# Factors Influencing the Intention to Get COVID-19 Vaccine:
## A Study in the Context of Jakarta, Indonesia

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## ABSTRACT

**Background –** COVID-19 vaccination is expected to be the solution to end the current pandemic through optimum uptakes to create herd immunity. To maximize vaccine uptake, it is therefore critical to understand the predictors of vaccination intention. Despite several studies linking socio-demographic factors to COVID-19 vaccination intention in Indonesia, research on predictors such as trust in different institutions, perceived benefits, belief in COVID-19 conspiracy theories, concerns shared by people within one's network, concerns about the side effects of COVID-19 vaccination, which have been found to play a crucial role in vaccination intention, are still under-researched. This study examined these predictors in influencing intention to get COVID-19 vaccines among Indonesian adults.

**Methods –** Three hundred seventy-eight adults in the Special Capital Region of Jakarta completed an online survey from 13 April - 01 May 2021. A hierarchical linear regression analysis was performed to investigate associations between trust in different institutions, perceived benefits of COVID-19 vaccination, belief in COVID-19 conspiracy theories, concerns shared by people within one's network, concerns about the side effects of COVID-19 vaccination, and vaccination intention.

**Results –** Regression analysis reveals that 54% of the variance for the intention to get a COVID-19 vaccine is explained by the predictors selected for the study. Trust in vaccine manufacturers and perceived benefits of COVID-19 vaccination were positively associated with intention, while belief in conspiracy theories and concerns about the side effects of COVID-19 vaccination were negatively associated with intention. Trust in national government, health experts, media reporting, and concerns shared by people within one's network did not significantly influence intention.

**Conclusions –** Trust in vaccine manufacturers, perceived benefits of COVID-19 vaccination, beliefs in COVID-19 conspiracy theories, and concerns about the side effects of COVID-19 vaccination were found to be the predictors of intention. Continuous engagement with the public in enhancing trust, providing timely and factual information on COVID-19, and focusing on the benefits and safety of vaccination is recommended. The results call for a broader perspective on factors associated with COVID-19 vaccination intention to inform vaccination strategies.

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## 1. INTRODUCTION

On January 12, 2021, a video showing a member of the Indonesian House of Representatives from the PDI Perjuangan fraction went viral in Indonesia. In the video, the member of the parliament, who is also a former doctor, overtly rejects the COVID-19 vaccine and would prefer to pay a fine instead (Aditya, 2021), at a time when the government is vigorously campaigning for vaccinations in the community to prevent the spread of COVID-19 in Indonesia (Tsia & Santosa, 2021). She argued that vaccines were not always safe by raising the issues of the past vaccine programs in Sukabumi for polio disease and in Majalaya for lymphatic filariasis that caused victims instead (Viva.co.id, 2021). Although her comments represented a number of people's attitudes, it may have influenced the public to refuse vaccinations, especially as it came from a politician with a medical background who also belongs to the same political party as the incumbent president.

Widespread acceptance of the COVID-19 vaccines is needed (Attwell et al., 2021; Chen et al., 2021; Largent et al., 2020; Mannan & Farhana, 2020; Schoch-Spana et al., 2020), as the uptake could mitigate the spread of the virus and increase the proportion of the population immune to severe illness, making it essential to end the COVID-19 pandemic (Latkin, Dayton, Yi, et al., 2021). COVID-19 vaccines will need to be widely accepted to provide herd immunity (Kwok et al., 2020), yet achieving high uptake will be a challenging task (Loomba et al., 2021). The immunity threshold has been projected to range between 60 and 90 percent, depending on effective reproduction numbers and vaccine efficacy (Kadkhoda, 2021). However, recent studies in several countries have shown that the acceptance rate of COVID-19 vaccines is only moderate. Merely 53.7 percent of respondents in Italy indicated they would take COVID-19 vaccines (La Vecchia et al., 2020), 64 percent of survey participants in the UK said they were very likely to get vaccinated against COVID-19 (Sherman et al., 2021), and 67 percent of participants in Saudi Arabia said they would take a COVID-19 vaccine (Al-Mohaithef & Padhi, 2020). To maximize vaccine uptake, it is therefore critical to understand the predictors of the likelihood to accept a COVID-19 vaccine (Attwell et al., 2021).

Many factors could contribute to the intention to get COVID-19 vaccinations, and empirical evidence suggests that trust in different sources (Latkin, Dayton, Miller, et al., 2021), beliefs in conspiracy theories (Romer & Jamieson, 2020), and concerns shared by people within one's network (Harton, 2020) remain pivotal contributors. Furthermore, it is imperative to track

changing attitudes towards vaccination as this pandemic continues (Paul et al., 2021), as attitude is known to impact people's willingness to take the COVID-19 vaccine (Guidry et al., 2021). People's attitudes toward vaccines can be positive or negative based on perceived benefits and concerns about side effects, which have been found to be the most significant determinants of willingness to vaccinate against COVID-19 (Paul et al., 2021). As shown by recent studies on COVID-19 vaccination intention, individuals with higher levels of perceived benefits (Shmueli, 2021) and lower concern about the vaccine side effects (Sherman et al., 2021) are more likely to be willing to get vaccinated.

Several studies have concluded that the current level of vaccine acceptance might not be sufficient to achieve herd immunity (Malik et al., 2020; Palamenghi et al., 2020). Although the level of acceptance may vary across countries, there is a common need to obtain an optimum rate to achieve immunity through vaccines, and thus more studies are required to address the issue of intention to get vaccinated against COVID-19 (Guidry et al., 2021; Schwarzinger et al., 2021). In response to these calls, this study addresses the question 'to what extent do trust (i.e., trust in national government, health experts, media reporting, and vaccine manufacturers), perceived benefits of COVID-19 vaccination, belief in COVID-19 conspiracy theories, concerns shared by people within one's network, and concerns about the side effects of COVID-19 vaccination affect the intention to get vaccinated against COVID-19.'

To the author's knowledge, this is the first study to investigate these contributing factors of COVID-19 vaccination intention since the vaccine roll-out in Indonesia. There are several considerations for the selection of Jakarta, Indonesia, as the research context. On February 9, 2021, the president of Indonesia issued a presidential regulation declaring that anyone who refuses the vaccination could be denied social assistance or government services, or even face a fine ("Penolak vaksin," 2021). Following this regulation, which serves as the legal foundation for local governments to set COVID-19 vaccination rules, the Jakarta provincial government issued a regional regulation stating that anyone who refuses COVID-19 vaccines could face a fine of five million rupiah. However, the governor of Jakarta was hesitant to comment on the regulation, as he argued that it is irrelevant given the current availability of the vaccines and maintained to vaccinate only those who would want to take the vaccines for the time being (Prireza & Hantoro, 2021). As most studies on COVID-19 vaccination intention have been conducted in the contexts where vaccination is voluntary, research on intention to get the vaccine in a context where punitive

schemes exist would add a novel contribution to the literature. In addition, according to a survey conducted in November 2020 by the Indonesian Ministry of Health in collaboration with the Indonesian Technical Advisory Group on Immunization (ITAGI), WHO, and UNICEF, only 66 percent of the people in the Special Capital Region of Jakarta were willing to accept COVID-19 vaccination (Kementerian Kesehatan Republik Indonesia et al., 2020). To better understand the level of acceptance, there is an urgent need to investigate the contributors of vaccination intention among the population of Indonesia's densest province (15,900 people/ $km^2$) (Badan Pusat Statistik, n.d.). Research has shown that population density is indeed a very reliable predictor of the number of cumulative cases as the infection spreads (Wong & Li, 2020). In fact, the province has had the highest number of COVID-19 cases of any province in Indonesia (24%) (Komite Penanganan COVID-19 dan Pemulihan Ekonomi Nasional, 2021). Therefore, it is a suitable research context for this study.

## 2. LITERATURE REVIEW

The following section provides an overview of COVID-19 vaccination intention and the factors contributing to the intention based on extant literature. This section first delves into trust in various institutions and the perceived benefits of the COVID-19 vaccination, as these variables are likely to positively influence the vaccination intention. Next are variables that are likely to be negatively associated with intention, such as belief in COVID-19 conspiracy theories, concerns shared by people within one's network, and concerns about the side effects of the COVID-19 vaccination.

### 2.1. Intention to Get COVID-19 Vaccine

Intentions have been defined as the amount of effort one is planning to exert to perform an action (Ajzen, 1991). According to the Theory of Planned Behavior, intention, together with the perceived behavioral control, can be used directly to predict a behavior achievement. Although both intentions and perceptions of behavioral control can contribute significantly to behavior prediction, one may be more relevant than the other in specific situations. For instance, when a person has complete control over a behavioral performance, such as when money, time, and skills are not an issue, intentions alone should be sufficient to predict behavior. As a general rule, the higher the intention to engage in a behavior, the more likely should be its performance (Ajzen, 1991). As such, understanding one's intention to adopt health interventions during a health crisis is critical, as one's intention is the best predictor of their behavior (Gibbons et al., 1998).

Moreover, following the theory, one's intention to follow particular health procedures is affected by their attitude toward the health procedure. In their systematic review on vaccination intention, Herzog et al. (2013) reported that more favorable attitudes toward vaccines are associated with higher vaccination intentions. In line with this, Zhang et al. (2021) discovered that in the current pandemic, positive attitudes toward vaccination were predictors of vaccination intention. Since attitude toward vaccination can be positive or negative depending on perceived benefits and concerns about the side effects (Martin & Petrie, 2017), the current study examines both components separately.

Furthermore, recent studies have demonstrated that trust is a contributing factor to vaccination intention during the current pandemic. Trust is a relationship that exists between individuals, as well as between individuals and a system, in which one party is willingly being vulnerable, expecting the best interests and competence of the other, in exchange for a reduction

in the complexity of decision-making (Larson et al., 2018). Due to the complexity of research, safety, policies, and recommendations related to vaccines, vaccination decisions are made in the context of trust in the different actors who interpret and make decisions based on existing evidence (Larson et al., 2011). Given the importance of trust in institutions in affecting behavioral intentions (Ghasemi et al., 2013; van Der Weerd et al., 2011), the current study investigates the extent to which trust in various institutions influences COVID-19 vaccination intention.

### 2.2. Trust in National Government

Trust in government reflects people's satisfaction with the government's policy and performance (Bouckaert & Van de Walle, 2003). Depending on the context, trust in government influences behavioral compliance and thus contributes to the success of policies that require collective action (Tomankova, 2019). It is considered as the pillar of the political system, especially in the event of economic crises or natural disasters (Han et al., 2021). Trust in government is critical in times of a global outbreak of an infectious disease (Gozgor, 2021; Schneider et al., 2021). Indeed, prior studies have shown that the higher level of trust in government was associated with willingness to comply with a range of recommended measures and guidelines, such as abiding by home quarantine guidelines during SARS pandemic (Menon & Goh, 2005) and adhering to control measures during Ebola outbreak (Blair et al., 2017). Meanwhile, low levels of trust in government are linked to lower adherence to preventive behaviors (Vinck et al., 2019).

In the current pandemic, many studies have demonstrated that higher trust in government is positively linked to adherence to various recommended procedures and safety measures (Al-Rasheed, 2020; Uddin et al., 2021), such as hand-washing, physical distancing (Weismüller et al., 2021), and usage of digital proximity tracing (DPT) apps (Goldfinch et al., 2021; von Wyl et al., 2021). In a survey of people from 58 countries, Pak et al. (2021) found that during the beginning COVID pandemic, an increase of trust in the government significantly impacts compliance with the government's strict public health policies. Although quite surprisingly, when the measures are less stringent, people with lower levels of trust are more likely to comply (Pak et al., 2021). The relationship between trust in government and compliance with public health measures seems to be more nuanced than expected.

