important for regional leaders to continue to disseminate and educate about the importance of continuous use of medical masks in order to prevent the spread of disease due to COVID-19 and maintain public health by providing information about COVID-19 disease and the benefits of using this medical mask.

Keywords---attitude, behavior, benefit perception, COVID-19 perception, subjective norm.

Introduction

COVID-19 has become a worldwide pandemic. This is stated by WHO (2020). COVID-19 has become a highly contagious disease, and has made significant changes in people's lives. The business world has been negatively affected so that business performance has drastically decreased. In addition to having an impact on business performance achievements, the presence of disease due to COVID-19 has changed people's behavior or consumer behavior (Sumarliah et al., 2021; Shah et al., 2020; Sumaedi et al., 2020; Mata et al., 2021), including Indonesian society. One of the changes that occur is the phenomenon of always using a medical mask. The behavior of using medical masks can prevent disease transmission due to COVID-19 more quickly (WHO, 2020a, 2020b). The Indonesian government issued various regulations in order to prevent the spread of this disease. One of them is the need to wear a mask. The use of masks varies, but what the government recommends is medical masks. What is meant by medical masks are surgical medical masks or procedures that are flat or have folds; this type of medical mask is fastened to the head with a strap around the ear or head or both. Its performance characteristics are tested according to a series of standardized test methods (ASTM F2100, EN 14683, or equivalent) which aim to balance high filtration, adequate breathability and (optionally) the penetration resistance of the medical mask's liquid which is capable of preventing transmission of the virus. Research on the behavior of buying or using medical masks has been carried out by several researchers, including: Shah & Soomro (2017); Cirrincione et al. (2020); and Chen et al. (2020). The results of the research of Feng et al. (2020), showed the results that the use of medical masks was influenced by the desire to avoid the speed at which the virus spread. Likewise, the results of research by Dong et al. (2020), stated that the use of medical masks did not take into account gender and Shah et al. (2020), said that a positive attitude use of medical masks had a significant effect on the intention to buy masks.

The use of medical masks has become a trend and necessity in Indonesia. In addition to the disease caused by COVID-19, the use of medical masks is of course also influenced by other parties, such as family, friends, doctors, and government advice. In addition, it is also driven by the benefits of the medical mask itself which can prevent the transmission of COVID-19. The benefits felt by the community by using medical masks, among others, were researched by: Gao & Liu (2016); Shah et al. (2020); and Prastyawati et al. (2021). In addition, in general, the perception of the benefits of a product also affects the intention to continue using (Royne et al., 2014; Christina & Yasa, 2021). According to Nelwan et al. (2021), stated that the more useful mobile banking is, the more its use will increase.

These three variables affect people's attitude use of medical masks (Roy et al., 2020). Attitude use of medical masks have been studied by Shah et al. (2020), which states that attitudes have an impact on intentions to buy medical masks. Attitude is a determinant of an individual's behavior. If consumers have a positive attitude, it encourages them to behave in things that are seen as positive (Zhang et al., 2020). Research that examines the influence of attitudes on consumer

behavior has been studied by several researchers, including: [Soomro & Shah \(2015\)](#); [Shah & Soomro \(2017\)](#); [Hoque et al. \(2018\)](#); [Abdulsahib et al. \(2019\)](#).

Based on the introduction, this study develops the Theory of Planned Behavior by adding the perception variable about COVID-19 as a variable that affects consumer attitudes and behavior ([Porges, 2003](#); [Neal et al., 2000](#)). The purpose of this study is to examine and explain the effect of COVID-19 Perception, subjective norms, perceptions of benefits on attitudes and Behavior continuous use of medical mask in Indonesia ([Fatmawati, 2021](#)).

Literature review

COVID-19 perceptions

COVID-19 is a disease that emerged at the end of 2019. This disease greatly affects people's behavior, including the now emerging trend of using medical masks. COVID-19 is transmitted through droplets. So if someone sneezes while eating, the virus can move and be inhaled by other people. Therefore, the way to prevent transmission is inhibited or automatic transmission does not occur, it is recommended to use a medical mask. The spread of the COVID-19 virus is being understood every day. The main feature of COVID-19 is respiratory disease and the spectrum of infection with this virus ranges from people experiencing very mild non-respiratory symptoms to severe acute respiratory disease, sepsis with organ dysfunction and death. This causes people to worry and fear contracting the COVID-19 virus. Droplet transmission occurs when a person is in close contact (within 1 meter) with an infected person and there is exposure to respiratory droplets that may be infected, for example through coughing, sneezing, or close contact with the person so that infectious agents enter through these points such as the mouth, nose, or conjunctiva (eyes). Therefore, the spread of the COVID-19 virus can occur directly through contact with an infected person or indirectly through contact with direct environmental surfaces or objects used for or by an infected person. COVID-19 perceptions have finally changed people's behavior to always maintain health, find out about this disease, and how to prevent it from getting infected. To measure the public's COVID-19 perception, it was adopted from the measurements that have been used by [Taylor et al. \(2005\)](#) ; [Abdulsahib et al. \(2019\)](#); and [Kement et al. \(2020\)](#), and modifications were made according to conditions in the field.

