

## EXAMINING FACTORS INFLUENCING HALAL COVID-19 VACCINATION INTENTION AMONG THE MUSLIM COMMUNITIES

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### ABSTRACT

Covid-19 outbreak, which is considered to be still not optimal enough, the Indonesian government seems to be risking its efforts on a mandatory vaccination policy. However, this intervention will not succeed without the participation of the community in the form of their interest in receiving the Covid-19 vaccination. Therefore, by involving 422 Muslim respondents who live in the Special Region of Yogyakarta, the main objective of this study is to focus on the factors that influence or predict halal Covid-19 vaccination intention. Thus, it is clear that this research is a quantitative descriptive study with a cross-sectional survey. The results of the descriptive analysis of this study then explained that the majority of respondents were Muslim people who were male as much as 217 (51.42%), aged 19 - 24 years (38.39%), domiciled in the city of Yogyakarta (38.63%) and worked as students as many as 188 people (44.55%). While the results of quantitative analysis using the Partial-least square structural equation modeling (PLS-SEM) method in this study revealed that halal Covid-19 vaccination intention was influenced by factors such as attitude toward halal vaccination ( $\beta = 0.541$ , t-value = 10.199, -value = 0.000), subjective norm ( $\beta = 0.196$ , t-value = 3.913, -value = 0.000), and social norm ( $\beta = 0.156$ , t-value = 3.374, -value = 0.001) positively and significant. In addition, the theoretical and practical implications based on the results of the research are also discussed in this study.

**Keywords:** Attitude, Subjective Norms, Social Norms, Halal Covid-19, Vaccination Intention

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### INTRODUCTION

The global encumbrance related to the SARS-CoV-2 virus (i.e., the COVID-19 pandemic outbreak) has become an unmitigated public health crisis (Graupensperger et al., 2021, p. 2060) and the most challenging of this generation (Dinleyici et al., 2021, p. 406). Indonesia announced its first two cases of COVID-19 on March 2, 2020 (Cahyadi & Newsome, 2021, p. 208). Various strategies were implemented to subtract and lower the spread of the virus, for example using masks, maintaining distance, to Large-Scale Social Restrictions (PSBB) (Rohadi et al., 2020, p. 1). Despite these efforts, cases of COVID-19 infection continue to increase, Indonesia is struggling in the face of this

pandemic (Sparrow et al., 2020, p. 270). and it seems that the Indonesian government through “Presidential Regulation Number 14 of 2021 concerning Amendments to Presidential Regulation Number 99 of 2020 concerning Vaccine Procurement and Vaccination Implementation in the Context of Combating the Corona Virus Disease 219 (Covid-19)” Pandemic is betting everything on mandatory vaccine policies.

As the virus continues to spread, it has become clear that the most promising strategy to combat COVID-19 is with vaccines (Auslander et al., 2019, p. 274; Zahid & Alsayb, 2021, p. 1). Vaccine trials have reported encouraging results showing that the COVID-19 vaccine is safe and produces a

good immune response (Sherman et al., 2020, p. 1612). Vaccines have made great progress, more than 100 vaccine candidates are being developed worldwide (Bennet et al., 2020, p. 802). At the time of writing this article, a COVID-19 vaccine is already available to frontline essential workers and the Government of Indonesia itself has promised a total of 180 million vaccines to be achieved by March 2022 (Kusumaningrum et al., 2021, p. 6) This exciting prospect certainly raises critical questions, is everyone (especially Muslims) willing to be vaccinated?

Taking into account the still the high number and rate of distrust, unconvinced and also leading to refusal of vaccination (Paul et al., 2021, p. 1) which has increased over the last two decades (Cucciniello et al., 2021, p. 1), it is certainly necessary to develop effective interventions that encourage acceptance of the COVID-19 vaccine, and on that basis, it is important to identify the factors that influence people's intention to be vaccinated (Chu & Liu, 2021, p. 1). However, previous research has only focused on public perceptions such as perceptions of risks, vulnerabilities, and benefits in predicting interest in the Covid-19 vaccine in Indonesia (Zaid & Pratondo, 2021). Although the results of these studies show positive results, further research should still be explored. Because although most people are convinced vaccines are important, safe, and effective, some also have matters about vaccines (Dudley et al., 2020, p. 767) such as fear of side effects, lack of health recommendations, awareness of the motives behind vaccines, the influence of family particularly parents' attitudes, and conversations with relatives about vaccination decisions (Ullah et al., 2021, p. 94), to philosophical reasons, and religious beliefs (Nowalk et al., 2019, p. 547).

Considering that Indonesia is a country where the majority of the population is Muslim, of course, Halal guarantees have

become the basis of trust (the majority) of Indonesian people are interested in being vaccinated, therefore the study also shows that there is low intention in being vaccinated when the vaccine is believed to be not halal (Kabir et al., 2021, p. 416). Moreover, considering the fact that there are still many Muslim groups who also have concerns that some vaccines are not halal (Costa et al., 2020, p. 1168).

Indeed, not all Covid-19 vaccines in Indonesia are guaranteed to be halal. For example, the AstraZeneca Vaccine, which is based on the Fatwa of the Indonesian Ulema Council (MUI) number 14 of 2021 concerning the Law on the Use of the COVID-19 Vaccine, AstraZeneca Products, is haram. Even though in the Fatwa there is also a fatwa on the efficacy of its use during a pandemic like today. However, this does not imply that all of the Covid-19 vaccines available in Indonesia are haram. MUI through its Fatwa No. 02 of 2021 regarding Covid-19 Vaccine Products from Sinovac Life Sciences, Co. Ltd. China and PT Biofarma edict at the fact that both Sinovac and Bio Farma Vaccines are consecrated and halal and therefore may be used for Muslims as long as their safety is guaranteed according to credible and competent experts.