With respect to vaccinations, a study conducted by Quin et al. (2013) on Ebola pandemic reveals that trust in the government and the intent to get vaccinated are only weakly related. This

might be mainly due to the low perceived severity of the pandemic itself (Quinn et al., 2013). However, in the current COVID-19 pandemic, emerging evidence suggests that trust in government will impact intention to get vaccinated. In a global survey of 13,426 participants from 19 countries on potential acceptance of a COVID-19 vaccine, Lazarus et al. (2021) found that countries with an acceptance rate of more than 80% had strong trust in their government. The research, which also aimed to determine factors influencing acceptance of a COVID-19 vaccine, found that respondents with higher levels of trust in their government were more likely to accept a vaccine (Lazarus et al., 2021). Based on these studies, the current study postulates the following hypothesis:

*H1*. Higher levels of trust in national government lead to a higher COVID-19 vaccination intention.

### 2.3. Trust in Health Experts

Given their lack of medical expertise, laypeople need expert assistance when dealing with scientific information (Hendriks et al., 2015). Experts translate complex, uncertain, and inherently provisional knowledge from the scientific community for a political or public community of non-experts (Gundersen, 2018). People depend on them in times of crisis (Llewellyn, 2020) because they are often the sources of information and recommendations for best practices. For instance, in the event of a health hazard, people turn to experts for facts and information on disease transmission, mechanisms, and severity (Malecki et al., 2021). In the context of COVID-19 pandemic, medical experts such as virologists, epidemiologists, and public health scholars have played an important role in recommending measures to combat the spread of coronavirus (Lavazza & Farina, 2020).

Trust in experts, particularly independent experts without conflicts of interest (Saitz & Schwitzer, 2020), is crucial during health crises (Bennett, 2020). A recent study shows that the level of trust in health experts such as physicians and pharmacists was comparatively higher during the current pandemic (Hafner-Fink & Uhan, 2021). Trust in experts is a significant predictor of compliance with public health measures during infectious outbreaks (Battiston et al., 2021). In the case of vaccinations, where people lack knowledge of the complex sciences of virology, immunology, epidemiology, and other related sciences (Goldenberg, 2016), trust in health experts, who are usually strong supporters of vaccination (Dubé et al., 2013), may influence vaccination intention. In her paper about vaccine hesitancy, Goldenberg (2016) argued that vaccine hesitancy

is a problem of public mistrust in scientific experts and institutions. Indeed, in their study of 1,476 adults in the UK to assess the role of trust, belief in conspiracy theories, and spread of misinformation through social media in influencing vaccine hesitancy, Jennings et al. (2021) found a significant positive association between trust in experts and the willingness to get COVID-19 vaccination. Those who trust experts are more likely to pursue COVID-19 vaccination (Callaghan et al., 2021). Based on these studies, the following hypothesis is formulated:

*H2*. Higher levels of trust in health experts lead to a higher COVID-19 vaccination intention.

### 2.4. Trust in Media Reporting

Trust in news media organizations such as newspapers, television news, radio news, in their offline and online formats, represents the perception of media credibility (Strömbäck et al., 2020). In a broader sense, it refers to "the relationship between citizens (the trustors) and the media (the trustees) where citizens, in situations of uncertainty, expect that interactions with the news media will lead to gains rather than losses" (Strömbäck et al., 2020, p. 148). When people trust the media, they tend to converge with the media's prevailing sentiment (Tsfati, 2003). Prior research has suggested the significance of trust in media during a disease outbreak (Bangerter et al., 2012). This is confirmed by Taha et al. (2013), who further examined the importance of media trust during a pandemic, indicating that media trust indeed plays a significant role in influencing vaccination intent. In their research in the context of H1N1, they discovered that as trust in the media declined, so did the intention to vaccinate; when people considered the information provided by the media to be confusing, they were hesitant to vaccinate.

During the current pandemic, recent research reveals that trust in mainstream media for COVID-19-related information is significantly associated with coronavirus-related preventive behaviors (Niu et al., 2021). In particular, individuals who trusted television for COVID-19-related news were more likely to engage in preventive behaviors (Niu et al., 2021). In the case of the COVID-19 vaccination, the media has framed the news positively so far (Sherman et al., 2021), which may explain why research found that trust in news media is similar to trust in government and trust in health professionals (Murphy et al., 2021). In their research on COVID-19 vaccine hesitancy and resistance in Ireland and the United Kingdom, Murphy et al. (2021) found that vaccine-resistant individuals had considerably less trust in the information disseminated via newspapers, television broadcasts, and radio broadcasts. Likewise, in a study on factors associated

with intentions to get a COVID-19 vaccine using data from a national sample survey of 1,040 adults in New Zealand, Thaker (2020) found that trust in the newspapers, radio, and television news is positively associated with COVID-19 vaccine intentions.

While media trust can be measured at different levels of analysis, such as news media in general, media types, individual media brands, journalists, and news media content (Strömbäck et al., 2020), the present study focuses on the news media content. Specifically, this research focuses on trust in news media content related to COVID-19 and COVID-19 vaccinations. Thus, it is hypothesized that:

*H3.* Higher levels of trust in media reporting lead to a higher COVID-19 vaccination intention.

### 2.5. Trust in Vaccine Manufacturers

Pharmaceutical industries, as producers of vaccines (Larson, 2018), are frequently regarded as having a potential conflict of interest between commercial objectives and their role in advancing science through research and development (Begg, 2013). Many studies have identified that mistrust in pharmaceutical companies prevents vaccination, which could be due to their commercial interests (Attwell et al., 2017; Craciun & Baban, 2012; Jamison et al., 2019; Todorova et al., 2014) or the insufficient attention to vaccine safety when producing the vaccines (Verger et al., 2018). In their literature review, Yaqub et al. (2014) discovered that mistrust in pharmaceutical companies is among many types of distrust that leads to vaccine hesitancy. In a study on the acceptance of the COVID-19 vaccine of 1,200 adults in Hong Kong, Wong et al. (2021) found that trust in vaccine manufacturers was positively associated with COVID-19 vaccine acceptance. Higher levels of trust in the vaccine manufacturer were associated with an increased willingness to receive the COVID-19 vaccine (Wong et al., 2021), while mistrust in the manufacturers was associated with a lower level of vaccination intention (Sherman et al., 2021). Hence, the current study posits that:

*H4.* Higher levels of trust in vaccine manufacturers lead to a higher COVID-19 vaccination intention.

### 2.6. Perceived Benefits of COVID-19 Vaccination

Perceived benefit is the perception of positive effects as a result of a specific action (Leung, 2013). In behavioral medicine, it is often used to explain one's motivations for pursuing an

intervention or treatment. Based on a literature review of 32 publications in healthcare settings, a study indicated that vaccine efficacy was the strongest motivation in encouraging people to get an influenza vaccination (Hofmann et al., 2006).

Moreover, a study in the context of the swine flu pandemic found that higher scores on the vaccine perceived benefits, such as lowering one's chance of contracting the disease, were associated with a higher intention of getting the vaccination (Myers & Goodwin, 2011). In line with this study, recent research on COVID-19 vaccination intention reveals that individuals who have higher levels of perceived benefits from the COVID-19 vaccination are more likely to be willing to get vaccinated (Shmueli, 2021). In her study, which included the health belief model and the theory of planned behavior model in predicting intention to receive COVID-19 vaccine of 398 Israeli adults, the author found that perceived benefits were significant predictors of intention. Based on these studies, the current study posits the following hypothesis:

> *H5*. Higher perceived benefits of COVID-19 vaccination leads to higher vaccination intention.

### 2.7. Belief in COVID-19 Conspiracy Theories

A conspiracy theory is "the unnecessary assumption of conspiracy where other explanations are more probable" (Aaronovitch, 2010, p. 10). A characteristic of conspiracy theories is that their narratives, despite lacking credible evidence, often refer to scientific studies in challenging the common belief of an event and present conspiratorial explanations (Soukup, 2008). Such theories provide explanations for complex events by referring to secret plots created by powerful groups (Imhoff & Bruder, 2014). Conspiracy theories seem to offer broad, internally consistent explanations that enable people to maintain their beliefs when dealing with uncertainty and contradiction (Douglas et al., 2019). Aupers (2012) argues that modern institutions have lost their plausibility to conspiracy believers, causing them to pursue alternative explanations instead of trusting science, government, and the news media. Trusting authorities and believing stories created by the officials or the media are easily dismissed as being naive.

While some conspiracy theories are considered harmless (Clarke, 2002), others are associated with negative implications (Brotherton et al., 2013) and should be taken seriously (Douglas et al., 2019). Along with the COVID-19 pandemic, there have been numerous conspiracy theories (Bertin et al., 2020). Uscinski et al. (2020) found that the beliefs in COVID-19 conspiracies were not negligible, as more than 29% of their research respondents agreed that the

threat posed by COVID-19 was exaggerated, and over 31% agreed that the virus was spread on purpose. Given the rapid spread of COVID-19 (Sanche et al., 2020), these beliefs are harmful even if only a proportion of the population adhering to them disregard the common guidelines, such as social distancing (Uscinski et al., 2020). Indeed, in a study conducted in Russia, Egorova et al. (2020) found a significant relationship between conspiracy beliefs and attitudes toward quarantine measures. Although in a study with Turkish participants, Alper et al. (2020) did not find any significant association between COVID-19 conspiracy beliefs and preventive measures.

Nonetheless, in a study examining the relationship between COVID-19 conspiracy beliefs and the intention to be vaccinated against COVID-19 among 396 undergraduate students from two French universities, researchers discovered that conspiracy beliefs were negative predictors of intention (Bertin et al., 2020). Higher levels of belief in COVID-19 conspiracy theories were significantly associated with lower COVID-19 vaccination intention (Earnshaw et al., 2020; Romer & Jamieson, 2020; Sallam et al., 2021). Thus, based on these studies, it is hypothesized that:

> *H6.* Belief in COVID-19 conspiracy theories leads to a lower COVID-19 vaccination intention.

### 2.8. Concerns Shared by People Within One's Network

According to social contagion theory, individual perceptions are affected by perceptions of others in their social or friendship network (Scherer & Cho, 2003). For example, one's social network plays a role in processes such as opinion formation (Iacopini et al., 2019). Moreover, people adopt the attitudes or behaviors of others in their social networks through communication that takes place between them (Scherer & Cho, 2003). Members of a social network often display associated behavior (Shalizi & Thomas, 2011), such as in the context of health behaviors (Guilbeault et al., 2018). Prior research, for instance, has shown the influence of peers and parents on adolescent drug abuse (Shakya et al., 2012). In a study of 431 American and Australian residents, recent research shows that the panic buying behavior of peers was contagious during the current outbreak (Prentice et al., 2020). Interestingly, of the three products studied (i.e., sanitizers, staples, and toilet paper), the researchers found that peer influence played a more significant role in the stockpiling of products that were perceived to be less essential (i.e., toilet paper), suggesting that people were more motivated to engage in panic buying by observing what others in their network do.

In the case of vaccination, researchers found that 56% of 599 women aged 18 - 26 in the U.S. would be likely to receive an HPV vaccine if their close friends received the vaccine (Caskey et al., 2009). On the other hand, even if one is inclined to believe in vaccines, arriving at one's own independent judgment is difficult when people in one's network have strong anti-vaccine attitudes (Harton, 2020). During the current pandemic, a recent study found that the attitudes of one's family and friends were identified as a crucial factor influencing one's vaccine uptake (Cordina et al., 2021). Based on these studies, it is hypothesized that:

*H7*. Concerns shared by people in one's network lead to a lower COVID-19 vaccination intention.

### 2.9. Concerns about the Side Effects of COVID-19 Vaccination

Concerns about side effects can discourage people from pursuing preventative medical treatment for disease prevention (Waters et al., 2017). In their literature review, Hofmann et al. (2006) found that the primary reason discouraging people from getting influenza vaccination was the concern about the side effects of the vaccines.