Theory of planned behavior

The Theory of Planned Behavior (TPB) is used to predict and explain individual intentions and behavior ([Ilyas & Zaman, 2020](#)). This model contains three constructs, namely: perceived behavioral control, attitude towards behavior, and subjective norm ([Khairullina et al., 2021](#)). This model examines whether these three factors influence people's intentions and in turn influence their behavior. Behavioral attitudes refer to beliefs about predictable behavior ([Jacob, 2021](#); [Nugraha et al., 2020](#)). Positive attitudes tend to positively influence behavioral intentions. Although TPB initially appeared in the organizational behavior literature, in recent years, TPB has been used in various studies on consumer behavior ([Kement et al., 2020](#); [Sumaedi et al., 2020](#); [Kapoor & Singhal, 2021](#); [Liu et al., 2021](#)). Including the behavior of buying masks ([Shah et al., 2020](#)). Studies

have confirmed that the behavior of buying and using medical masks is largely determined by COVID-19 Perception, subjective norms, perceptions of the benefits of medical masks and attitudes towards the use of medical masks although the strength of the influence of each construct is different in various contexts and situations.

Subjective norm

Subjective norm refers to the social pressure that a person feels about certain behaviors or is said to be a person's belief that a certain individual or group thinks he should or should not perform the behavior and his motivation to comply with certain references (Ates, 2019). Subjective norm is the perceived social pressure to perform or not perform the behavior (Al-Swidi et al., 2014). When individuals are in groups, there are certain rules or norms, or beliefs about proper consumption behavior (Arnawa et al., 2019). This is a variable commonly used in behavioral research. The particular individual or group in question is usually an important person, such as friends, family or co-workers. Subjective norm is also considered as an element of social influence and is also often known as social pressure. The higher an individual's subjective norm, the more likely he or she intends to behave as expected by other references (Chan & Tsang, 2011; Close et al., 2018; Liu et al., 2020).

Perceived benefits

According to Akroush et al. (2019), that customer value is the ratio between the benefits perceived by customers (economic, functional, and psychological) and the resources (funds, time, energy, psychological) they use to obtain these benefits. Perceived Benefits are based on the benefits consumers seek from the products and services provided. The benefits that consumers seek represent unmet needs, unique and prominent benefits that result in loyalty to a product or service. The level of consumer loyalty, which in this case is measured by the intention to continue using service providers, is positively correlated with the benefits that consumers believe they have received, including those related to the benefits of protecting themselves from contracting the COVID-19 disease that consumers are looking for.

According to Rusyani et al. (2021), that an individual's willingness to use a medical mask significantly depends on the level of its Benefits, which positively develops the attitude of the user to use a medical mask. According to Bok et al. (2021), that Perceived Benefits are the driving force that influences people's attitudes towards the use of medical masks during the COVID-19 pandemic, which ultimately determines their intention to use them continuously. The results of the study of Mehrolia et al. (2021), found that consumers feel that when using a medical mask, they can protect themselves from contracting disease and avoiding illness due to COVID-19. This perception will develop a positive attitude towards it, and they will like to use it continuously. It was stated that the public would benefit from wearing medical masks (Bearth et al., 2014; Fischer & Frewer, 2009). In this study, the indicators of Perceived Benefits used were derived from the research of Shah et al. (2020) and Prastyawati et al. (2021).

Attitude

According to [Sumaedi et al. \(2020\)](#), stated that attitudes affect individual behavior by filtering information and shaping individual perceptions of the world. They stated that the behavior of using medical masks was influenced by positive views or attitude use of medical masks ([Shah et al., 2020](#)). In addition, research conducted by [Mata et al. \(2021\)](#), stated that attitudes towards self-protection from COVID-19 were influenced by subjective norms. Research conducted by [Alves et al. \(2021\)](#) and [Fattah et al. \(2021\)](#), stated that attitude had a positive and significant effect on consumer behavior during the COVID-19 pandemic. Attitude indicators in this study refer to the research of [Thøgersen \(2016\)](#); and [Aertsens et al. \(2009\)](#), and also modified according to the existing reality, namely the use of medical masks is considered a positive thing to prevent the transmission of diseases caused by COVID-19.