Nevertheless, not a few of the Indonesian people are still doubtful and unwilling to be vaccinated by the Covid-19 Vaccine. Predicated on the results of a survey conducted by The Indonesian Minister of Health (MoH), World Health Organization (WHO), United Nations Children's Fund (UNICEF), and The National Immunization Technical Advisory Group (NITAG) conducted a joint survey at the end of 2020 regarding admissions to public refusal to vaccinate against Covid-19. And the result was that 64.8% of Indonesians were indeed intended in receiving the Covid-19 vaccination, but there are still 7.6% of Indonesians who refuse to be vaccinated, and

27.6% of people are still unsure (The Ministry of Health et al., 2020, p. 5).

However, in the latest survey conducted by the Indonesian Ministry of Health's Agency of Health Research and Development (Balitbangkes Kemkes RI) from April to May 2021, there was still 33 percent who were still unsure and even refuse the Covid-19 vaccination (Rosa, n.d.). This further strengthens the need for research related to (Covid-19) vaccination intention through aspects of public perception, attitude, or even norms in the halalness of vaccines. However, unfortunately, research related to this is still very limited, and also previous research related to interest in Covid-19 vaccination in Indonesia in Muslim communities is only limited to the health belief model alone (Erawan et al., 2021), no researches have predicted it through aspects of people's attitudes and behavior towards halalness.

Departing from the problem above, based on the objectives, Covid-19 halal vaccination intention is examined in this study, and the attitude toward halal vaccination is used to predict that intention. Moreover, this research will be fascination because the anti-vaccination view has been studied by previous empirical survey studies on the psychological origins of anti-vaccination sentiment. And according to Winter et al. (2021, p. 2), experts have not developed a method that works to reduce it. So the narrative from previous research states very clearly by mentioning that it is very important to explore the acceptance of the Covid-19 vaccine and its predictors and attitudes towards the Covid-19 vaccine among the public (El-Elimat et al., 2021, p. 3).

Therefore, the attitude toward vaccination has been widely used as a research variable, as in the research of El-Elimat et al. (2021) a who used attitude toward vaccination in predicting the intention of uptaking the Covid-19 vaccine or also like the research of Chu & Liu (2021) that used attitude toward

vaccination in predicting Covid-19 vaccination intention along with other variables such as self-efficacy, risk perception, and others.

However, this research will be quite different from previous existing studies, because first, this research was conducted in Indonesia, which as far as the authors believe is still empty of research targets related to the halal Covid-19 vaccination intention. Second, this study not only researching the Covid-19 vaccination intention, but also the halal Covid-19 vaccination intention (more specific), which is also predicted not only to attitude toward vaccination but the attitude toward halal vaccination. And third, this study will also add other variables, namely subjective norms and social norms which are also based on previous literature, as stated by Sandra Crouse Quinn, in fact are powerful variables to encourage behavior change, but are still under-researched in terms of vaccination in general (Quinn et al., 2017, p. 473), and the Covid-19 vaccination in specific.

Regarding subjective norms, vaccination intention was born from the Theory of Planned Behavior (TPB) which was acquired from the Theory of Reasoned Action (TRA) which stated that in addition to attitude toward the particular behavior, an individual's intention toward certain acts is also determined by subjective norms (Bukhari et al., 2020, p. 675). Vaccination intentions, therefore, depend on perceptions of what other people notion about vaccination (the subjective norm in terms of TPB) (Winter et al., 2021, p. 2). And in a comparative study of TPB and TRA, it was also discovered that social norms are a determinant of vaccination intention (Kalam et al., 2021, p. 3). Thus, the hypotheses that can be built in this study include the positive influence of attitude toward halal vaccination (H1), subjective norms (H2), and social norms (H3) on interest in halal covid-19 vaccination.

## RESEARCH METHODS

Because this study aims to predict halal Covid-19 vaccination intention (HCVI) through 3 predictor variables which include

attitude toward halal vaccination (AtHCV), subjective norms (SubN), and social norms (SocN), that is why this research can be classified as cross-sectional survey of quantitative research. So the instrument that will be applied in this study is a self-administered questionnaire that was instrumentalized based on the measurement items of each variable involved in this study which was adapted and developed from previous research (Bukhari et al., 2020; Erawan et al., 2021; Mehrolia et al., 2021; Ratanasiripong et al., 2018) to survey the Indonesian Muslim community who live in the

Special Region of Yogyakarta. The reason behind choosing the location in Yogyakarta is because this area is an area where the majority of the population is Muslim and is one of the areas that have the highest Covid-19 cases. Of the entire Muslim population in the Special Region of Yogyakarta, a self-administered questionnaire measured by a 5-point Likert scale has been distributed to 441 community samples for the survey. However, by applying the purposive sampling method, only 422 samples could be processed further. This is because 19 of them did not fill out the questionnaire completely and correctly.