Moreover, in a study on A/H1N1 influenza vaccination intention, Renner and Reuter (2012) discovered that the more people were afraid of the possible side effects, the lower their vaccination intention. Using the Theory of Planned Behavior model to determine factors affecting intention to get Pandemic (H1N1) vaccine, Liao et al. (2011) also found that concerns about the vaccine side effects predict intention. Lower concern regarding the vaccine side effects was associated with a higher intention to receive the vaccine (Liao et al., 2011). Consistent with these findings, in their study investigating factors associated with COVID-19 vaccination intention of 1,500 UK adults, Sherman et al. (2021) found that concerns about the vaccine's adverse effects were associated with vaccination intention in the current pandemic. Based on these studies, the present study posits the following hypothesis:

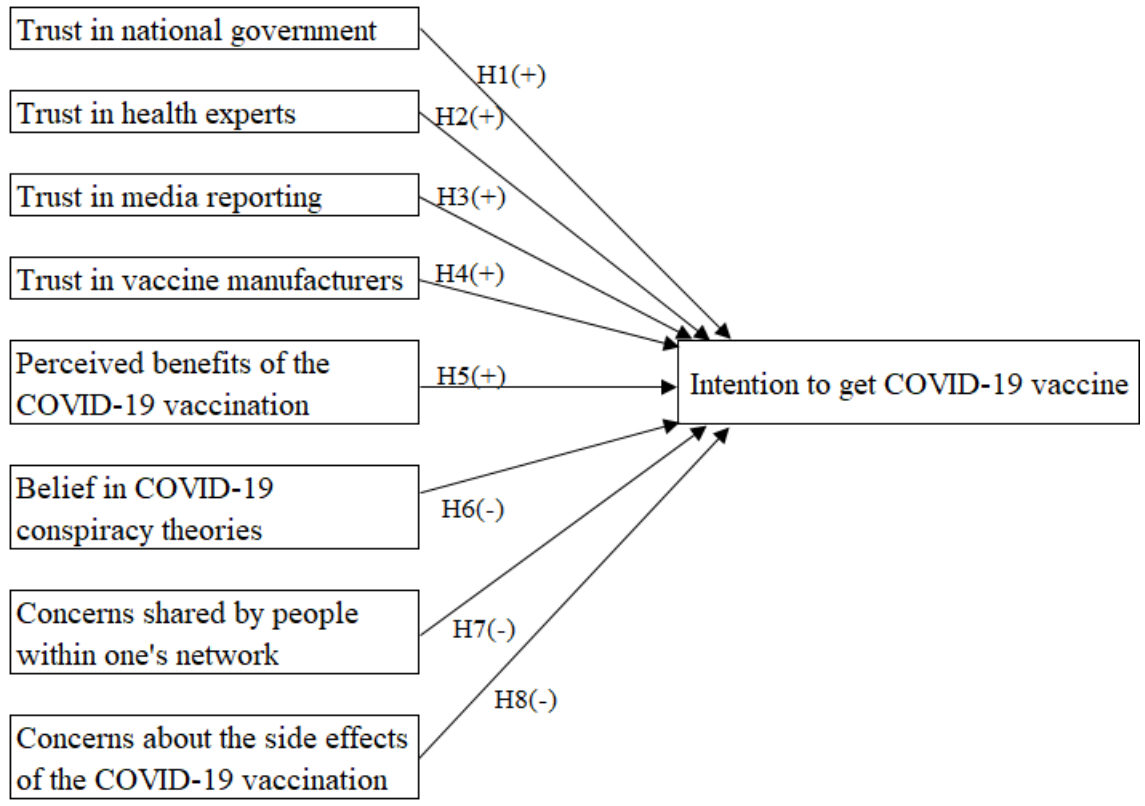
*H8*. Higher concerns about the side effects of COVID-19 vaccination leads to lower vaccination intention.

## 2.10. Research Model

Based on the hypothesized relationships discussed in the previous sections, the conceptual research model is presented in figure 1.

**Figure 1**

*Conceptual research model 1*



## 3. METHODOLOGY

### 3.1. Design and Procedure

An online survey was implemented to test the hypotheses proposed for the study and investigate the relationship between the variables. An online survey was selected based on some considerations. It is easier and faster to reach the survey participants who are dispersed throughout the survey area, the Special Capital Region of Jakarta, Indonesia. Additionally, the participants could complete the questionnaire from any place and at any time within the survey period. In general, it is more time and cost-saving for the researcher (Van Selm & Jankowski, 2006).

The questionnaire items, which were first formulated in English, were translated to Bahasa Indonesia. Then a back-translation from Bahasa Indonesia to English was performed to assess the consistency with the original items (Tyupa, 2011). Based on the assessment of the translation results, the Indonesian version of the questionnaire items was not further modified. Afterward, the questionnaire was uploaded to the Qualtrics platform to generate an anonymous link. Subsequently, the questionnaire was pilot tested to ensure clarity of expression of the survey items and to identify issues with statement formulation. The link to the final questionnaire was then distributed via social media to the population of the survey area, from 13 April to 01 May 2021, using the snowball sampling technique.

There were two main criteria for the inclusion of survey participants: (1) being 18 or over and (2) living in the survey area. Participants provided informed consent at the beginning of each survey before responding to 42 statements measuring nine variables and nine items for demographic information. By the end of the survey period, 560 responses were recorded. However, only 378 responses were eventually used for data analysis, as 52 responses did not meet the sampling criteria, 18 respondents spent too little or too much time on the questionnaire, and 112 respondents did not complete the survey.

### 3.2. Respondents

Of the 378 respondents, 56.6 percent (N = 214) were females. Respondents' age ranged between 18 and 67, with a mean of 36.91 (SD = 12.05). South Jakarta residents accounted for 24.9 percent (N = 94) of all responses, the highest of the six areas within the survey area. As expected, Muslim respondents made up a sizable proportion of the total responses, accounting for 68.5 percent of all responses (N = 259). In terms of levels of education, respondents with a Senior High

School Diploma as the highest qualification accounted for 41 percent (N = 155) of all responses, followed by 33.3 percent (N = 126) with a Bachelor's degree.

**Table 1**

*Complete demographic information of the survey respondents (N=378)*

| **Demographic Characteristics** | | **Frequency** | **Percentage** |
|---|---|---|---|
| Gender | Male | 163 | 43.1 |
| | Female | 214 | 56.6 |
| | Others | 1 | 0.3 |
| Age, M (SD) | 18-67, 36.91 (12.05) | 378 | 100 |
| City or regency where respondent lives | North Jakarta | 60 | 15.9 |
| | West Jakarta | 79 | 20.9 |
| | Central Jakarta | 56 | 14.8 |
| | South Jakarta | 94 | 24.9 |
| | East Jakarta | 88 | 23.3 |
| | Thousand Islands | 1 | 0.3 |
| Religion | Muslim | 259 | 68.5 |
| | Protestant | 49 | 13.0 |
| | Catholic | 29 | 7.7 |
| | Hindu | 0 | 0 |
| | Buddhist | 34 | 9.0 |
| | Confucian | 3 | 0.8 |
| | Others | 4 | 1.1 |
| Highest qualification | Primary School | 0 | 0 |
| | Junior High School | 7 | 1.9 |
| | Senior High School | 155 | 41.0 |
| | Diploma | 68 | 18.0 |
| | Bachelor's degree | 126 | 33.3 |
| | Master's degree | 19 | 5.0 |
| | Doctorate | 3 | 0.8 |
| | Others | 0 | 0 |
| Marital status | Single, never married | 140 | 37.0 |
| | Cohabiting with a significant other | 22 | 5.8 |
| | Married | 179 | 47.4 |
| | Widowed | 15 | 4.0 |
| | Divorced | 17 | 4.5 |
| | Others | 5 | 1.3 |
| Employment status | Employed full time | 118 | 31.2 |
| | Employed part time | 71 | 18.8 |
| | Unemployed | 52 | 13.8 |
| | Student | 26 | 6.9 |
| | Retired | 3 | 0.8 |
| | Self-employed | 71 | 18.8 |
| | Others | 37 | 9.8 |
| Respondent's history of suffering from COVID-19 | Yes | 40 | 10.6 |
| | No | 338 | 89.4 |
| Respondent's knowledge of friends and family members who have been infected with COVID-19 | Yes | 205 | 54.2 |
| | No | 173 | 45.8 |
| **Total** | | **378** | **100** |

Approximately 47 percent (N = 179) of respondents indicated that they were married, while respondents with single status accounted for 37 percent (N = 140). Respondents who were working full-time comprised 31.2 percent (N = 118) of all responses, whereas the unemployed was 13.8

percent (N = 52). Most respondents claimed they had never caught COVID-19 (89.4%, N = 338), but a significant number said they knew someone in their network who had (54.2%, N = 205). The complete demographic information of survey respondents is presented in Table 1.

### 3.3. Measurements

All of the items used to measure the different constructs were measured on a five-point Likert scale, with response choices ranging from 1 ‘strongly disagree' to 5 ‘strongly agree'.

Six items from Grimmelikhuijsen and Knies' (2017) scale were adapted to measure ‘trust in national government’. The scale considers the dimensions of perceived competence, benevolence, and integrity (Grimmelikhuijsen & Knies, 2017) with a sample item includes "When it concerns COVID-19 vaccination strategy, Indonesian government carries out its duty well".

‘Trust in health experts’ was measured using four items adapted from Nisbet et al. (2015). A sample item includes "When it concerns COVID-19 vaccination, I trust health experts to do what is right".

**‘**Trust in media reporting’ was measured using four items adapted from Strömbäck et al. (2020). The items measure trust in media content (Strömbäck et al., 2020) with a sample item "The news media are fair when covering COVID-19 and COVID-19 vaccination".

Five items were newly formulated to measure ‘trust in vaccine manufacturers’. A sample item includes “I believe that COVID-19 vaccine manufacturers have the expertise to produce safe vaccines”.

One item from Martin and Petrie's (2017) Vaccination Attitudes Examination (VAX) scale, one item from Myers and Goodwin (2011), and two newly formulated items were used to measure ‘perceived benefits of COVID-19 vaccination’. A sample of newly formulated item includes “I believe being vaccinated with a COVID-19 vaccine would help prevent me from getting the disease.”

Five items inspired by previous studies were used to measure ‘belief in COVID-19 conspiracy theories’. A sample item includes "I believe that there is no such thing as the coronavirus" (Earnshaw et al., 2020; Egorova et al., 2020).

To measure ‘concerns shared by people within one's network’, four items were newly formulated. A sample item includes "In my opinion, people within my network have a negative attitude towards the COVID-19 vaccination".

Three items from Martin and Petrie's (2017) Vaccination Attitudes Examination (VAX) scale and one item from Myers and Goodwin (2011) were used to assess ‘concerns about the side effects of COVID-19 vaccination’. A sample item includes "Although most COVID-19 vaccines appear to be safe, there may be problems that we have not yet discovered".

To measure intention to get COVID-19 vaccine, four items were formulated. A sample item includes "I am willing to get a COVID-19 vaccine".

### 3.4. Measurement Validity and Reliability

All items from the nine constructs were subjected to a principal component analysis. Through the analysis, two items were removed, and the retained items for each factor have factor loadings above 0.5, as shown in Table 2. The Kaiser-Meyer Olkin Measure of Sampling Adequacy was .92, above the recommended value of .60 (Kaiser, 1974). Based on Bartlett’s Test of Sphericity [$X^2$ (780) = 11,217.96, $p < .001$], the correlations among the items were sufficient for the performance of a principal component analysis.