Continuous use of medical masks

The use of medical masks is part of a comprehensive series of prevention and control measures that can limit the spread of certain viral respiratory diseases, including COVID-19 ([Zhang et al., 2019](#)). Medical masks can be used either to protect a healthy person (worn to protect themselves when in contact with an infected person) or to control the source (worn by an infected person to prevent further transmission). The behavior of using masks has been studied by several previous researchers, including: [Rustika & Burase \(2018\)](#); [Yanti et al. \(2020\)](#); [Alifah et al. \(2020\)](#). Measurement of behavior using medical masks continuously is seen from continuing to use medical masks, always using medical masks, and using medical masks more often ([Abdulsahib et al., 2019](#)).

Research model

The behavior continuous use of medical mask during the COVID-19 pandemic is a behavior that benefits both ourselves and others around us. This behavior is a good behavior that prevents the transmission of COVID-19 disease. Behavior to continue to use medical masks continuously is influenced by the COVID-19 perception disease as a disease that is very easily transmitted through droplets, and is also encouraged by people around us, such as family, friends, people who understand about COVID-19 disease (doctors), and role models (subjective norm), as well as perceptions of the benefits of using the medical mask. In addition to these three factors, there are still things that can encourage behavior to continue to use medical masks continuously, namely their attitude towards the use of medical masks. The more positive the attitude towards the use of medical masks, the more it encourages the person to continue to use medical masks continuously. Based on the existing conceptual framework, the research hypotheses that can be formulated are as follows:

- H1: COVID-19 Perceptions have a positive and significant effect on the behavior continuous use of medical mask
- H2: Subjective norm has a positive and significant effect on the behavior continuous use of medical mask

- H3: Perceived Benefits has a positive and significant effect on the behavior continuous use of medical mask
- H4: COVID-19 Perceptions have a positive and significant effect on attitudes to using medical masks
- H5: Subjective norm has a positive and significant effect on the attitude use of medical masks
- H6: Perceived Benefits have a positive and significant effect on attitudes to using medical masks
- H7: Attitude has a positive and significant effect on the behavior continuous use of medical mask.

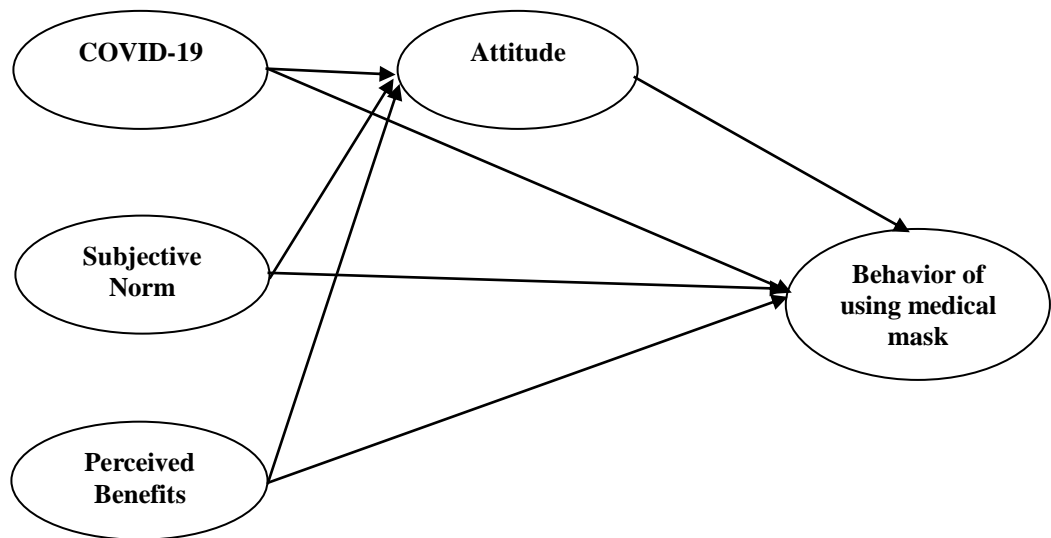


Figure 1. Research Framework

Methods

This study uses a quantitative approach, which analyzes and examines the causal relationship between the variables of COVID-19 perception, subjective norm, perceived benefits, attitudes, and behavior continuous use of medical mask. This research was conducted on Indonesians who have used medical masks for about a year since the COVID-19 pandemic. Questionnaires in the form of google forms were distributed to several WhatsApp groups to obtain the required data. The data collected by 30 respondents was tested for validity and reliability, and the results are presented in Table 1. Table 1 shows that all variables are valid because the correlation value is above 0.30 and reliable because the Cronbach's Alpha value is above 0.6.

Furthermore, data collection was continued by distributing questionnaires in google form format to several WhatsApp groups and collected as many as 146 respondents. This number has exceeded the minimum targeted sample size of 105 respondents (5 x 21 indicators). The sample of 146 respondents, then analyzed using analytical tools, namely: Path Analysis with the SEM-PLS approach.