**Table 1**  
Respondent Characteristics

Respondent Identities	Categories	Frequency	%
Sex/Gender	Male	217	51.42%
	Female	205	48.58%
Age	≤ 18 years	59	13.98%
	19 - 24 years	162	38.39%
	25-30 years	135	31.99%
	31 - 36 years	41	9.72%
	≥ 37 years	25	5.92%
Domicile	Yogyakarta City	163	38.63%
	Sleman	119	28.20%
	Bantul	82	19.43%
	Gunung Kidul	29	6.87%
	Wates	18	4.27%
	Kulon Progo	11	2.61%
Employment	Student	188	44.55%
	Private Employee	151	35.78%
	Public Employee	34	8.06%
	Housewife	41	9.72%
	Unemployment	8	1.90%

The data that has been distributed is then collected to be processed and analyzed utilizing the Partial Least Square Structural Equation Modeling (PLS-SEM) multivariate analysis method. The reason for using this method is because firstly, this advanced statistical method has been developed to examine a comprehensive theoretical model

proportionate to the observed data. As well as the validity of this approach method has been proven (Riou et al., 2016, p. 220). And the second use of these methods will allow researchers to predict very complicated models with many indicator variables and constructs, especially when the objective of the analysis is about predicting (Sarstedt et al., 2017, p. 1).

The software application used in assisting the PLS-SEM analysis uses the SmartPLS 3.0 software application.

## RESULTS AND DISCUSSION

### Descriptive Analysis Result

As already mentioned, this study involved 422 respondents. And in Table 1 it is shown that of the 422 respondents involved, they are Muslim communities with 217 male gender (51.42%), 205 women (48.58%) aged 18 years as many as 59 (13.98%), 19 - 24 years as many as 162 (38.39%), 25-30 years as many as 135 (31.99%), 31 - 36 years as many as 41 (9.72%), and 37 years as many as 25 (5.92%).

On the other hand, the data also shows that 163 (38.63%) respondents domiciled in the city of Yogyakarta, 119 (28.20%) in Sleman, 82 (19.43%) in Bantul, 29 (6.87%) in Gunung Kidul, 18 (4.27%) in Wates, and 11

(2.61%) in Kulon Progo. The respondents' employment also identified in this research which 188 (44.55%) identified as students, 151 (35.78%) as private employees, 34 (8.06%) as public employees, 41 (9.72%) as housewives, and 8 (1.90%) as unemployments.

Thus, it can be concluded that the majority of them are male Muslims (51.42%), students (44.55%), 19 - 24 years old (38.39%), domiciled in the City of Yogyakarta (38.63%).

### Measurement Model Test Results

In quantitative analysis, this study uses PLS-SEM in analyzing the data. However, in this type of test, there are several (three) stages that must be carried out. The first is the measurement model test. In this stage, the data that has been obtained and processed must be tested for the validity and reliability of each indicator item and its construct. In the validity

**Table 2**  
Measurement Model Test Results

Variable	Loading	AVE	CR
Attitude towards Halal Covid-19 Vaccination (AtHCV)		0.674	0.912
Choosing Halal-certified Covid-19 vaccines is a good idea for my vaccination	0.832		
I would feel enjoyable using Halal-certified Covid-19 vaccines for my vaccination	0.851		
I would be pleased with the usage of Halal-certified Covid-19 vaccines for my vaccination	0.812		
Halal-certified Covid-19 vaccines will be safer and more hygienic for my vaccinations	0.811		
Halal-certified Covid-19 vaccines would be environmentally friendly	0.796		
Subjective Norm (SubN)		0.655	0.905
Most relatives who are important to me think that I should uptake vaccinated against Covid-19 by halal-certified Covid-19 vaccines	0.795		
I expect myself to uptake Halal-certified vaccinated against Covid-19	0.825		
I feel that I must uptake Halal-certified Covid-19 vaccination	0.816		
My doctor and my chaplain (ustadz or kiyai) would support me to uptake Halal-certified Covid-19 vaccines	0.813		
Most Muslims like me prefer to uptake Halal-certified Covid-19 vaccines for their vaccination	0.796		
Social Norm (SocN)		0.711	0.881
I am sure that most people who are important to me approve of and uptake Halal-certified COVID-19 vaccines	0.851		
I am sure that my family approve of and uptake Halal-certified COVID-19 vaccines	0.820		
I am sure that my friends or relatives approve of and uptake Halal-certified COVID-19 vaccines	0.858		
Halal Covid-19 Vaccination Intention (HCVI)		0.836	0.939
I am very confident that I will vaccinate myself with the halal covid-19 vaccines	0.905		
I will vaccinate myself with the available halal Covid-19 vaccines	0.923		
I am very willing to vaccinate myself with the halal covid-19 vaccine recommended by the government	0.914		

Note: The questionnaire of AtHCV was developed from (Bukhari et al., 2020, p. 679), SubN was developed from (Ratanasiripong et al., 2018, p. 147), SocN was developed from (Mehroli et al., 2021, p. 310), and HCVI was developed from (Erawan et al., 2021, p. 41).

Test, two tests must be carried out in the form of discriminant and convergent validity. A construct is said to be valid, in the standard discriminant validity, if the Average Variance Extracted (AVE) value of each construct must be higher than the highest squared correlation with other constructs (Hair et al., 2014, p. 112). Whereas in convergent validity, the AVE value must show  $> 50\%$  or  $0.5$  with the outer loading value in each indicator item showing  $> 70\%$  or  $0.7$  (Hair et al., 2014, p. 111).

In addition to the validity test, the measurement test in the PLS-SEM test must also perform a reliability test which is also known as internal consistency which is a correlation between one block indicator and reflects the reliability of the measurement model (Schuberth & Cantaluppi, 2017, p. 126). A construct is assessed as a reliable construct if it shows  $70\%$  or  $0.7$  composite reliability (CR) value and not more than  $95\%$  or  $0.95$ .