## Table 2

*Results of factor analysis with VARIMAX rotation of the final items and the scale reliability*

| Constructs | Items | Factors | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Intention to get COVID-19 vaccine<br>Cronbach's alpha: .89 | I am willing to get a COVID-19 vaccine. | | | | | .68 | | | | |
| | When I receive the invitation to get a COVID-19 vaccine, I will show up for the vaccination. | | | | | .69 | | | | |
| | I intend to get vaccinated against COVID-19. | | | | | .69 | | | | |
| | I have no intention of getting a COVID-19 vaccination. | | | | | .71 | | | | |
| Trust in national government<br>Cronbach's alpha: .90 | When it concerns COVID-19 vaccination strategy, the Indonesian government is capable of doing its job. | .72 | | | | | | | | |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government carries out its duty well. | .73 | | | | | | | | |
| | When it concerns COVID-19 vaccination strategy, if people need help, the Indonesian government will do his best to help them. | .81 | | | | | | | | |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government is genuinely | .76 | | | | | | | | |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government approaches people in | .76 | | | | | | | | |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government is honest in | .66 | | | | | | | | |
| Trust in health experts<br>Cronbach's alpha: .90 | When it concerns COVID-19 vaccination, I have confidence in health experts. | | | | | | | | | .60 |
| | When it concerns COVID-19 vaccination, I think information from health experts is credible. | | | | | | | | | .65 |
| | When it concerns COVID-19 vaccination, I trust health experts to do what is right. | | | | | | | | | .68 |
| | When it concerns COVID-19 vaccination, I think health experts tell the public the truth. | | | | | | | | | .65 |
| Trust in media reporting<br>Cronbach's alpha: .82 | I believe news media organizations are fair when covering COVID-19 and COVID-19 vaccination news. | | | | | | | .76 | | |
| | I think news media organizations are unbiased when covering COVID-19 and COVID-19 vaccination news. | | | | | | | .67 | | |
| | I believe news media organizations tell the whole story when covering COVID-19 and COVID-19 vaccination news. | | | | | | | .77 | | |
| | I think news media organizations are accurate when covering COVID-19 and COVID-19 vaccination news. | | | | | | | .76 | | |
| Trust in vaccine manufacturers<br>Cronbach's alpha: .91 | I believe that COVID-19 vaccine manufacturers would not intentionally harm vaccine receivers. | | .68 | | | | | | | |
| | I trust that COVID-19 vaccine manufacturers are truthful when they say that the vaccine is safe to | | .73 | | | | | | | |
| | I believe that COVID-19 vaccine manufacturers can competently produce safe vaccines. | | .76 | | | | | | | |
| | I believe that COVID-19 vaccine manufacturers have the expertise to produce safe vaccines. | | .75 | | | | | | | |
| | I am confident that COVID-19 vaccine manufacturers care about the well-being of the vaccine receivers. | | .74 | | | | | | | |
| Perceived benefits of COVID-19 vaccination<br>Cronbach's alpha: .87 | I believe that the COVID-19 vaccine is safe. | | | | .65 | | | | | |
| | I believe being vaccinated with a COVID-19 vaccine would help prevent me from getting the disease. | | | | .75 | | | | | |
| | Getting a COVID-19 vaccine will protect me from getting the virus. | | | | .74 | | | | | |
| | COVID-19 vaccination decreases my chances of getting corona disease or its complications. | | | | .55 | | | | | |
| Belief in COVID-19 conspiracy theories<br>Cronbach's alpha: .89 | I believe that there is no such thing as the coronavirus. | | | .72 | | | | | | |
| | I think that the coronavirus is a hoax. | | | .78 | | | | | | |
| | I believe that COVID-19 outbreak is a population control scheme. | | | .82 | | | | | | |
| | I think that certain powerful people created and spread the coronavirus around the world for their own purposes. | | | .79 | | | | | | |
| | I believe that the pharmaceutical industry developed the coronavirus to profit from it by selling more drugs and vaccines. | | | .79 | | | | | | |
| Concerns shared by people within one's network<br>Cronbach's alpha: .84 | In my opinion, people within my network are worried about the unknown effects of COVID-19 vaccines. | | | | | | .75 | | | |
| | In my opinion, people within my network have a negative attitude towards the COVID-19 vaccination. | | | | | | .79 | | | |
| | I think people within my network feel that COVID-19 vaccines can cause unforeseen problems. | | | | | | .84 | | | |
| | I think people within my network feel that while most COVID-19 vaccines appear to be safe, there may be problems that we have not yet discovered. | | | | | | .74 | | | |
| Concerns about the side effects of the COVID-19 vaccination<br>Cronbach's alpha: .80 | Although most COVID-19 vaccines appear to be safe, there may be problems that we have not yet discovered. | | | | | | | | .63 | |
| | COVID-19 vaccines can cause unforeseen problems. | | | | | | | | .78 | |
| | I worry about the unknown side effects of COVID-19 vaccines. | | | | | | | | .77 | |
| | The side effects of the COVID-19 vaccination affect my ability to do daily activities. | | | | | | | | .67 | |

## 4. RESULTS

### 4.1. Descriptive Statistics, Instrument Reliability, and Correlation Analysis

Among the eight independent variables, trust in health experts (M = 3.78, SD = 0.63) and trust in vaccine manufacturers (M = 3.72, SD = .62) have the highest mean scores. Reliability analysis shows the internal consistency of all constructs is reliable (Hinton, 2008), varying between .80 and .91. Additionally, the variance inflation factor (VIF) values for the eight independent variables (less than the cut-off value of 10; Burns & Burns, 2008) suggest that multicollinearity is within the acceptable range. Based on the results of the correlation analysis, the perceived benefits of COVID-19 vaccination ($r = .66$, $p < .01$) and trust in vaccine manufacturers ($r = .61$, $p < .01$) have the highest correlation values in relation to intention to get COVID-19 vaccination. Table 3 presents the mean scores, standard deviation values, and correlations of the research constructs.

**Table 3**

*Mean scores, standard deviation values, and inter-correlations of the research constructs*

| | M (SD) | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Intention to get COVID-19 vaccine | 3.85 (0.85) | | | | | | | | | |
| 2. Trust in national government | 3.68 (0.64) | .36** | | | | | | | | |
| 3. Trust in health experts | 3.78 (0.63) | .55** | .63** | | | | | | | |
| 4. Trust in media reporting | 3.35 (0.64) | .22** | .53** | .47** | | | | | | |
| 5. Trust in vaccine manufacturers | 3.72 (0.62) | .61** | .56** | .73** | .42** | | | | | |
| 6. Perceived benefit of COVID-19 vaccination | 3.67 (0.73) | .66** | .52** | .67** | .35** | .68** | | | | |
| 7. Belief in COVID-19 conspiracy theories | 2.39 (0.88) | -.45** | -.17** | -.36** | -0.08 | -.37** | -.31** | | | |
| 8. Concerns shared by people within one's network | 3.19 (0.72) | -.19** | -.10* | -.13* | -0.05 | -.16** | -.14** | .41** | | |
| 9. Concerns of the side effects of the COVID-19 vaccination | 3.29 (0.71) | -.34** | -.11* | -.17** | 0.02 | -.22** | -.26** | .35** | .51** | |

** Correlation is significant at the 0.01 level; * Correlation is significant at the 0.05 level; N = 378

### 4.2. Hierarchical Regression Analysis

To test the formulated hypotheses, a hierarchical regression analysis was performed. This type of regression analysis is used to sequentially determine the effects of the different predictors on the outcome variable (Burns & Burns, 2008). The entrance of trust in national government, health experts, media reporting, and vaccine manufacturers in the first block resulted in an adjusted $R^2$ of .40. In the second block, the perceived benefits of COVID-19 vaccination was added, raising the adjusted $R^2$ to .49.

**Table 4**

*Unstandardized and the standardized coefficients of the different variables hypothesized to influence intention to get COVID-19 vaccine*

| Predictor Variable | B | Std. Error | β | Adj $R^2$ |
|---|---|---|---|---|
| Constant | .64 | .24 | | |
| Trust in national government | .04 | .07 | -.03 | .40 |
| Trust in health experts | .37 | .09 | .28 *** | |
| Trust in media reporting | .12 | .06 | -.09 | |
| Trust in vaccine manufacturers | .63 | .08 | .46 *** | |
| Constant | .56 | .22 | | |
| Trust in national government | -.11 | .07 | -.08 | .49 |
| Trust in health experts | .19 | .08 | .14 * | |
| Trust in media reporting | -.11 | .06 | -.08 | |
| Trust in vaccine manufacturers | .40 | .08 | .29 *** | |
| Perceived benefits of COVID-19 vaccination | .50 | .06 | .44 *** | |
| Constant | 1.81 | .30 | | |
| Trust in national government | -.08 | .07 | -.06 | .54 |
| Trust in health experts | .12 | .08 | .09 | |
| Trust in media reporting | -.05 | .06 | -.04 | |
| Trust in vaccine manufacturers | .32 | .08 | .23 *** | |
| Perceived benefits of COVID-19 vaccination | .46 | .06 | .40 *** | |
| Belief in COVID-19 conspiracy theories | -.19 | .04 | -.20 *** | |
| Concerns shared by people within one's network | .06 | .05 | .05 | |
| Concerns about the side effects of the COVID-19 vaccination | -.16 | .05 | -.13 ** | |

*** p < .001; ** p < .01; * p < .05.

Finally, belief in conspiracy theories, concerns shared by people within one's network, and concerns about the side effects of the COVID-19 vaccination were added in the regression model to assess their contribution to intention to get vaccinated. The adjusted $R^2$ is .54, indicating the eight variables could explain 54% of the variance in intention. Analysis reveals that trust in vaccine manufacturers ($b$ = .23, p < .001) and the perceived benefits ($b$ = .40, p < .001) are both statistically significant predictors of respondents' intention to get COVID-19 vaccine, thereby supporting hypotheses 4 and 5, respectively. Belief in conspiracy theories ($b$ = -.20, p < .001) and concerns about the side effects ($b$ = -.13, p < .01) are also significant predictors of vaccination intention.

These results supported both hypotheses 6 and 8. Hypotheses 1, 2, 3, and 7 are not supported, as trust in the national government, health experts, media reporting, and concerns shared by people within one's network, respectively, have been found to be statistically insignificant predictors of the vaccination intention. Results of the regression analysis are shown in Table 4.

### 4.3. Additional Analyses

An independent samples t-test was performed to determine if there is a difference in the vaccination intention between respondents who have caught COVID-19 disease (N = 40) and those who have not (N = 338). The obtained results were assessed at a 95% confidence interval, and the significance level was set at .05. The results show that there is a statistically significant difference between those who have caught COVID-19 (M = 4.15, SD = .77) and those who have not (M = 3.81, SD = .85), $t = 2.39$, $p = .02$.

### 4.4. Hypotheses Overview

Based on the results presented in the previous section, Table 5 summarizes the hypotheses proposed in this study. Overall, four hypotheses were supported, while the other four were rejected.

**Table 5**

*Overview of Hypotheses*

| | Hypotheses | Result |
|---|---|---|
| H1 | Higher levels of trust in national government lead to a higher COVID-19 vaccination intention. | Rejected |
| H2 | Higher levels of trust in health experts lead to a higher COVID-19 vaccination intention. | Rejected |
| H3 | Higher levels of trust in media reporting lead to a higher COVID-19 vaccination intention. | Rejected |
| H4 | Higher levels of trust in vaccine manufacturers lead to a higher COVID-19 vaccination intention. | Supported |
| H5 | Higher perceived benefits of COVID-19 vaccination leads to higher vaccination intention. | Supported |
| H6 | Belief in COVID-19 conspiracy theories leads to a lower COVID-19 vaccination intention. | Supported |
| H7 | Concerns shared by people in one's network lead to a lower COVID-19 vaccination intention. | Rejected |
| H8 | Higher concerns about the side effects of COVID-19 vaccination leads to lower vaccination intention. | Supported |

## 5. DISCUSSION

### 5.1. Main Findings

The Indonesian government has set a target of completing the COVID-19 vaccination of 181,554,465 Indonesian citizens within 15 months of the start date of 13 January 2021 ("Vaksinasi Covid," 2021). However, the realization rate was only 2.03 percent in the first two months. As the vaccination program continues, negative stories about vaccination across the world are circulating. Indeed, as depicted by the reports at the beginning of this paper, doubts about vaccines are prevalent among Indonesians. Understanding the predictors of intention is, therefore, crucial to maximize uptake and develop a strategy in response to adverse media reporting (Sherman et al., 2021). The current study contributes to the literature by identifying the determinants of people's intention to receive COVID-19 vaccination in Indonesia.