Table 1
Instrument validity and reliability test results

Variable	Item	r correlation	Cronbach's Alpha α
<i>COVID-19 Perception (X1)</i>	X1		0.845
COVID-19 is a highly contagious disease	X1.1	0.761	
COVID-19 is a disease that can cause death	X1.2	0.837	
COVID-19 makes people always keep their distance from others	X1.3	0.866	
COVID-19 causes people to always wear masks	X1.4	0.677	
COVID-19 is a disease that is transmitted through droplets	X1.5	0.782	
<i>Subjective Norm (X2)</i>	X2		0.877
My family advised me to use a medical mask	X2.1	0.847	
Friends encourage me to wear a medical mask	X2.2	0.799	
Health experts recommend that I wear a medical mask	X2.3	0.901	
Government regulations require me to wear a medical mask	X2.4	0.878	
<i>Perceived Benefits (X3)</i>	X3		0.835
The use of medical medical masks protects us from COVID-19 disease	X3.1	0.891	
The use of medical masks gives a sense of security to avoid COVID-19 disease	X3.2	0.827	
The use of medical masks gives a sense of comfort to avoid COVID-19 disease	X3.3	0.803	
The use of medical masks prevents us from contracting the COVID-19 disease	X3.4	0.797	
<i>Attitudes on the use of medical medical masks (Y1)</i>	Y1		0.934
I have a positive view about the use of medical masks	Y1.1	0.792	
I think that using a medical mask is beneficial	Y1.2	0.873	
I'm happy to see other people wearing medical masks	Y1.3	0.960	
I consider the use of medical masks to protect themselves from infectious diseases including COVID-19	Y1.4	0.927	
I think the use of medical masks also protects others from COVID-19 disease	Y1.5	0.894	

<i>Behavior continuous use of medical mask (Y2)</i>	Y2	0.769
I will continue to use medical masks	Y2.1	0.883
I always use a medical mask	Y2.2	0.862
I use medical masks more often	Y2.3	0.814

Primary Data, 2021

Research Results and Discussion

Characteristics of respondents

The profiles of 146 respondents are presented in general with several characteristics including gender, age, last education, occupation and monthly income. The characteristics of the respondents in this study can be described as follows. There are more female respondents than male respondents, namely 95 women (65.1%) and 51 male respondents (34.9%). The age range of 18-28 years dominated filling out the questionnaire by 79 people (54.1%). Respondents with a bachelor's degree or equivalent dominate, as many as 45 people (30.8%). Respondents in this study were dominated by respondents with jobs as private employees, as many as 46 people (31.5%). The grouping of respondents based on monthly income obtained data that the dominant respondents were those with income in the income range, IDR 2-5 million, as many as 94 people (64.4%) of the total 146 respondents. Characteristics of respondents are presented in Table 2.

Table 2
Characteristics of respondents

No	Variable	Classification	Total Respondent	Percentage (%)
1	Gender	Male	51	34.9
		Female	95	65.1
		Total	146	100
2	Age	18-28 years old	79	54.1
		29-39 years old	30	20.5
		40-50 years old	24	16.4
		51-60 years old	12	8.2
		61-70 years old	1	0.7
		Total	146	100
3	Education Background	Senior High School	35	24.0
		Diploma	23	15.8
		Bachelor Degree	45	30.8
		Master Degree	43	29.5
		Total	146	100
4	Job Tittle	Civil	24	16.4
		Private	46	31.5
		Entrepreneur	12	8.2
		Profesional	6	4.1

		Others	58	39.7
		Total	146	100
5	Income	IDR 2-5 mil	94	64.4
		IDR 5-10 mil	28	19.2
		IDR10-15 mil	14	9.6
		IDR 15-20 mil	2	1.4
		IDR 20-25 mil	4	2.7
		IDR 25 mil	4	2.7
		Total	146	100

Primary Data, 2021

PLS SEM analysis results

This study uses a two-stage approach to measure the model before it is used for hypothesis testing, aiming to verify the validity and reliability of a research model. First by analyzing convergent validity, then by analyzing discriminant validity.

Test Outer Model Convergent validity

The outer model test is carried out to ensure that research indicators are suitable for use as their role in measuring research variables, so to see if a model is valid to be the basis of research, there are three criteria that must be met, namely: (1) all loading indicators must be above 0.65 (2) Composite Reliability (CR) must be above 0.8, and (3) Average Variance Extracted (AVE) for each construct must exceed 0.5.