Based on the explanation above, and referring to tables 2 and 3, it can be considered that all indicator items and research constructs are valid and reliable. It is stated to be valid because, based on the discriminant validity standard, the AVE value of each construct in the study is higher than the highest squared correlation with other constructs and based on the convergent validity standard, the AVE value of each construct shows a value  $> 0.5$  with an outer loading  $> 0.7$ .

And the constructs of this research are stated to be reliable as a whole because the CR value, based on the results of the data processing in table 3, in all the constructs of this study shows a value  $> 0.7$  and none is  $> 0.95$ .

**Table 3**

Discriminant Validity Test Result (Fornell-Larcker Criterion)	AtHCV	SubN	SocN	HCVI
AtHCV	0.821			
SubN	0.796	0.809		
SocN	0.728	0.780	0.843	
HCVI	0.811	0.749	0.703	0.914

**Table 4**

Structural Model Test Results

	Structural Model			
	AtHCV	SubN	SocN	HCVI
F <sup>2</sup>	0.324	0.036	0.029	
R <sup>2</sup>				0.696
Q <sup>2</sup>				0.574

After testing the measurement model, the next stage of testing, namely the second stage in the PLS-SEM analysis, is the structural model test. What is sought from this test is the value of F2 "which indicates the value of the effect size", R2 (Coefficient of determination) "which indicates the value or size of the model's prediction accuracy" and Q2 (Cross-validated redundancy) "which is a means to assess the predictive relevance of the model".

In assessing the effect size, a path model can be said to have a large or substantial effect if it has an F2 value  $> 0.35$ , medium or moderate if it has an F2 value  $> 0.15$ , and small or low if it has an F2 value of  $0.02$  (Avkiran, 2018, p. 11). Based on this provision, considering the results of data processing through the PLS Algorithm on the SmartPLS 3.0 application as shown in table 4, it appears that the magnitude of the effect of Attitude towards Halal Covid-19 vaccination has the highest value of  $0.324$  with a moderate size. While the effect size of subjective and social norms has a small size  $> 0.02$ , namely  $0.036$  and  $0.029$  not up to  $0.15$ .

In the coefficient of determination,  $R^2$  values 0.25, 0.50, and 0.75 in  $R^2$  represent the level of exogenous constructs that are weak (small), moderate (moderate), and substantial (large) in explaining endogenous constructs (Avkiran, 2018, p. 11). Based on this provision, considering the results of data processing through the PLS Algorithm on the SmartPLS 3.0 application as shown in table 4, it appears that the  $R^2$  value of the endogenous construct of halal covid-19 vaccination intention is 0.696, which means it is still in the moderate level category.

Furthermore, in cross-validated redundancy, a  $Q^2$  value greater than zero for a particular endogenous construct indicates the predictive relevance of the path model for this particular construct. Based on this provision, considering the results of data processing

**Table 5**

Hypothesis Test Results

Hypothesis	$\beta$	t-value	p-value
AtHCV $\rightarrow$ HCVI	0.541	10.199	0.000
SubN $\rightarrow$ HCVI	0.196	3.913	0.000
SocN $\rightarrow$ HCVI	0.156	3.374	0.001

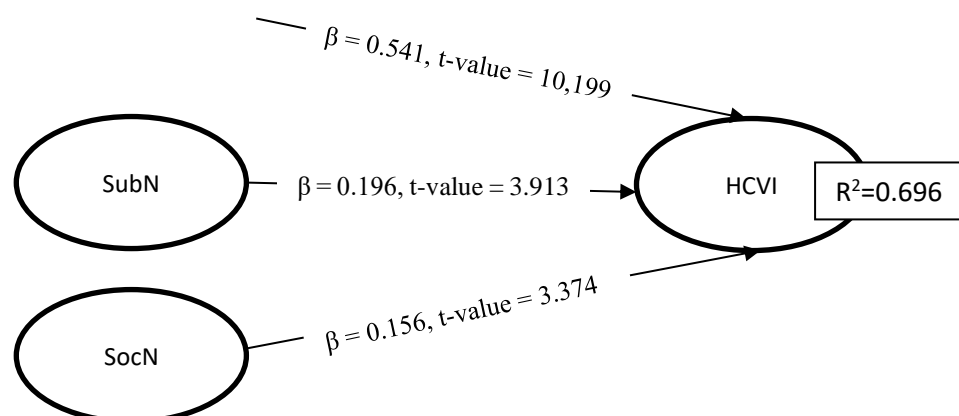
The acceptance of  $H_1$  in this study was evidenced by the positive and significant value of the influence of attitude towards halal covid-19 vaccination on halal covid-19 vaccination intention ( $\beta = 0.541$ , t-value = 10.199, p-value = 0.000),  $H_2$  was evidenced by the effect value positive and significant subjective norm on halal covid-19 vaccination intention ( $\beta =$

through Blindfolding in the SmartPLS 3.0 application shown in table 4, it appears that the  $Q^2$  value shown is  $0.574 > 0$ . It means that the endogenous construct in this study shows the predictive relevance of the path model.

### Tables, Figures and Formulas

Hypothesis testing is the last stage in the PLS-SEM analysis. In this stage, the hypothesis proposed in the introduction is tested and analyzed. Looking at the results of the hypothesis testing presented in table 5, it can be said that all exogenous variables have a positive (indicated by the absence of a negative value) and significant (indicated by -value  $< 0.05$ ) effect on endogenous variables. This also proves that the entire hypothesis in this study is proven and therefore accepted.

0.196, t-value = 3.913, p-value = 0.000), and the acceptance of  $H_3$  in this study was evidenced by the value of the influence of social norm on halal covid-19 vaccination intention. which is positive and significant ( $\beta = 0.156$ , t-value = 3.374, p-value = 0.001).