The results of this study revealed four significant predictors to get vaccinated against COVID-19, namely trust in vaccine manufacturers, perceived benefits of the vaccination, beliefs in conspiracy theories, and concerns about the side effects of the vaccination. Trust in national government, trust in health experts, trust in media reporting, and concerns shared by people within one's network, on the other hand, were not significantly associated with vaccination intention.

In contrast to previous research (Lazarus et al., 2021), this study did not find a significant association between trust in government and vaccination intention. Over the past year, the COVID-19 pandemic has imposed considerable health, economic, and social costs on people (Motta et al., 2021). With the virus and policy responses causing dramatic social and economic changes (Attwell et al., 2021), people may be yearning for a solution to return to pre-pandemic life. As they come to see that COVID-19 vaccinations provide hope to get back to normal (Soares et al., 2021), people may become more likely to take the vaccines regardless of their trust in the government.

Similarly, unlike previous research that found a relationship between trust in experts and intention to get vaccinated (Callaghan et al., 2021), this study did not find a significant association between the two variables. There are several possible explanations for the absence of the relationship. As the pandemic continues, the direct influence of Indonesian health experts on vaccination intention may become less visible. Experts garnered increasing media attention during the beginning of the pandemic, as people looked to them for information on preventive measures to avoid contagion (Lavazza & Farina, 2020). As it has been more than a year between the onset of the pandemic and the time this study was conducted, media coverage has simply broadened to

include sources (Quarantelli, 1981) other than health experts. Moreover, the efforts of health experts may have an indirect impact on intention. For instance, according to a recent study on the role of health experts in overcoming the COVID-19 vaccination hoax in Indonesia (Susilo et al., 2021), Indonesian health experts are constantly battling fake news about the vaccines, which may not seem to directly influence people's intention to get the vaccines, but implying the indirect efforts in influencing their intention.

In a recent study, trust in news media, such as newspapers, radio, and television news, has also been found to be positively associated with COVID-19 vaccination intentions (Thaker, 2020). Data analysis in this study, however, shows that trust in media reporting, i.e., newspapers, television news, and radio news, does not influence vaccination intention. This could be attributed to the media usage of the respondents recruited in this study. Since the participants in this study were recruited through social media, it is most likely that they are familiar with and use social media in their daily lives, including consuming news from these media. During the current pandemic, research has noted that more people are turning to online information technology as a source of information (Pan et al., 2020), such as the increasing reliance on social media for COVID-19 news (Abbas et al., 2021). As a result of the growing use of these media and the reduced exposure to COVID-19 news from news media, people become less influenced by the COVID-19 news from news media. When one has little exposure to COVID-19 and COVID-19 vaccination news from the news media, their trust in the news media reporting has little bearing on their intention to get COVID-19 vaccines, suggesting that the extent to which one's trust in particular media influences an outcome is dependent on one's exposure to these media (Lin & Bautista, 2016).

Results in this study reveal that trust in vaccine manufacturers predicts intention to receive COVID-19 vaccination. This is consistent with previous studies done in Hong Kong (Wong et al., 2021) and the United Kingdom (Sherman et al., 2021), which found that higher levels of trust in vaccine manufacturers were associated with a higher intention to get vaccinated. Many manufacturers (Kaur & Gupta, 2020) have entered the market as a result of the high demand for COVID-19 vaccines. However, when people doubt the competence of vaccine manufacturers in producing safe vaccines, it would lower their vaccination intention. Following multiple cases of clotting issues among AstraZeneca vaccine recipients in several countries, for instance, it is expected that people will be less willing to accept the vaccination (Vogel & Kupferschmidt, 2021).

Although it is argued that any communication or efforts by pharmaceutical companies to directly influence vaccine campaigns are unlikely to be successful as there are high levels of distrust in them regarding their motives to generate profit (Jamison et al., 2019), pharmaceutical companies as vaccine manufacturers (Larson et al., 2018) should perhaps focus their efforts on producing safe vaccines to influence intention. Their competence in producing these vaccines would influence people's intention to get vaccinated.

Perceived benefits of COVID-19 vaccination are found to be significant predictors of vaccination intention in this study, as has been shown in prior work (Guidry et al., 2021). People have higher intentions to get vaccinated when they believe the vaccines will protect them from the disease, implying that willingness to be vaccinated is dependent on perceptions of vaccine benefits (Shmueli, 2021). The effectiveness of vaccines for reducing the likelihood of contracting the disease (Martin & Petrie, 2017), as demonstrated by antibody persistence after vaccination (Doria-Rose et al., 2021), for instance, would motivate people to get the vaccines. As shown by previous research, decisions to pursue a particular treatment are influenced by the perceived benefits of the treatment (Zeliadt et al., 2006).

Consistent with previous findings (Bertin et al., 2020; Romer & Jamieson, 2020), belief in COVID-19 conspiracy theories is a significant predictor of vaccination intention in this study. The nature of the conspiracy theories, which doubt the risk of the disease, for instance, would lead to a lower intention to get vaccinated. When people believe that coronavirus exists, thus the perceived threat of COVID-19 disease, they are more likely to get the vaccine (Karlsson et al., 2021).

The attitudes of family and friends were found to be associated with the willingness to take the vaccine (Cordina et al., 2021). This study, however, did not find a significant relationship between concerns shared by people within one's network and one's vaccination intention. Although it is expected that the concerns of people in one's network will influence one's intention to get vaccinated, the mixed attitudes of people within one's network are likely to have an ambiguous impact on one's intention. According to the Social Contagion Theory, one could adopt attitudes or behaviors based solely on communication with the people within one's social network, where the intention to or even an awareness of influence is not required to present in that communication (Scherer & Cho, 2003). However, the presence of mixed attitudes toward vaccination within one's network, where those attitudes are only communicated through interactions without the intention of influencing one's decision, is likely to have a weak influence on one's vaccination intention.

Finally, concerns about the side effects of the vaccination are also significant predictors of vaccination intention in this study, which is consistent with previous research (Sherman et al., 2021). This is in line with the Theory of Planned Behavior, which states that attitude will influence one's intention to engage in a behavior. When people are concerned about the vaccine's adverse effects, such as about the reported cases of anaphylaxis (Shimabukuro et al., 2021) or alleged incidents of death (Torjesen, 2021), thus having a negative attitude towards the vaccination, it lowers their intention to get the vaccines, suggesting that vaccination intention relies on risk perceptions of side effects (Motta, 2021).

### 5.2. Theoretical Implication

The findings of this study have important implications for both researchers and practitioners involved in vaccination efforts. Several issues raised by the current study certainly deserve attention.

Despite previous studies confirming the effects of trust in government, experts, and the media on vaccination intention, this study did not find any significant relationship between trust in those sources and intention to vaccinate against COVID-19. Given the nuanced findings on the impact of those variables on vaccination intention, the underlying mechanism by which those variables influence intention certainly merits research attention. As it is argued, for instance, that trust in government contributes to trust in vaccination (The Organisation for Economic Co-operation and Development, 2021) and hence might indirectly influence vaccination intention. Future studies could therefore investigate the indirect effect of these factors on intention.

Although this study included the variables that explained 54% of the variance in intention and clarified the relative importance of the hypothesized predictors, there are certainly other factors that merit future investigation. It would be worthwhile to examine the beliefs about the COVID-19 vaccination allowing people to return to 'normal' life as possible predictors of intention. It has been suggested that communication efforts should highlight how vaccination would facilitate a return to normality (Sherman et al., 2021). Although a reasonable recommendation, the actual impact of beliefs about returning to normality through vaccination on one's intention to get the vaccines calls for empirical investigation.

Moreover, with the increasing reliance on social media during the current pandemic, such as many people are turning to social media for information and guidance (Limaye et al., 2020), the role of social media in relation to vaccination intention certainly deserves research attention. For

instance, it would be interesting to look at the extent to which the different sources in social media influence one's vaccination intention, as the findings would potentially provide valuable insights for vaccination efforts.

Finally, given the implementation of the punitive schemes remains to be seen, this study did not include 'fear of penalty' as an antecedent of vaccination intention. However, future research could investigate whether 'fear of penalty' would impact people's intention to get vaccinated in research contexts where punitive schemes are in place. Those involved in vaccination strategies could certainly draw lessons for the future from the study.

### 5.3. Practical Implication

This study reveals that the higher trust in vaccine manufacturers leads to a higher intention to get vaccinated. Manufacturers need to provide transparency in vaccine development and testing, for instance, to address any concerns that people may have regarding the acceleration of the vaccine roll-out. As there have been reported adverse effects and incidents of death allegedly caused by certain vaccines, the manufacturers need to take the necessary actions, such as providing the public with factual explanations on these matters in time.

With the emerging new variants of the virus, which may be more transmissible and resistant to vaccines (Aschwanden, 2021), thus the reports of infections post-vaccination (Cavanaugh et al., 2021), people may come to believe that vaccines do not protect them from the virus. As lower perceived benefits will have a detrimental impact on vaccination intention, it is vital to highlight the benefits of COVID-19 vaccination (Freeman et al., 2021). Consistent efforts focusing on the benefits of vaccines are therefore critical, such as messages demonstrating that individuals who were vaccinated were less likely to have symptomatic COVID-19 compared to those who were unvaccinated (Cavanaugh et al., 2021) and that current COVID-19 vaccination efforts are resulting in substantial preventive benefits among working-age adults (Thompson et al., 2021).

Along with this pandemic, people have witnessed the wild spread of the COVID-19-related conspiracy theories in society (De Coninck et al., 2021). The findings of this study reveal that higher levels of beliefs in COVID-19 conspiracy theories lead to a lower vaccination intention. Thus continuous efforts in giving accurate information on COVID-19 and COVID-19 vaccines remain critical. To counter the spread of conspiracy theories, special attention is required to convey clear, timely, and evidence-based messages through legitimate channels (Sallam et al., 2021). The result of the independent samples t-test in this study shows that people who had caught COVID-

19 were more likely to get the vaccine than those who had not. Therefore, those who have had the COVID-19 disease may be able to assist in sharing information about the threat of the disease and encouraging people to get the vaccines.

This study shows that a higher level of concern about vaccine side effects results in a lower vaccination intention. Therefore, COVID-19 vaccine intervention and campaigns should place a greater emphasis on addressing these concerns (Guidry et al., 2021). To reassure the public regarding the safety of the vaccines, campaigns should provide accurate information regarding potential reactions as well as their incidence (Hofmann et al., 2006). It is, therefore, important to inform that minor side effects of short duration, such as headache and fatigue (Menni et al., 2021), are to be expected after taking the vaccines. Although rare, serious side effects reportedly caused by COVID-19 vaccination were often linked to specific inherent characteristics of the vaccine recipients, such as terminally ill people (Torjesen, 2021), thereby putting potential side effects into perspective (Devine et al., 2018).

### 5.4. Limitations

There are several limitations to the study. First, this a cross-sectional study. Data collection began three months after the initiation of the Indonesian national vaccination program. Therefore the data only reflect a snapshot from a particular time in the course of Indonesia's COVID-19 vaccination program.

Second, as this study relied on convenience sampling from one province, it is not possible to interpret results as being representative. While this sampling method allowed for the collecting of a large amount of data at a minimum cost, it also limits the generalizability of the findings. However, since the aim of this study is to determine factors influencing vaccination intention rather than to describe the proportion of people who are likely to vaccinate, the findings do support a set of predictors that could be used in the future. Nonetheless, a future representative sample could be used to analyze the rate of vaccination intention and whether the intention varies by certain factors.