Table 3
Model

Construct	Indicator	Outer Loading	Composite Reliability	Average Variance Extracted (AVE)
COVID-19 Perception (X1)	X1.1	0.849	0.923	0.705
	X1.2	0.873		
	X1.3	0.882		
	X1.4	0.796		
	X1.5	0.794		
Subjective Norm (X2)	X2.1	0.838	0.913	0.725
	X2.2	0.804		
	X2.3	0.917		
	X2.4	0.842		
Perceived Benefits (X3)	X3.1	0.821	0.901	0.696
	X3.2	0.890		
	X3.3	0.857		
	X3.4	0.763		
Attitude use of medical	Y1.1	0.839	0.959	0.825

mask (Y1)	Y1.2	0.923		
	Y1.3	0.938		
	Y1.4	0.926		
	Y1.5	0.912		
Behavior continuous use of medical mask (Y2)	Y1.1	0.905	0.901	0.754
	Y1.2	0.917		
	Y1.3	0.775		

Primary Data, 2021

Based on Table 3, it shows that all outer loading indicators have values above 0.65 with a range between 0.763 to 0.938 meaning they are at the recommendation limit, then the Composite Reliability (CR) value is in the range between 0.901 to 0.959, all of which are above 0.8, meaning that all constructs formed has good consistency as a research model, the third is the Average Variance Extracted (AVE) value where all values are above 0.5 with a range from 0.696 to 0.825 so it can be concluded that the research model in this study has good validity.

Discriminant validity

To evaluate discriminant validity, a research model is suggested to ensure that the value of the Average Variance Extracted ($\sqrt{\text{AVE}}$) squared root of a latent variable must be larger.

Table 4
Correlation between latent variables

Construct	COVID-19 Perception	Subjective Norm	Perceived Benefits	Attitude	Behavior continuous use of medical mask
COVID-19 Perception	1.000	0.522	0.486	0.613	0.543
Subjective Norm	0.522	1.000	0.558	0.611	0.627
Perceived Benefits	0.486	0.558	1.000	0.820	0.706
Attitude	0.613	0.611	0.820	1.000	0.716
Behavior continuous use of medical mask	0.543	0.627	0.706	0.716	1.000

Primary Data, 2021

Table 5
AVE Squared Root ($\sqrt{\text{AVE}}$) Value

Construct	Average Variance Extracted (AVE)	Akar AVE
COVID-19 Perception	0.705	0.839
Subjective Norm	0.725	0.851
Perceived Benefits	0.696	0.834
Attitude	0.825	0.908
Behavior continuous use of medical mask	0.754	0.868

Primary Data, 2021

Discriminant validity is considered good if the squared root value of AVE ($\sqrt{\text{AVE}}$) in Table 5 is greater than 0.5. The research model proposed in this study can be considered good, where the smallest AVE value is 0.839

Inner Model test

Structural models focus on hypothesized relationships or pathways between latent variables. The results of the inner model test can be seen in Figure 2.

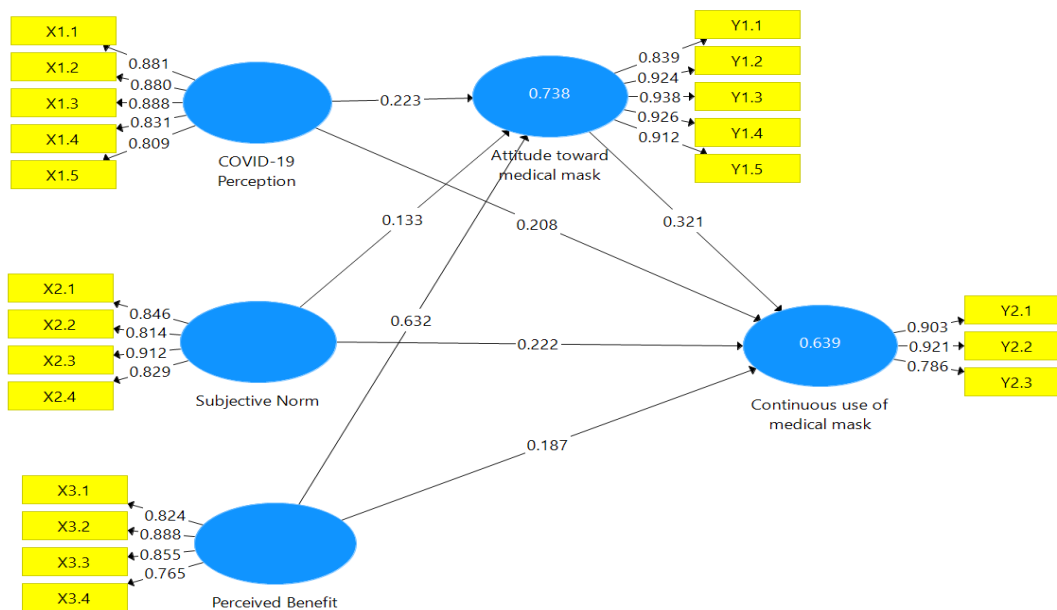


Figure 2. Structural model

The structural model was evaluated using R-square for the dependent construct and t-test as well as the significance of the coefficients of the structural path parameters.