**Figure 1** Summarized result of direct influence path among the constructs tested (Significance at  $p=0.05$ )

With the results of the hypotheses described above, it can be explained that:

First, regarding the positive and significant influence of attitude towards halal covid-19 vaccination on halal covid-19 vaccination intention ( $H_1$ ), it shows that in addition to public trust and political attitudes towards the Covid-19 vaccine (Islam et al., 2021, p. 12), it turns out that attitudes towards the halalness of the Covid-19 vaccine also affect intention in the community. Muslim community to be vaccinated.

TPB is admittedly believed to be able to contribute and encourage a person's intention in getting vaccinated strongly (Twum et al., 2021). And attitude is one that is included in this theory (Chun et al., 2021, p. 3). Therefore, predicated on the results of this study, the intention and willingness of the community (Muslims) to be vaccinated is largely determined by feelings of enjoyment, pleasure, and trust in the safety and hygiene of the halal Covid-19 vaccine. And of course, the results of this study are in line with the results of previous studies conducted by Bukhari et al (Bukhari et al., 2020), Ahmed, Kanfe, & Jarso (2021), Sherman et al. (2020) and Mir, Parveen, Mullick, & Nabi (2021) who also found the same influence in their research.

Accordingly, it can be interpreted that the higher and more positive level of attitude towards the halal covid-19 vaccination of the Muslim community in the Special Region of Yogyakarta, the higher the intention of the Muslim community in the Special Region of Yogyakarta to uptake a halal Covid-19 vaccine. And on the contrary, the lower and more negative the level of their attitude towards halal covid-19, the lower their intention in getting the halal Covid-19 vaccine.

Second, related to the positive and significant effect of subjective norm on halal covid-19 vaccination intention, Kevin Winter et al explained that humans are social creatures whose perceptions and attitudes are strongly

influenced by subjective norms. And in the theory of planned behavior (TPB), this norm then becomes a determinant of a person's intention in doing something (Winter et al., 2021, p. 3). Because according to this theory, the intention is a direct precursor of behavior, and in turn is stipulated by subjective norms (Wolff, 2021, p. 2). This is because subjective norms are the approval of certain health behaviors by which indicate the person's important behavior (Chu & Liu, 2021, p. 1881).

And this study, along with several previous empirical studies (Britt et al., 2014; Kim & Choi, 2017; Shmueli, 2021), has proven the theory where the subjective norms of the Muslim community in the Special Region of Yogyakarta can positively and significantly influence the interests and desires of the Muslim community in the Special Region o Yogyakarta to be vaccinated with the halal Covid-19 vaccine. And because of that, the higher the level of subjective norms of the Muslim community in the Special Region o Yogyakarta, the higher the intention of the Muslim community in the Special Region of Yogyakarta to receive a halal Covid-19 vaccine. And conversely, the lower the level of their subjective norm, the lower their intention in getting a halal Covid-19 vaccine. And in the literature, the results of previous studies also stated that people who did not have intention or willingness to be vaccinated reported lower scores on the subjective norm variable (Berg & Lin, 2021, p. 1786).

The last discussion, which is the third, is related to the positive and significant influence of social norms on halal covid-19 vaccination intention, which has been also confirmed by substantial empirical research and scientifically proven previously (Cavazos-Arroyo & de Celis-Herrero, 2020; Mir et al., 2021; Ogilvie et al., 2021).

Theoretically, empirical research also raises the argument that social norms are a key

factor in influencing both intents in and acceptance of vaccines (Schuler & Coyne-Beasley, 2015, p. 318). And in this study, social norms in the form of most families, relatives, and people who are important to the Muslim community in the Special Region of Yogyakarta's approval of and uptake of Halal-certified COVID-19 vaccines will affect the intentions and desires of the Muslim community in the Special Region of Yogyakarta to be vaccinated with the halal Covid-19 vaccine. In this theory of social norms, people as social creatures created by God tend to adapt their actions to the behavior and expectations of others, and vaccination is no exception. Thus, the norms that he/she perceives can have an effect. The health provider's vaccination behavior, and how he/she spreads social norms about vaccination among his/her relatives or colleagues, is important because vaccinating others can protect him/herself and others (Brewer et al., 2017, p. 167). Therefore, social norms, which include friends, relatives to family are strong predictors of health behavior and norm-based intervention strategies can increase absorption and intention in Covid-19 vaccination (Graupensperger et al., 2021, p. 2060).

Accordingly, the interpretation that can be given from the results of this study is the higher, greater, or more positive level of social norms of the Muslim community in the Special Region of Yogyakarta, from their close, family and important people, the higher, bigger, or more positive the intentions of the Muslim community in the Special Region of Yogyakarta to get a halal Covid-19 vaccine. Conversely, the lower their social norms, the lower their inclination to obtain the halal Covid-19 vaccine.

Considering the increasing doubts and resistance to vaccination, of course, this will be a very interesting research result and useful both theoretically and practically. And based on the results of the research above, the

theoretical implication that can be manifested is that this research shows afresh that the TPB model approach in the form of halal Covid-19 vaccination is about the determinants and the relationship between intentions, attitudes, and norms. it implies that this study validates the robustness of the TPB in helping to explain the interest in halal Covid-19 vaccination.