Finally, due to the limitations of a reasonable questionnaire length combined with the various determinants included in this study, the measurement used in this study for 'trust in media reporting' only considered news media organizations in general and did not distinguish between different types of news media organizations. The measurement may have been subject to variation in individual interpretation, as coverage of COVID-19 and COVID-19 vaccination may vary significantly among news media. Future studies on the influence of trust in different types of news

media on COVID-19 vaccination intention would certainly provide a more nuanced picture of the relationship between those variables.

### 5.5. Conclusions

Creating herd immunity through vaccines requires global efforts (Wouters et al., 2021). Therefore countries need to encourage COVID-19 vaccination in the community (Edwards et al., 2021), and research on vaccination intention will be critical throughout the pandemic. To maximize vaccine uptake, it is crucial to understand the factors associated with intention and ensure that vaccination strategies are informed by those factors (Sherman et al., 2021).

To the author's knowledge, this is the first study to investigate the relationship between trust in institutions, belief in COVID-19 conspiracy theories, concerns shared by people in one's network, attitude toward COVID-19 vaccination, and intention to get COVID-19 vaccine since the vaccine roll-out in Indonesia. This study reveals that trust in vaccine manufacturers, perceived benefits of the vaccination, belief in COVID-19 conspiracy theories, and concerns of the side effects of the vaccination are significant predictors to one's intention to get COVID-19 vaccine. Therefore, continuous engagement with the public in enhancing trust, providing timely and factual information on COVID-19, and focusing on the benefits and safety of vaccination is recommended.

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## Appendix

## Appendix 1 – Item Translation

| Variable | English | Bahasa Indonesia |
|---|---|---|
| Intention to get COVID-19 vaccine | I am willing to get a COVID-19 vaccine. | Saya bersedia menerima vaksin COVID-19. |
| | When I receive the invitation to get a COVID-19 vaccine, I will show up for the vaccination. | Ketika saya menerima undangan untuk mendapatkan vaksin COVID-19, saya akan hadir untuk vaksinasi. |
| | I intend to get vaccinated against COVID-19. | Saya berniat untuk divaksinasi COVID-19. |
| | I have no intention of getting a COVID-19 vaccination. | Saya tidak berniat mendapatkan vaksinasi COVID-19. |
| Trust in national government | When it concerns COVID-19 vaccination strategy, the Indonesian government is capable of doing its job. | Terkait strategi vaksinasi COVID-19, pemerintah Indonesia mampu melakukan tugasnya. |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government carries out its duty well. | Terkait strategi vaksinasi COVID-19, pemerintah Indonesia menjalankan tugasnya dengan baik. |
| | When it concerns COVID-19 vaccination strategy, if people need help, the Indonesian government will do his best to help them. | Terkait strategi vaksinasi COVID-19, jika masyarakat membutuhkan bantuan, pemerintah Indonesia akan melakukan yang terbaik untuk membantu mereka. |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government is genuinely interested in the well-being of people. | Terkait strategi vaksinasi COVID-19, pemerintah Indonesia benar-benar tertarik dengan kesehatan masyarakat. |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government approaches people in a sincere way. | Terkait strategi vaksinasi COVID-19, pemerintah Indonesia melakukan pendekatan ke orang-orang dengan cara yang tulus. |
| | When it concerns COVID-19 vaccination strategy, the Indonesian government is honest in providing information. | Terkait strategi vaksinasi COVID-19, pemerintah Indonesia jujur dalam memberikan informasi. |
| Trust in health experts | When it concerns COVID-19 vaccination, I have confidence in health experts. | Terkait vaksinasi COVID-19, saya percaya pada para pakar kesehatan. |
| | When it concerns COVID-19 vaccination, I think information from health experts is credible. | Terkait vaksinasi COVID-19, menurut saya informasi dari para pakar kesehatan dapat dipercaya. |
| | When it concerns COVID-19 vaccination, I trust health experts to do what is right. | Terkait vaksinasi COVID-19, saya percaya para pakar kesehatan melakukan apa yang benar. |
| | When it concerns COVID-19 vaccination, I think health experts tell the public the truth. | Terkait vaksinasi COVID-19, saya pikir para pakar kesehatan mengatakan yang sebenarnya kepada publik. |
| Trust in media reporting | I believe news media organizations are fair when covering COVID-19 and COVID-19 vaccination news. | Saya yakin organisasi media berita bersikap adil ketika meliput berita vaksinasi COVID-19 dan COVID-19. |
| | I think news media organizations are unbiased when covering COVID-19 and COVID-19 vaccination news. | Saya pikir organisasi media berita tidak bias ketika meliput berita vaksinasi COVID-19 dan COVID-19. |

| | | |
|---|---|---|
| | I believe news media organizations tell the whole story when covering COVID-19 and COVID-19 vaccination news. | Saya percaya organisasi media berita menceritakan keseluruhan cerita ketika meliput berita vaksinasi COVID-19 dan COVID-19. |
| | I think news media organizations are accurate when covering COVID-19 and COVID-19 vaccination news. | Saya pikir organisasi media berita akurat saat meliput berita vaksinasi COVID-19 dan COVID-19. |
| Trust in vaccine manufacturers | I believe that COVID-19 vaccine manufacturers would not intentionally harm vaccine receivers. | Saya yakin produsen vaksin COVID-19 tidak akan dengan sengaja membahayakan penerima vaksin. |
| | I trust that COVID-19 vaccine manufacturers are truthful when they say that the vaccine is safe to use. | Saya percaya bahwa produsen vaksin COVID-19 jujur ketika mereka mengatakan bahwa vaksin tersebut aman digunakan. |
| | I believe that COVID-19 vaccine manufacturers can competently produce safe vaccines. | Saya yakin produsen vaksin COVID-19 dapat secara kompeten memproduksi vaksin yang aman. |
| | I believe that COVID-19 vaccine manufacturers have the expertise to produce safe vaccines. | Saya yakin produsen vaksin COVID-19 memiliki keahlian untuk memproduksi vaksin yang aman. |
| | I am confident that COVID-19 vaccine manufacturers care about the well-being of the vaccine receivers. | Saya yakin produsen vaksin COVID-19 peduli dengan kesehatan penerima vaksin. |
| Perceived benefits of COVID-19 vaccination | I believe that the COVID-19 vaccine is safe. | Saya yakin vaksin COVID-19 aman. |
| | I believe being vaccinated with a COVID-19 vaccine would help prevent me from getting the disease. | Saya yakin divaksinasi dengan vaksin COVID-19 akan membantu mencegah saya terkena penyakit ini. |
| | Getting a COVID-19 vaccine will protect me from getting the virus. | Mendapatkan vaksin COVID-19 akan melindungi saya dari virus tersebut. |
| | COVID-19 vaccination decreases my chances of getting corona disease or its complications. | Vaksinasi COVID-19 menurunkan peluang saya terkena penyakit korona atau komplikasinya. |
| Belief in COVID-19 conspiracy theories | I believe that there is no such thing as the coronavirus. | Saya yakin virus corona itu tidak ada. |
| | I think that the coronavirus is a hoax. | Saya pikir virus corona adalah hoaks. |
| | I believe that COVID-19 outbreak is a population control scheme. | Saya percaya wabah COVID-19 adalah skema pengendalian populasi. |
| | I think that certain powerful people created and spread the coronavirus around the world for their own purposes. | Saya pikir orang-orang berkuasa tertentu menciptakan dan menyebarkan virus korona ke seluruh dunia untuk tujuan mereka sendiri. |
| | I believe that the pharmaceutical industry developed the coronavirus to profit from it by selling more drugs and vaccines. | Saya yakin industri farmasi mengembangkan virus corona untuk mendapatkan keuntungan dengan menjual lebih banyak obat dan vaksin. |
| Concerns shared by | In my opinion, people within my network are worried about the unknown effects of COVID-19 vaccines. | Menurut pendapat saya, orang-orang dalam jaringan saya khawatir tentang efek yang tidak diketahui dari vaksin COVID-19. |

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|---|---|---|
| people within one's network | In my opinion, people within my network have a negative attitude towards the COVID-19 vaccination.<br>I think people within my network feel that COVID-19 vaccines can cause unforeseen problems.<br>I think people within my network feel that while most COVID-19 vaccines appear to be safe, there may be problems that we have not yet discovered. | Menurut saya, orang-orang dalam jaringan saya memiliki sikap negatif terhadap vaksinasi COVID-19.<br>Saya pikir orang-orang dalam jaringan saya merasa bahwa vaksin COVID-19 dapat menyebabkan masalah yang tidak terduga.<br>Saya pikir orang-orang dalam jaringan saya merasa bahwa meskipun sebagian besar vaksin COVID-19 tampaknya aman, mungkin ada masalah yang belum kita temukan. |
| Concern of the side effects of COVID-19 vaccination | Although most COVID-19 vaccines appear to be safe, there may be problems that we have not yet discovered.<br>COVID-19 vaccines can cause unforeseen problems.<br>I worry about the unknown side effects of COVID-19 vaccines.<br>The side effects of the COVID-19 vaccination affect my ability to do daily activities. | Meskipun sebagian besar vaksin COVID-19 tampaknya aman, mungkin ada masalah yang belum kita temukan.<br>Vaksin COVID-19 dapat menyebabkan masalah yang tidak terduga.<br>Saya khawatir akan efek samping yang tidak diketahui dari vaksin COVID-19.<br>Efek samping vaksinasi COVID-19 memengaruhi kemampuan saya untuk melakukan aktivitas sehari-hari. |

## Appendix 2 – Item Back Translation

| Variable | Bahasa Indonesia | English |
|---|---|---|
| Intention to get COVID-19 vaccine | Saya bersedia menerima vaksin COVID-19.<br>Ketika saya menerima undangan untuk mendapatkan vaksin COVID-19, saya akan hadir untuk vaksinasi.<br>Saya berniat untuk divaksinasi COVID-19.<br>Saya tidak berniat mendapatkan vaksinasi COVID-19. | I am willing to accept COVID-19 vaccine.<br>When I receive COVID-19 vaccine invitation, I will be present for the vaccination.<br>I intend to receive COVID-19 vaccine.<br>I have no intention to get COVID-19 vaccine. |
| Trust in national government | Terkait strategi vaksinasi COVID-19, pemerintah Indonesia mampu melakukan tugasnya.<br>Terkait strategi vaksinasi COVID-19, pemerintah Indonesia menjalankan tugasnya dengan baik.<br>Terkait strategi vaksinasi COVID-19, jika masyarakat membutuhkan bantuan, pemerintah Indonesia akan melakukan yang terbaik untuk membantu mereka.<br>Terkait strategi vaksinasi COVID-19, pemerintah Indonesia benar-benar tertarik dengan kesehatan masyarakat.<br>Terkait strategi vaksinasi COVID-19, pemerintah Indonesia melakukan pendekatan ke orang-orang dengan cara yang tulus. | For COVID-19 vaccine strategy, Indonesian government is capable of doing its job.<br>For COVID-19 vaccine strategy, Indonesian government carries out its duty well.<br>For COVID-19 vaccine strategy, if people needs help, Indonesian government will do their best to help them<br>For COVID-19 vaccine strategy, Indonesian government is really interested in people's health.<br>For COVID-19 vaccine strategy, Indonesian government approaches people in a sincere way. |