Coefficient of Determination (R²)

In this study, bootstrap will be carried out which will produce two measurements of the structural model, namely: the value of t (t-test) and R² which will be interpreted the same as multiple regression analysis in general. The predictive power of a research model can be seen by looking at the R² value generated by the bootstrapping process, in Table 6. the R² value for each exogenous variable contained in the model will be presented.

Table 6
Coefficient of determination

Construct	R ²
Attitude use of medical mask	0.744
Behavior continuous use of medical mask	0.575

p.s: only the endogenous (dependent) variable has a value of R²
Primary Data, 2021

Based on Table 6, it can be explained that the highest R² value is found in the attitude use of medical masks of 0.744 which means that as many as 74.4% of the attitude variables regarding the use of medical masks can be explained by the constructs contained in the model, i.e COVID-19 perceptions, subjective norm, and perceived benefits, while the lowest value is found in the behavior continuous use medical masks continuously with a value of 0.575, which means that 57.5% of behavioral variables using medical masks continuously can be explained by the constructs that influence these variables, i.e attitudes use of medical masks. From the examination of the R² value, it can be concluded that in general the predictive ability of this research model is good, seen from all variables that have an R² value above 50%.

Hypothesis testing

The significance of the estimated parameters provides very useful information about the relationship between the research variables. The basis used in testing the hypothesis is the value contained in the output path coefficients which is presented in Table 7.

Table 7
Path Coefficient

Correlation	Path Coefficient	t-statistic	p-values	Result
COVID-19 perception → continuous use of medical masks	0.208	2.364	0.004	Sig.
Subjective norm → continuous use of medical masks	0.222	2.252	0.025	Sig.
Perceived benefits → continuous use of medical masks	0.187	2.009	0.045	Sig.
COVID-19 perception → attitude use of medical masks	0.223	3.473	0.001	Sig.
Subjective norm → attitude use of medical masks	0.133	2.029	0.043	Sig.
Perceived benefits → attitude use of medical masks	0.632	7.913	0.000	Sig.
Attitude → attitude use of medical masks	0.321	2.901	0.004	Sig.

Primary Data, 2021

Hypothesis testing is done by using t-statistics and looking at the p-value. If the p-value 0.05 then the hypothesis is accepted. Based on Table 7, it can be explained that the COVID-19 perception on the behavior continuous use of

medical mask has a t-statistic value of 2,364 with a p-value of 0.004 0.05, so the hypothesis is accepted. This means that the higher the COVID-19 perception, the higher the behavior continuous use of medical mask in Indonesia. The subjective norm of the behavior continuous use of medical mask has a t-statistic value of 2252 with a p-value of 0.025 0.05, so the hypothesis is accepted. This means that the higher the subjective norm, the higher the behavior continuous use of medical mask. The perceived benefits on the behavior continuous use of medical mask has a t-statistic value of 2.009 with a p-value of 0.045 0.05, so the hypothesis is accepted. This means that the higher the perception of the benefits of using medical masks, the higher the behavior continuous use of medical mask. Furthermore, the COVID-19 perception also affects the attitude use of medical masks with a t-statistic value of 3,473 with a p-value of 0.001 0.05, so the hypothesis is accepted; subjective norm also affects the attitude use of medical masks with a t-statistic value of 2.029 with a p-value of 0.043 0.05, the hypothesis is accepted. Likewise, the perceived benefits impact attitudes towards the use of medical masks with a t-statistic value of 7.913 and with a p-value of 0.000 0.005, the hypothesis is accepted. Furthermore, the attitude towards the use of medical masks affects the behavior continuous use of medical mask with a t-statistic value of 2,901 with a p-value of 0.004 0.05, then the hypothesis is also accepted.

The effect of COVID-19 perception on the behavior continuous use of medical mask

Based on the results of the analysis of the effect of COVID-19 perception on the Behavior continuous use of medical mask, the beta coefficient value is 0.208 with a significance level of 0.004 0.05, which means H_0 is rejected and H_1 is accepted. These results mean that the perception variable about COVID-19 has a positive and significant effect on the behavior continuous use of medical mask. This means that, the higher the perception of COVID-19, which is indicated by the perception that COVID-19 is a disease that is easily transmitted, a disease that causes death, a disease that makes people keep their distance, a disease that makes wearing masks, a disease that is transmitted through droplets, able to improve the Behavior continuous use of medical mask.

The results of this study at the same time strengthen the results of previous research conducted by [Sumaedi et al. \(2020\)](#), which stated that the perception of COVID-19 had an important role in continuously increasing the behavior of buying medical masks. Similar results have also been obtained previously by [Shiu et al., 2019](#)), which stated that risks regarding COVID-19 encourage people to buy medical masks. The results of this study are also strengthened by the results of research from [Chen et al. \(2020\)](#), who found that the COVID-19 perception variable had a positive and significant influence on the behavioral variable using medical masks continuously so as not to touch the face, especially the mouth, nose, and eyes. It can be concluded that the perception of COVID-19 has a positive and significant influence on the Behavior continuous use of medical mask, this means, with the higher people's concerns about COVID-19, the Behavior continuous use of medical mask increases.