Meanwhile, the practical implications that the government and other stakeholders can consider, based on this research, are that it is important to provide a halal and safe Covid-19 vaccine for the community. Because the intention of the (Muslims) community to be vaccinated depends on the halalness and sanctity of the vaccine itself. Moreover, the Indonesian Ulema Council has also issued a fatwa in the Fatwa of the Indonesian Ulema Council Number 04 of 2016 concerning Immunization that vaccines for immunization are required to use vaccines that are halal and sacred pure and the use of immunization vaccines made from haram and/or impure is haram. Even though the use of the haram Covid-19 vaccine is still allowed due to an emergency, the Muslim community still views the halal Covid-19 vaccine as safer and more acceptable to them.

## CONCLUSION

This study came to the conclusion that the Muslim community in the Special Region of Yogyakarta intended to get vaccinated against COVID-19 with Halal COVID-19 vaccines. his conclusion was reached as a result of the findings of this investigation. This research also demonstrates that attitudes regarding COVID-19 halal vaccination, subjective norms, and societal norms can positively and significantly predict or affect an individual's intention to get the halal COVID-19 vaccine.

## REFERENCES

Ahmed, M. H., Kanfe, S. G., & Jarso, M. H.

- (2021). Intention to receive vaccine against COVID-19 and associated factors among health professionals working at public hospitals in resource limited settings. *PLOS ONE*, 16(7), e0254391. <https://doi.org/10.1371/JOURNAL.PON.E.0254391>
- Auslander, B. A., Meers, J. M., Short, M. B., Zimet, G. D., & Rosenthal, S. L. (2019). A qualitative analysis of the vaccine intention-behaviour relationship: parents' descriptions of their intentions, decision-making behaviour and planning processes towards HPV vaccination. *Psychology and Health*, 34(3), 271–288. <https://doi.org/10.1080/08870446.2018.1523408>
- Avkiran, N. K. (2018). Rise of the Partial Least Squares Structural Equation Modeling: An Application in Banking. In N. K. Avkiran & C. M. Ringle (Eds.), *Partial Least Squares Structural Equation Modeling Recent Advances in Banking and Finance* (p. 239). Springer New York LLC. [https://doi.org/10.1007/978-3-319-71691-6\\_1](https://doi.org/10.1007/978-3-319-71691-6_1)
- Bennet, B. M., Wolf, J., Laureano, R., & Sellers, R. S. (2020). Review of Current Vaccine Development Strategies to Prevent Coronavirus Disease 2019 (COVID-19). *Toxicologic Pathology*, 48(7), 800–809. <https://doi.org/10.1177/0192623320959090>
- Berg, M. B., & Lin, L. (2021). Predictors of COVID-19 vaccine intentions in the United States: the role of psychosocial health constructs and demographic factors. *Translational Behavioral Medicine*, 11(9), 1782–1788. <https://doi.org/10.1093/TBM/IBAB102>
- Brewer, N. T., Chapman, G. B., Rothman, A. J., Leask, J., & Kempe, A. (2017). Increasing Vaccination: Putting Psychological Science Into Action. *Psychological Science in the Public Interest*, 18(3), 149–207. <https://doi.org/10.1177/1529100618760521>
- Britt, R. K., Hatten, K. N., & Chappuis, S. O. (2014). Perceived behavioral control, intention to get vaccinated, and usage of online information about the human papillomavirus vaccine. *Health Psychology and Behavioral Medicine*, 2(1), 52–65. <https://doi.org/10.1080/21642850.2013.869175>
- Bukhari, S. N. Z., Isa, S. M., & Yen Nee, G. (2020). Halal vaccination purchase intention: A comparative study between Muslim consumers in Malaysia and Pakistan. *Journal of Islamic Marketing*, 12(4), 670–689. <https://doi.org/10.1108/JIMA-10-2019-0209>
- Cahyadi, H. S., & Newsome, D. (2021). The Post COVID-19 Tourism Dilemma for Geoparks in Indonesia. *International Journal of Geoheritage and Parks*. <https://doi.org/10.1016/j.ijgeop.2021.02.003>
- Cavazos-Arroyo, J., & de Celis-Herrero, C. P. (2020). Severity, susceptibility and social norms perceived as antecedents of the intention to be vaccinated against COVID-19. *Revista de Salud Publica*, 22(2), 1–7. <https://doi.org/10.15446/rsap.v22n2.86877>
- Chu, H., & Liu, S. (2021). Integrating health behavior theories to predict American's intention to receive a COVID-19 vaccine. *Patient Education and Counseling*, 104(8), 1878–1886. <https://doi.org/10.1016/J.PEC.2021.02.031>
- Chun, K., Fang, Y., Cao, H., Chen, H., Hu, T., Chen, Y., Zhou, X., & Wang, Z. (2021). Behavioral Intention to Receive a