| | | |
|---|---|---|
| | Terkait strategi vaksinasi COVID-19, pemerintah Indonesia jujur dalam memberikan informasi. | For COVID-19 vaccine strategy, Indonesian government act honestly in giving information. |
| Trust in health experts | Terkait vaksinasi COVID-19, saya percaya pada para pakar kesehatan. | Regarding COVID-19 vaccine, I believe in health experts. |
| | Terkait vaksinasi COVID-19, menurut saya informasi dari para pakar kesehatan dapat dipercaya. | Regarding COVID-19 vaccine, I believe the information from health experts |
| | Terkait vaksinasi COVID-19, saya percaya para pakar kesehatan melakukan apa yang benar. | Regarding COVID-19 vaccine, I believe health experts to do what is right. |
| | Terkait vaksinasi COVID-19, saya pikir para pakar kesehatan mengatakan yang sebenarnya kepada publik. | Regarding COVID-19 vaccine, I think health experts inform the truth to public. |
| Trust in media reporting | Saya yakin organisasi media berita bersikap adil ketika meliput berita vaksinasi COVID-19 dan COVID-19. | I believe news media is fair in covering news for COVID-19 vaccine and COVID-19 news. |
| | Saya pikir organisasi media berita tidak bias ketika meliput berita vaksinasi COVID-19 dan COVID-19. | I believe news media is not biased in covering news for COVID-19 vaccine and COVID-19 news. |
| | Saya percaya organisasi media berita menceritakan keseluruhan cerita ketika meliput berita vaksinasi COVID-19 dan COVID-19. | I believe news media tell the truth in covering news for COVID-19 vaccine and COVID-19 news. |
| | Saya pikir organisasi media berita akurat saat meliput berita vaksinasi COVID-19 dan COVID-19. | I believe news media is accurate in covering news for COVID-19 vaccine and COVID-19 news. |
| Trust in vaccine manufacturers | Saya yakin produsen vaksin COVID-19 tidak akan dengan sengaja membahayakan penerima vaksin. | I believe COVID-19 vaccine producer will not harm vaccine recipient on purpose. |
| | Saya percaya bahwa produsen vaksin COVID-19 jujur ketika mereka mengatakan bahwa vaksin tersebut aman digunakan. | I believe COVID-19 vaccine producer is honest when they claimed vaccine is safe for use. |
| | Saya yakin produsen vaksin COVID-19 dapat secara kompeten memproduksi vaksin yang aman. | I believe COVID-19 vaccine producer produce a safe vaccine competently. |
| | Saya yakin produsen vaksin COVID-19 memiliki keahlian untuk memproduksi vaksin yang aman. | I believe COVID-19 vaccine producer has expertise in producing safe vaccine. |
| | Saya yakin produsen vaksin COVID-19 peduli dengan kesehatan penerima vaksin. | I believe COVID-19 vaccine producer pay attention in public safety. |
| Perceived benefits of COVID-19 vaccination | Saya yakin vaksin COVID-19 aman. | I am sure COVID-19 vaccine is safe. |
| | Saya yakin divaksinasi dengan vaksin COVID-19 akan membantu mencegah saya terkena penyakit ini. | I am sure COVID-19 vaccine will help prevent me from getting the disease. |
| | Mendapatkan vaksin COVID-19 akan melindungi saya dari virus tersebut. | Getting COVID-19 vaccine injecton will protect me from this disease. |

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|---|---|---|
| | Vaksinasi COVID-19 menurunkan peluang saya terkena penyakit korona atau komplikasinya. | COVID-19 vaccine will lower my chances to be exposed with corona virus and complications. |
| Belief in COVID-19 conspiracy theories | Saya yakin virus corona itu tidak ada. | I believe corona virus doesnt exist. |
| | Saya pikir virus corona adalah hoaks. | I believe corona virus is a hoax. |
| | Saya percaya wabah COVID-19 adalah skema pengendalian populasi. | I believe COVID-19 virus is a scheme in controlling population. |
| | Saya pikir orang-orang berkuasa tertentu menciptakan dan menyebarkan virus korona ke seluruh dunia untuk tujuan mereka sendiri. | I believe certain people with power has created and spreaded the corona virus throughout the globe for their purposes. |
| | Saya yakin industri farmasi mengembangkan virus corona untuk mendapatkan keuntungan dengan menjual lebih banyak obat dan vaksin. | I believe pharmacy industry developed corona virus to harvest profit in selling more drugs and vaccines. |
| Concerns shared by people within one's network | Menurut pendapat saya, orang-orang dalam jaringan saya khawatir tentang efek yang tidak diketahui dari vaksin COVID-19. | In my opinion, people in my network worry about COVID-19 vaccine indications. |
| | Menurut saya, orang-orang dalam jaringan saya memiliki sikap negatif terhadap vaksinasi COVID-19. | In my opinion, people in my network have a negative attitude on COVID-19 vaccine. |
| | Saya pikir orang-orang dalam jaringan saya merasa bahwa vaksin COVID-19 dapat menyebabkan masalah yang tidak terduga. | I think my peers feel COVID-19 vaccine can cause indications. |
| | Saya pikir orang-orang dalam jaringan saya merasa bahwa meskipun sebagian besar vaksin COVID-19 tampaknya aman, mungkin ada masalah yang belum kita temukan. | In my opinion, people in my network feel that eventhough COVID-19 vaccine looks safe, but there might be some unknown problems. |
| Concerns about the side effects of COVID-19 vaccination | Meskipun sebagian besar vaksin COVID-19 tampaknya aman, mungkin ada masalah yang belum kita temukan. | Even though COVID-19 vaccine looks safe, maybe there are problems we have not yet discovered. |
| | Vaksin COVID-19 dapat menyebabkan masalah yang tidak terduga. | COVID-19 vaccine might cause unforeseen problems. |
| | Saya khawatir akan efek samping yang tidak diketahui dari vaksin COVID-19. | I am worried of the side effects of COVID-19 vaccine that has not yet known. |
| | Efek samping vaksinasi COVID-19 memengaruhi kemampuan saya untuk melakukan aktivitas sehari-hari. | Side effects of COVID-19 vaccinations might impact my daily routine. |

## Appendix 3 - Descriptive Statistics

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Intention to get COVID-19 vaccine | 378 | 1.25 | 5.00 | 3.8492 | .84886 |
| Perceived benefits of the COVID-19 vaccination | 378 | 1.00 | 5.00 | 3.6667 | .73380 |
| Concerns about the side effects of the COVID-19 vaccination | 378 | 1.00 | 5.00 | 3.2897 | .71044 |
| Trust in national government | 378 | 1.00 | 5.00 | 3.6808 | .63828 |
| Trust in health experts | 378 | 1.00 | 5.00 | 3.7758 | .63195 |
| Trust in media reporting | 378 | 1.00 | 5.00 | 3.3466 | .64399 |
| Trust in vaccine manufacturers | 378 | 1.00 | 5.00 | 3.7238 | .62292 |
| Belief in conspiracy theories | 378 | 1.00 | 5.00 | 2.3942 | .88289 |
| Concerns shared by people within one's network | 378 | 1.00 | 5.00 | 3.1872 | .72461 |
| Valid N (listwise) | 378 | | | | |

## Appendix 4 – Correlation Analysis

**Correlations**

| | | Intention_mean | Gov_mean | Expert_mean | Media_mean | Maker_mean | Benefit_mean | Conspiracy_mean | Network_mean | Risk_mean |
|---|---|---|---|---|---|---|---|---|---|---|
| Intention to get COVID-19 vaccine | Pearson Correlation | 1 | .357** | .554** | .218** | .611** | .657** | -.449** | -.193** | -.342** |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .000 | .000 | .000 | .000 | .000 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Trust in national government | Pearson Correlation | .357** | 1 | .633** | .534** | .562** | .524** | -.174** | -.103* | -.107* |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 | .000 | .001 | .046 | .038 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Trust in health experts | Pearson Correlation | .554** | .633** | 1 | .466** | .728** | .667** | -.383** | -.130* | -.188** |
| | Sig. (2-tailed) | .000 | .000 | | .000 | .000 | .000 | .000 | .012 | .001 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Trust in media reporting | Pearson Correlation | .218** | .534** | .466** | 1 | .424** | .354** | -.092 | -.092 | .026 |
| | Sig. (2-tailed) | .000 | .000 | .000 | | .000 | .000 | .111 | .310 | .629 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Trust in vaccine manufacturers | Pearson Correlation | .611** | .562** | .728** | .424** | 1 | .681** | -.366** | -.160** | -.222** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | | .000 | .000 | .002 | .000 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Perceived benefit of COVID-19 vaccination | Pearson Correlation | .657** | .524** | .667** | .354** | .681** | 1 | -.305** | -.135** | -.260** |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | .000 | | .000 | .009 | .000 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Belief in COVID-19 conspiracy theories | Pearson Correlation | -.449** | -.174** | -.383** | -.092 | -.366** | -.305** | 1 | .410** | .351** |
| | Sig. (2-tailed) | .000 | .001 | .000 | .111 | .000 | .000 | | .000 | .000 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Concerns shared by people within one's network | Pearson Correlation | -.193** | -.103* | -.130* | -.092 | -.160** | -.135** | .410** | 1 | .506** |
| | Sig. (2-tailed) | .000 | .046 | .012 | .310 | .002 | .009 | .000 | | .000 |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |
| Concerns of the side effects of the COVID-19 vaccination | Pearson Correlation | -.342** | -.107* | -.188** | .026 | -.222** | -.260** | .351** | .506** | 1 |
| | Sig. (2-tailed) | .000 | .038 | .001 | .629 | .000 | .000 | .000 | .000 | |
| | N | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 | 378 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

## Appendix 5 – Regression Analysis

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .638[a] | .406 | .400 | .65748 |
| 2 | .704[b] | .496 | .489 | .60696 |
| 3 | .739[c] | .547 | .537 | .57764 |

a. Predictors: (Constant), Trust in vaccine manufacturers, Trust in media reporting, Trust in national government, Trust in health experts

b. Predictors: (Constant), Trust in vaccine manufacturers, Trust in media reporting, Trust in national government, Trust in health experts, Perceived benefits of the COVID-19 vaccination

c. Predictors: (Constant), Trust in vaccine manufacturers, Trust in media reporting, Trust in national government, Trust in health experts, Perceived benefits of the COVID-19 vaccination, Concerns shared by people within one's network, Belief in conspiracy theories, Concerns about the side effects of the COVID-19 vaccination

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 110.415 | 4 | 27.604 | 63.856 | .000[b] |
| | Residual | 161.240 | 373 | .432 | | |
| | Total | 271.655 | 377 | | | |
| 2 | Regression | 134.612 | 5 | 26.922 | 73.080 | .000[c] |
| | Residual | 137.043 | 372 | .368 | | |
| | Total | 271.655 | 377 | | | |
| 3 | Regression | 148.532 | 8 | 18.567 | 55.644 | .000[d] |
| | Residual | 123.122 | 369 | .334 | | |
| | Total | 271.655 | 377 | | | |

a. Dependent Variable: Intention to get COVID-19 vaccine

b. Predictors: (Constant), Trust in vaccine manufacturers, Trust in media reporting, Trust in national government, Trust in health experts

c. Predictors: (Constant), Trust in vaccine manufacturers, Trust in media reporting, Trust in national government, Trust in health experts, Perceived benefits of the COVID-19 vaccination

d. Predictors: (Constant), Trust in vaccine manufacturers, Trust in media reporting, Trust in national government, Trust in health experts, Perceived benefits of the COVID-19 vaccination, Concerns shared by people within one's network, Belief in conspiracy theories, Concerns about the side effects of the COVID-19 vaccination