The effect of subjective norms on behavior continuous use of medical mask

Based on the results of the analysis of the effect of subjective norms on behavior using medical masks continuously, the beta coefficient value is 0.222 with a significance level of 0.025 0.05, which means H_0 is rejected and H_1 is accepted. These results mean that the subjective norm variable has a positive and significant effect on the Behavior continuous use of medical mask. So, the better the subjective norm, which is indicated by the influence of family, friends, important people or health experts such as doctors, and government advice, the behavior of using medical masks can increase continuously.

The results of this study at the same time strengthen the results of previous research conducted by [Hanudin et al. \(2014\)](#), which states that the subjective norm variable has a positive and significant effect on behavior using financial products. The results of this study were strengthened by the research of [Ham et al. \(2015\)](#) and [Piroth et al. \(2020\)](#), who found the results of the subjective norm variable having a positive and significant effect on the behavior of using continuously so that it can be concluded that the subjective norm has a positive and significant influence on the Behavior continuous use of medical mask, this means that the better the subjective norm, the better the subjective norm. improve the Behavior continuous use of medical mask.

The effect of perceived benefits on behavior continuous use of medical mask

Based on the analysis of the effect of perceived benefits on behavior using medical masks continuously, the beta coefficient value is 0.187 with a significance level of 0.045 0.05, which means H_0 is rejected and H_1 is accepted. These results mean, the perceived benefits had a positive and significant effect on the Behavior continuous use of medical mask. This means, the higher the perceived benefits regarding the use of masks as indicated by the variable indicator of protecting from contracting COVID-19 disease, providing a sense of security, providing comfort, and avoiding disease, the behavior of using medical masks can continuously increase.

The results of this study at the same time strengthen the results of previous research conducted by [Bok et al. \(2021\)](#), about the role of perceived benefits in increasing the behavior of using continuously. This result is also reinforced by the results of [Shah et al. \(2020\)](#); [Prastyawati et al. \(2021\)](#); and [Rusyani et al. \(2021\)](#), found the results that the perceived benefits had a positive and significant effect on the Behavior continuous use of medical mask. It can be concluded that, to increase the awareness of the Indonesian people to use medical masks continuously, it is necessary to disseminate information about the benefits of using medical masks to prevent the spread of COVID-19.

The effect of COVID-19 perceptions on attitude use of medical masks

Based on the results of the analysis of the influence of COVID-19 perceptions on the attitude of using medical masks, the beta coefficient value is 0.223 with a significance level of 0.000 0.05, which means H_0 is rejected and H_1 is accepted. These results mean that the perception of COVID-19 has a positive and

significant effect on attitudes. This means, the higher the perception of COVID-19, which is indicated by the perception that COVID-19 is a disease that is easily transmitted, a disease that causes death, a disease that makes people keep their distance, a disease that makes wearing masks, a disease that is transmitted through droplets, then able to make the attitude of the use of medical masks to be positive.

The results of this study at the same time strengthen the results of previous studies conducted by [Alves et al. \(2021\)](#) and [Fattah et al. \(2021\)](#), regarding the perception of COVID-19 being able to increase positive attitude use of medical masks. Furthermore, [Mata et al. \(2021\)](#), researching the effect of COVID-19 perceptions on attitudes to using medical masks also found the same results, namely COVID-19 perceptions had a positive and significant effect on attitudes to using medical masks. In addition, there are still several researchers who show consistent results, namely [Nicola et al. \(2020\)](#); [Fernandes \(2020\)](#); [Goodell \(2020\)](#); [Brown \(2020\)](#). It can be concluded that the perception of COVID-19 has a positive and significant influence on attitudes to using medical masks, this means that the higher the perception of COVID-19, the more positive the attitude towards the use of medical masks.

The effect of subjective norms on attitude use of medical masks

Based on the results of the analysis of the effect of subjective norms on the attitude of using medical masks, the beta coefficient value is 0.133 with a significance level of 0.000 0.05, which means H_0 is rejected and H_1 is accepted. These results mean that subjective norms have a positive and significant effect on attitudes. This means, the better the subjective norm, which is indicated by the influence of family, friends, health experts, and the appeal of government regulations, the better the attitude towards the use of medical masks is positive.