- COVID-19 Vaccination Among Chinese Factory Workers: Cross-sectional Online Survey. *Journal of Medical Internet Research*, 23(3), e24673. <https://doi.org/10.2196/24673>
- Costa, J. C., Weber, A. M., Darmstadt, G. L., Abdalla, S., & Victora, C. G. (2020). Religious affiliation and immunization coverage in 15 countries in Sub-Saharan Africa. *Vaccine*, 38(5), 1160–1169. <https://doi.org/10.1016/J.VACCINE.2019.11.024>
- Cucciniello, M., Pin, P., Imre, B., Porumbescu, G., & Melegaro, A. (2021). Altruism and vaccination intentions: Evidence from behavioral experiments. *Social Science & Medicine*, 114195. <https://doi.org/10.1016/J.SOCSCIMED.2021.114195>
- Dinleyici, E. C., Borrow, R., Safadi, M. A. P., van Damme, P., & Munoz, F. M. (2021). Vaccines and Routine Immunization Strategies During The COVID-19 Pandemic. *Human Vaccines & Immunotherapeutics*, 17(2), 400–407. <https://doi.org/10.1080/21645515.2020.1804776>
- Dudley, M. Z., Limaye, R. J., Salmon, D. A., Omer, S. B., O’Leary, S. T., Ellingson, M. K., Spina, C. I., Brewer, S. E., Bednarczyk, R. A., Malik, F., Frew, P. M., & Chamberlain, A. T. (2020). Latent Class Analysis of Maternal Vaccine Attitudes and Beliefs. *Health Education and Behavior*, 47(5), 765–781. <https://doi.org/10.1177/1090198120939491>
- El-Elimat, T., AbuAlSamen, M. M., Almomani, B. A., Al-Sawalha, N. A., & Alali, F. Q. (2021). Acceptance and attitudes toward COVID-19 vaccines: A cross-sectional study from Jordan. *PLOS ONE*, 16(4), e0250555. <https://doi.org/10.1371/JOURNAL.PONE.0250555>
- Erawan, M. A. S. P., Zaid, Z., Pratondo, K., & Lestari, A. Y. (2021). Predicting Covid-19 Vaccination Intention: The Role of Health Belief Model of Muslim Societies in Yogyakarta. *Al-Sihah: The Public Health Science Journal*, 13(1), 36–50. <https://doi.org/10.24252/AL-SIHAH.V13I1.20647>
- Graupensperger, S., Abdallah, D. A., & Lee, C. M. (2021). Social norms and vaccine uptake: College students’ COVID vaccination intentions, attitudes, and estimated peer norms and comparisons with influenza vaccine. *Vaccine*, 39(15), 2060–2067. <https://doi.org/10.1016/J.VACCINE.2021.03.018>
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Islam, M. S., Kamal, A.-H. M., Kabir, A., Southern, D. L., Khan, S. H., Hasan, S. M. M., Sarkar, T., Sharmin, S., Das, S., Roy, T., Harun, M. G. D., Chughtai, A. A., Homaira, N., & Seale, H. (2021). COVID-19 vaccine rumors and conspiracy theories: The need for cognitive inoculation against misinformation to improve vaccine adherence. *PLOS ONE*, 16(5), e0251605. <https://doi.org/10.1371/JOURNAL.PONE.0251605>
- Kabir, R., Mahmud, I., Chowdhury, M. T. H., Vinnakota, D., Jahan, S. S., Siddika, N., Isha, S. N., Nath, S. K., & Apu, E. H. (2021). COVID-19 Vaccination Intent and Willingness to Pay in Bangladesh: A Cross-Sectional Study. *Vaccines*, 9(5), 416. <https://doi.org/10.3390/VACCINES9050>

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- Kalam, M. A., Jr., T. P. D., Shano, S., Uddin, M. N., Islam, M. A., Kanwagi, R., Islam, A., Hassan, M. M., & Larson, H. J. (2021). Exploring the behavioral determinants of COVID-19 vaccine acceptance among an urban population in Bangladesh: Implications for behavior change interventions. *PLOS ONE*, 16(8), e0256496. <https://doi.org/10.1371/JOURNAL.PONE.0256496>
- Kim, K. M., & Choi, J. S. (2017). Mothers' intentions to vaccinate their teenaged children against human papillomavirus, as predicted by sex in South Korea: An application of the theory of planned behavior. *Japan Journal of Nursing Science*, 14(4), 288–296. <https://doi.org/10.1111/JJNS.12155>
- Kusumaningrum, S., Siagian, C., & Beazley, H. (2021). Children During The COVID-19 Pandemic: Children and Young People's Vulnerability and Wellbeing in Indonesia. *Children's Geographies*, 1–11. <https://doi.org/10.1080/14733285.2021.1900544>
- Mehroliya, S., Alagarsamy, S., & S, J. (2021). Assessing perceptions of COVID-19 self-protective measures: a structural equation modeling (SEM) approach. *Journal of Health Research*, 35(4), 307–317. <https://doi.org/10.1108/JHR-07-2020-0244>
- Mir, H. H., Parveen, S., Mullick, N. H., & Nabi, S. (2021). Using structural equation modeling to predict Indian people's attitudes and intentions towards COVID-19 vaccination. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews*, 15(3), 1017–1022. <https://doi.org/10.1016/J.DSX.2021.05.006>
- Nowalk, M. P., Balasubramani, G. K., Zimmerman, R. K., Bear, T. M., Sax, T., Eng, H., Susick, M., & Ford, S. E. (2019). Influenza Vaccine Intention After a Medically Attended Acute Respiratory Infection. *Health Promotion Practice*, 20(4), 539–552. <https://doi.org/10.1177/1524839918782137>
- Ogilvie, G. S., Gordon, S., Smith, L. W., Albert, A., Racey, C. S., Booth, A., Gottschlich, A., Goldfarb, D., Murray, M. C. M., Galea, L. A. M., Kaida, A., Brotto, L. A., & Sadarangani, M. (2021). Intention to receive a COVID-19 vaccine: results from a population-based survey in Canada. *BMC Public Health* 2021 21:1, 21(1), 1–14. <https://doi.org/10.1186/S12889-021-11098-9>
- Paul, E., Steptoe, A., & Fancourt, D. (2021). Attitudes towards vaccines and intention to vaccinate against COVID-19: Implications for public health communications. *The Lancet Regional Health - Europe*, 1, 100012. <https://doi.org/10.1016/j.lanepe.2020.100012>
- Quinn, S. C., Hilyard, K. M., Jamison, A. M., An, J., Hancock, G. R., Musa, D., & Freimuth, V. S. (2017). The influence of social norms on flu vaccination among African American and White adults. *Health Education Research*, 32(6), 473–486. <https://doi.org/10.1093/HER/CYX070>
- Ratanasiripong, N. T., Sri-Umporn, S., Kathalae, D., Hanklang, S., & Ratanasiripong, P. (2018). Human papillomavirus (HPV) vaccination and factors related to intention to obtain the vaccine among young college women in Thailand Article information. *Journal of Health Research*, 32(2), 142–151. <https://doi.org/10.1108/JHR-01-2018-018>