**Coefficients**[a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | t | Sig. | Tolerance | VIF |
| 1 | (Constant) | .638 | .240 | | 2.659 | .008 | | |
| | Trust in national government | -.043 | .074 | -.032 | -.582 | .561 | .513 | 1.948 |
| | Trust in health experts | .374 | .086 | .278 | 4.369 | .000 | .392 | 2.553 |
| | Trust in media reporting | -.119 | .064 | -.091 | -1.875 | .062 | .683 | 1.464 |
| | Trust in vaccine manufacturers | .633 | .081 | .464 | 7.808 | .000 | .450 | 2.222 |
| 2 | (Constant) | .564 | .222 | | 2.545 | .011 | | |
| | Trust in national government | -.107 | .069 | -.081 | -1.560 | .120 | .506 | 1.974 |
| | Trust in health experts | .188 | .082 | .140 | 2.281 | .023 | .361 | 2.769 |
| | Trust in media reporting | -.107 | .059 | -.081 | -1.820 | .070 | .683 | 1.464 |
| | Trust in vaccine manufacturers | .397 | .080 | .291 | 4.942 | .000 | .391 | 2.559 |
| | Perceived benefits of the COVID-19 vaccination | .505 | .062 | .437 | 8.104 | .000 | .467 | 2.139 |
| 3 | (Constant) | 1.805 | .304 | | 5.947 | .000 | | |
| | Trust in national government | -.081 | .066 | -.061 | -1.228 | .220 | .502 | 1.991 |
| | Trust in health experts | .122 | .080 | .091 | 1.527 | .128 | .348 | 2.872 |
| | Trust in media reporting | -.052 | .057 | -.040 | -.924 | .356 | .664 | 1.505 |
| | Trust in vaccine manufacturers | .315 | .077 | .231 | 4.067 | .000 | .380 | 2.632 |
| | Perceived benefits of the COVID-19 vaccination | .458 | .060 | .396 | 7.615 | .000 | .453 | 2.205 |
| | Concerns about the side effects of the COVID-19 vaccination | -.160 | .051 | -.134 | -3.147 | .002 | .678 | 1.474 |
| | Belief in conspiracy theories | -.190 | .040 | -.198 | -4.702 | .000 | .693 | 1.443 |
| | Concerns shared by people within one's network | .058 | .050 | .049 | 1.155 | .249 | .674 | 1.483 |

a. Dependent Variable: Intention to get COVID-19 vaccine

## Appendix 6 – Online Survey


Peserta yang terhormat,

Terima kasih telah meluangkan waktu untuk mengisi survei ini. Penelitian ini bertujuan untuk mengetahui faktor-faktor yang mempengaruhi sikap dan niat masyarakat terhadap vaksinasi COVID-19. Data akan digunakan untuk tesis peneliti, yang merupakan salah satu persyaratan akademik untuk magister ilmu komunikasi di University of Twente, Belanda.

Survei ini akan memakan waktu sekitar 6 hingga 10 menit untuk Anda selesaikan. Partisipasi Anda dalam studi ini sepenuhnya bersifat sukarela dan Anda dapat mengundurkan diri kapan saja. Tentu saja, saya sangat berharap Anda dapat menyelesaikan survei ini.

Saya percaya tidak ada risiko yang diketahui terkait dengan studi penelitian ini. Semampu saya, jawaban Anda dalam penelitian ini akan tetap dirahasiakan dan data yang dikumpulkan akan diperlakukan secara anonim. Tidak ada data identitas pribadi yang dikumpulkan.

Jika Anda memiliki pertanyaan tentang penelitian ini, silakan hubungi saya di verra@student.utwente.nl.

Salam,
Verra

Mohon sebutkan di bawah jika Anda setuju untuk mengambil bagian dalam studi ini

- ○ Saya setuju
- ○ Saya tidak setuju

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Saya bersedia menerima vaksin COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Ketika saya menerima undangan untuk mendapatkan vaksin COVID-19, saya akan hadir untuk vaksinasi. | ○ | ○ | ○ | ○ | ○ |
| Saya berniat untuk divaksinasi COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Saya tidak berniat mendapatkan vaksinasi COVID-19. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Saya yakin vaksin COVID-19 aman. | ○ | ○ | ○ | ○ | ○ |
| Saya yakin divaksinasi dengan vaksin COVID-19 akan membantu mencegah saya terkena penyakit ini. | ○ | ○ | ○ | ○ | ○ |
| Mendapatkan vaksin COVID-19 akan melindungi saya dari virus tersebut. | ○ | ○ | ○ | ○ | ○ |
| Vaksinasi COVID-19 menurunkan peluang saya terkena penyakit korona atau komplikasinya. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Meskipun sebagian besar vaksin COVID-19 tampaknya aman, mungkin ada masalah yang belum kita temukan. | ○ | ○ | ○ | ○ | ○ |
| Vaksin COVID-19 dapat menyebabkan masalah yang tidak terduga. | ○ | ○ | ○ | ○ | ○ |
| Saya khawatir akan efek samping yang tidak diketahui dari vaksin COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Efek samping vaksinasi COVID-19 memengaruhi kemampuan saya untuk melakukan aktivitas sehari-hari. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Terkait strategi vaksinasi COVID-19, pemerintah Indonesia mampu melakukan tugasnya. | ○ | ○ | ○ | ○ | ○ |
| Terkait strategi vaksinasi COVID-19, pemerintah Indonesia menjalankan tugasnya dengan baik. | ○ | ○ | ○ | ○ | ○ |
| Terkait strategi vaksinasi COVID-19, jika masyarakat membutuhkan bantuan, pemerintah Indonesia akan melakukan yang terbaik untuk membantu mereka. | ○ | ○ | ○ | ○ | ○ |
| Terkait strategi vaksinasi COVID-19, pemerintah Indonesia benar-benar tertarik dengan kesehatan masyarakat. | ○ | ○ | ○ | ○ | ○ |
| Terkait strategi vaksinasi COVID-19, pemerintah Indonesia melakukan pendekatan ke orang-orang dengan cara yang tulus. | ○ | ○ | ○ | ○ | ○ |
| Terkait strategi vaksinasi COVID-19, pemerintah Indonesia jujur dalam memberikan informasi. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Terkait vaksinasi COVID-19, saya percaya pada para pakar kesehatan. | ○ | ○ | ○ | ○ | ○ |
| Terkait vaksinasi COVID-19, menurut saya informasi dari para pakar kesehatan dapat dipercaya. | ○ | ○ | ○ | ○ | ○ |
| Terkait vaksinasi COVID-19, saya percaya para pakar kesehatan melakukan apa yang benar. | ○ | ○ | ○ | ○ | ○ |
| Terkait vaksinasi COVID-19, saya pikir para pakar kesehatan mengatakan yang sebenarnya kepada publik. | ○ | ○ | ○ | ○ | ○ |
| Terkait vaksinasi COVID-19, saya curiga dengan informasi yang diberikan oleh para pakar kesehatan. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Saya yakin organisasi media berita bersikap adil ketika meliput berita vaksinasi COVID-19 dan COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Saya pikir organisasi media berita tidak bias ketika meliput berita vaksinasi COVID-19 dan COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Saya percaya organisasi media berita menceritakan keseluruhan cerita ketika meliput berita vaksinasi COVID-19 dan COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Saya pikir organisasi media berita akurat saat meliput berita vaksinasi COVID-19 dan COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Saya pikir organisasi media berita tidak adil ketika meliput berita vaksinasi COVID-19 dan COVID-19. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Saya yakin produsen vaksin COVID-19 tidak akan dengan sengaja membahayakan penerima vaksin. | ○ | ○ | ○ | ○ | ○ |
| Saya percaya bahwa produsen vaksin COVID-19 jujur ketika mereka mengatakan bahwa vaksin tersebut aman digunakan. | ○ | ○ | ○ | ○ | ○ |
| Saya yakin produsen vaksin COVID-19 dapat secara kompeten memproduksi vaksin yang aman. | ○ | ○ | ○ | ○ | ○ |
| Saya yakin produsen vaksin COVID-19 memiliki keahlian untuk memproduksi vaksin yang aman. | ○ | ○ | ○ | ○ | ○ |
| Saya yakin produsen vaksin COVID-19 peduli dengan kesehatan penerima vaksin. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Saya yakin virus corona itu tidak ada. | ○ | ○ | ○ | ○ | ○ |
| Saya pikir virus corona adalah hoaks. | ○ | ○ | ○ | ○ | ○ |
| Saya percaya wabah COVID-19 adalah skema pengendalian populasi. | ○ | ○ | ○ | ○ | ○ |
| Saya pikir orang-orang berkuasa tertentu menciptakan dan menyebarkan virus korona ke seluruh dunia untuk tujuan mereka sendiri. | ○ | ○ | ○ | ○ | ○ |
| Saya yakin industri farmasi mengembangkan virus corona untuk mendapatkan keuntungan dengan menjual lebih banyak obat dan vaksin. | ○ | ○ | ○ | ○ | ○ |

Silahkan tandai sejauh mana Anda setuju atau tidak setuju dengan pernyataan berikut.

| | Sangat tidak setuju | Tidak setuju | Setuju tidak, tidak setuju juga tidak | Setuju | Sangat setuju |
|---|---|---|---|---|---|
| Menurut pendapat saya, orang-orang dalam jaringan saya khawatir tentang efek yang tidak diketahui dari vaksin COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Menurut saya, orang-orang dalam jaringan saya memiliki sikap negatif terhadap vaksinasi COVID-19. | ○ | ○ | ○ | ○ | ○ |
| Saya pikir orang-orang dalam jaringan saya merasa bahwa vaksin COVID-19 dapat menyebabkan masalah yang tidak terduga. | ○ | ○ | ○ | ○ | ○ |
| Saya pikir orang-orang dalam jaringan saya merasa bahwa meskipun sebagian besar vaksin COVID-19 tampaknya aman, mungkin ada masalah yang belum kita temukan. | ○ | ○ | ○ | ○ | ○ |

Berapa usia Anda?

Usia

Apa jenis kelamin Anda?

- ○ Laki-laki
- ○ Perempuan
- ○ Lainnya

Di kota atau kabupaten mana Anda tinggal?

- ○ Jakarta Utara
- ○ Jakarta Barat
- ○ Jakarta Pusat
- ○ Jakarta Selatan
- ○ Jakarta Timur
- ○ Kepulauan Seribu
- ○ Lainnya

Apa agama Anda?

- ○ Islam
- ○ Kristen
- ○ Katolik
- ○ Hindu
- ○ Budha
- ○ Konghucu
- ○ Lainnya

Apa gelar atau tingkat pendidikan tertinggi Anda yang telah Anda selesaikan?

- ○ SD
- ○ SMP
- ○ SMA
- ○ Diploma
- ○ S1
- ○ S2
- ○ S3
- ○ Lainnya

Manakah dari berikut ini yang paling tepat menggambarkan status perkawinan Anda saat ini?

- ○ Belum kawin
- ○ Tinggal bersama pasangan
- ○ Kawin
- ○ Cerai mati
- ○ Cerai hidup
- ○ Lainnya

Mana yang paling menggambarkan status pekerjaan Anda?

- ○ Bekerja penuh waktu
- ○ Bekerja paruh waktu
- ○ Tidak bekerja
- ○ Pelajar
- ○ Pensiunan
- ○ Wiraswasta
- ○ Lainnya

Apakah Anda pikir Anda pernah, atau sekarang terinfeksi, virus corona?

- ○ Ya
- ○ Tidak

Apakah Anda memiliki teman atau anggota keluarga yang telah terinfeksi COVID-19?

- ○ Ya
- ○ Tidak

UNIVERSITY OF TWENTE.

Terima kasih!

## Appendix 7 – Ethics Committee Approval


APPROVED BMS EC RESEARCH PROJECT REQUEST

Dear researcher,

This is a notification from the BMS Ethics Committee concerning the web application form for the ethical review of research projects.

| | |
|---|---|
| Requestnr. : | 210515 |
| Title : | The Different Determinants Contributing to the Intention to Get a COVID-19 Vaccination |
| Date of application : | 2021-04-01 |
| Researcher : | Verra, . |
| Supervisor : | Beldad, A.D. |
| Commission : | Galetzka, M. |
| Usage of SONA : | N |

Your research has been approved by the Ethics Committee.