The results of this study simultaneously strengthen the results of previous research conducted by [Kotler & Keller \(2015\)](#), regarding subjective norms being able to increase positive attitudes. Furthermore, [Piroth et al. \(2020\)](#), researching the influence of subjective norms on attitudes also found the same results, namely subjective norms had a positive and significant effect on attitudes ([Sugito et al., 2018](#)). In addition, there are still some researchers who show consistent results, namely: [Dhanoa & Goyal \(2018\)](#); [Ramkumar & Woo \(2017\)](#); [Sin & Omar \(2020\)](#), It can be concluded that subjective norms have a positive and significant influence on attitudes towards the use of medical masks, This means, the better the subjective norm given to the community, the more positive the attitude towards the use of medical masks.

The effect of perceived benefits on attitude use of medical masks

Based on the results of the analysis of the effect of perceived benefits on the attitude of using medical masks, the beta coefficient value is 0.632 with a significance level of 0.000 0.05, which means H_0 is rejected and H_1 is accepted. These results mean that the perceived benefits has a positive and significant effect on attitudes. This means, the higher the perceived benefits, which is indicated by the use of medical masks to protect themselves from COVID-19

disease, provide a sense of security, provide a sense of comfort, and avoid disease, then the attitude towards the use of medical masks will be positive.

The results of this study at the same time strengthen the results of previous research conducted by (Chen, 2016), regarding the perceived benefits being able to increase positive attitudes about a product. Furthermore, Shah et al. (2020), and Prastyawati et al. (2021), researching about the effect of perceived benefits on attitudes to using medical masks also found the same results, namely the perceived benefits had a positive and significant effect on attitudes. In addition, there are still several researchers who show consistent results, namely Kim et al. (2008); Delafrooz et al. (2011); Liu et al. (2012). Aladwani (2006), It can be concluded that the perceived benefits has a positive and significant effect on attitudes to using medical masks, this means that the higher the perceived benefits, the more positive the attitude to using medical masks.

The effect of attitude use of medical masks on behavior continuous use of medical mask

Based on the results of the analysis of the effect of the attitude of using medical masks on the Behavior continuous use of medical mask, the beta coefficient value is 0.321 with a significance level of 0.005 0.05, which means Ho is rejected and H1 is accepted. These results mean that attitudes towards the use of medical masks have a positive and significant effect on the Behavior continuous use of medical mask. This means, the more positive the attitude to using medical masks is shown by a positive view, there are benefits, it is nice to see people wearing masks, masks can protect themselves, and protect others, then the behavior of using medical masks can increase continuously.

The results of this study at the same time strengthen the results of previous research conducted by Christina & Yasa (2021), about the influence of attitudes to be able to improve behavior using continuous or sustainable Previously, there were other researchers, namely Sumaedi et al. (2020), examines the attitude of being able to make sustainable use behavior increasing; and Shah et al. (2020), found that attitude had a positive effect on mask buying behavior. This result is also reinforced by the results of the research of Nelwan et al. (2021), and Mata et al. (2021), found the results that attitudes have a positive and significant effect on behavior continuous use of medical mask.

Managerial implication

This research can enrich the TPB concept by adding a perception variable about the disease caused by COVID-19. Likewise, for parents, families, health experts, the government in Indonesia to always set an example of the Behavior continuous use of medical mask in order to accelerate the disappearance of this COVID-19 disease so that people can carry out their activities and live normally again as before the COVID-19 pandemic.

Conclusion

The conclusions from the results of this study are: 1) COVID-19 perceptions have a positive and significant effect on the Behavior continuous use of medical mask. This result means that, the higher the COVID-19 perceptions, the higher the Behavior continuous use of medical mask. 2) Subjective norm has a positive and significant effect on the Behavior continuous use of medical mask. This result means that the higher the subjective norm, the more the Behavior continuous use of medical mask increases. 3) The perceived benefits has a positive and significant effect on the Behavior continuous use of medical mask. This result means that the higher the perceived benefits, the higher the Behavior continuous use of medical mask. 4) COVID-19 perceptions have a positive and significant effect on attitude use of medical masks. This result means that the higher the COVID-19 perceptions, the more positive the attitude use of medical masks. 5) Subjective norm has a positive and significant effect on attitude use of medical masks. These results indicate that the higher the subjective norm, the more positive the attitude use of medical masks. 6) Perceived benefits has a positive and significant effect on attitude use of medical masks. This result means that the higher the perceived benefits, the more positive attitude use of medical masks increase. 7) Attitude has a positive and significant effect on the Behavior continuous use of medical mask. This shows that the higher the positive attitude use of medical masks, the Behavior continuous use of medical mask increases.

Research limitation

This research was only conducted on the Indonesian people, which turned out to be dominated by the millennial generation, so the research results cannot be generalized to other generations. In addition, the data was taken cross sectional, so that environmental changes occur all the time, so that in the future longitudinal research is needed. Likewise, the exogenous variable only adds to the COVID-19 perception variable on TPB and in the future it can be added to the government regulation variable, the risk of COVID-19, which is approximately related to the Behavior continuous use of medical mask.

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