- Riou, J., Guyon, H., & Falissard, B. (2016). An introduction to the partial least squares approach to structural equation modelling: a method for exploratory psychiatric research. *International Journal of Methods in Psychiatric Research*, 25(3), 220–231. <https://doi.org/10.1002/mpr.1497>
- Rohadi, M. R., Priyanto, B., Wardhana, D. P. W., Prihastomo, K. T., & Kamil, M. (2020). COVID-19 and its Impact on Neurosurgery: Our Early Experience in Lombok Island Indonesia. In *Interdisciplinary Neurosurgery: Advanced Techniques and Case Management* (Vol. 22). Elsevier B.V. <https://doi.org/10.1016/j.inat.2020.100868>
- Rosa, M. C. (n.d.). *Survei 33 Persen Masyarakat Menolak Vaksin Covid-19, Pendidikan Tinggi Terbanyak Halaman all - Kompas.com*. Retrieved September 28, 2021, from <https://www.kompas.com/tren/read/2021/07/18/090000165/survei-33-persen-masyarakat-menolak-vaksin-covid-19-pendidikan-tinggi?page=all>
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2017). Partial Least Squares Structural Equation Modeling. In *Handbook of Market Research* (pp. 1–40). Springer International Publishing. [https://doi.org/10.1007/978-3-319-05542-8\\_15-1](https://doi.org/10.1007/978-3-319-05542-8_15-1)
- Schuberth, F., & Cantaluppi, G. (2017). Ordinal Consistent Partial Least Squares. In H. Latan & R. Noonan (Eds.), *Partial Least Squares Path Modeling: Basic Concepts, Methodological Issues and Applications* (pp. 1–414). Springer International Publishing. <https://doi.org/10.1007/978-3-319-64069-3>
- Schuler, C. L., & Coyne-Beasley, T. (2015). Has Their Son Been Vaccinated? Beliefs About Other Parents Matter for Human Papillomavirus Vaccine: *American Journal of Men's Health*, 10(4), 318–324. <https://doi.org/10.1177/1557988314567324>
- Sherman, S. M., Smith, L. E., Sim, J., Amlôt, R., Cutts, M., Dasch, H., Rubin, G. J., & Sevdalis, N. (2020). COVID-19 Vaccination Intention in The UK: Results From The COVID-19 Vaccination Acceptability Study (CoVAccS), a Nationally Representative Cross-Sectional Survey. *Human Vaccines & Immunotherapeutics*, 1–10. <https://doi.org/10.1080/21645515.2020.1846397>
- Shmueli, L. (2021). Predicting intention to receive COVID-19 vaccine among the general population using the health belief model and the theory of planned behavior model. *BMC Public Health*, 21(1), 1–13. <https://doi.org/10.1186/s12889-021-10816-7>
- Sparrow, R., Dartanto, T., & Hartwig, R. (2020). Indonesia Under the New Normal: Challenges and the Way Ahead. *Bulletin of Indonesian Economic Studies*, 56(3), 269–299. <https://doi.org/10.1080/00074918.2020.1854079>
- The Ministry of Health, NITAG, UNICEF, & WHO. (2020). *COVID-19 Vaccine Acceptance Survey in Indonesia*.
- Twum, K. K., Ofori, D., Agyapong, G. K. Q., & Yalley, A. A. (2021). Intention to Vaccinate against COVID-19: a Social Marketing perspective using the Theory of Planned Behaviour and Health Belief Model. *Journal of Social Marketing, ahead-of-print*(ahead-of-print). <https://doi.org/10.1108/JSOCM-04-2021-0085>
- Ullah, I., Khan, K. S., Tahir, M. J., Ahmed, A., & Harapan, H. (2021). Myths and conspiracy theories on vaccines and

COVID-19: Potential effect on global vaccine refusals. *Vacunas*.  
<https://doi.org/10.1016/j.vacun.2021.01.001>

Winter, K., Pummerer, L., Hornsey, M. J., & Sassenberg, K. (2021). Pro-vaccination subjective norms moderate the relationship between conspiracy mentality and vaccination intentions. *British Journal of Health Psychology*.  
<https://doi.org/10.1111/BJHP.12550>

Wolff, K. (2021). COVID-19 Vaccination Intentions: The Theory of Planned Behavior, Optimistic Bias, and Anticipated Regret. *Frontiers in Psychology*, 12.  
<https://doi.org/10.3389/FPSYG.2021.648289>

Zahid, H. M., & Alsayb, M. A. (2021). Assessing the Knowledge and Attitude toward COVID-19 Vaccination in Saudi Arabia. *International Journal of Environmental Research and Public Health* 2021, Vol. 18, Page 8185, 18(15), 8185.  
<https://doi.org/10.3390/IJERPH18158185>

Zaid, Z., & Pratondo, K. (2021). Public Perception On COVID-19 Vaccination Intention. *International Journal of Public Health Science (IJPHS)*, 10(4), 906–913.  
<https://doi.org/10.11591/IJPHS.V10I4.20914>