The Intention to Hoard Food and Help during Covid-19 Pandemic

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Abstract

The government issued an emergency public activity restrictions policy to reduce Covid 19 cases. This policy causes people to hoard food to anticipate food shortages. In addition, this policy creates empathy among the community to help others because some people have difficulty earning income. This study determines the effect of subjective norms (SN), perceived behavior control (PBC), health awareness (HAW), perceived social support (PSS), and religiosity (RE) on the intention in hoarding food (INHF) and helping people (INHP) during restrictions. The respondents comprise 436 people from 22 provinces in Indonesia. Hypotheses are tested using the Structural Equation Modeling (SEM) analysis method with Partial Least Square (SmartPLS) software. The results show that SNHF affects INHF, while PBCHF and PBCHP positively affect the INHF and INHP. Moreover, PSS has a positive impact on the INHP, HAW negatively affects INHF and INHP, while RE does not affect INHF and INHP. This study analyzes the impact of the emergency public activity restrictions (PPKM) policy in influencing SN, PBC, HAW, PSS, and RE to affect INHF and INHP during the COVID-19 pandemic in Indonesia.

Keywords: Pandemic COVID-19; PPKM Policy; Health Awareness; Perceived Social Support; Religiosity

Introduction

The Indonesian government formulated a policy of emergency public activity restrictions (PPKM) to address the increase of COVID-19 cases. The PPKM policy would become effective from July 3 to July 20, 2021. However, there would be a review in case the COVID-19 transmission does not reduce by July 20, 2022. The government adopted the PPKM policy as an anticipatory step to control the increasing pandemic transmission rate. Several parameters are used to ensure that districts or cities implement PPKM, including Pandemic Assessment Level 4 and Bed Occupancy Rate (BOR) more than 65%. Furthermore, active cases have significantly increased, and vaccination rate is still below 50% of the total population targeted. Data on COVID-19 cases showed an increase between June and July 2021 in Indonesia. On June 2, 2021, there were 1,831,773 cases but increased to 2,228,938 while the number of deaths was 59,534 people on July 2, 2021, the highest recorded number (Worldometers, 2021).
The PPKM policy regulates the community to 100% work from home (WFH). All teaching and learning activities are conducted online and also in the essential sectors. Moreover, 50% of the maximum work from an office (WFO) staff applies health protocols, while critical sectors are allowed 100% maximum WFO staff under health protocols. Activities at shopping centers, malls, or trade centers are closed. Furthermore, eating and drinking in public take place in separate locations, shopping centers and malls is prohibited, and only deliveries or takeaways are accepted. Similarly, mosques, prayer rooms, churches temples, monasteries, temples, and other public places that functioned as places of worship are temporarily closed. The same has happened with public facilities, including arts and culture, sports, and social activities. Additionally, public transportation is enforced with a maximum capacity setting of 70% through strict health protocols (National COVID-19 and National Economic Recovery Task Force, 2021).

This policy causes changes in the behavior of people that previously had freedom in economic and social activities. Several people anticipate policy risks by buying more basic needs (The Jakarta Post, 2021). However, lower-middle-income earners working in the informal sector find it increasingly difficult to make a living (DetikNews, 2021). Several people help each other virtually by offering free doctor or psychologist consultation services, free advertising (endorsement) services for small business actors affected by the pandemic, and providing food needs. Furthermore, non-virtual help includes making and distributing personal protective equipment, facilitating self-isolation, and opening oxygen cylinder lending services (Katadata, 2021). The PPKM policy aims to make people stay at home, though it has caused several problems (Sumaedi et al., 2020). Studies confirm that individual economic and social views change when situations are abnormal and unstable (Deng, Wang, & Yousefpour, 2017).

This study includes the variables of subjective norms and perceived control which are adopted from the theory of planned behavior (TPB) developed by Ajzen (2011). Ajzen (2011), Deng et al. (2017) and Long and Khoir, (2020) found NS and PBC to be important elements in influencing a person's intention to take action. In addition, the HAW variable is an important variable in influencing a person's intention to consume healthily (Tudoran et al., 2009; Pajor et al., 2017). Cao et al. (2019) explains that PSS fosters an empathetic attitude that encourages someone to help others. RE is an important factor in forming a person's tendency to be selfish or concerned with others (Mukhtar & Butt, 2012; Krause et al., 2019). Based on the results of previous studies, this study aims to analyze the effect of NS, PBC, HAW, PSS, REG towards INHF and INHP. From this research, it is hoped that it can help provide input to the government in formulating policies to deal with Covid-19 in the future.

**Intention to Hoard Food and Help People during PPKM**

Confusing information and fake news trigger hysteria and panic in buying goods (Aslani, 2020). Hoarding food for fears of scarcity in the market due to the lockdown policy that limits logistics movement and consumers' access to materials or products is a challenge (Bai, 2020). Furthermore, the potential for exposure to the COVID-19 virus raises concerns. Therefore, the stock of food ingredients is still available (Wang & Hao, 2020). Nicola et al. (2020) stated that perishable foodstuffs such as flour, pasta, and canned food are rapidly depleted in several countries. However, excessive panic has a psychological impact, increasing the economic burden due to riots and fighting (Long & Khoi, 2020).

Kelley et al. (2020) stated that outbreaks exacerbate existing social vulnerabilities, injustices, and mistrust. However, disasters also change people's behavior and social awareness to care for others (Orcutt et al., 2020). The risk of COVID-19 that affects the religious and non-religious, rich and poor, young and old, raises the awareness that anyone could be infected. This situation causes concern for others, along with the increasing understanding of the pandemic (Severo et al., 2021). Social activities to anticipate the worsening impact of the pandemic appear on all social levels, such as distributing food, personal protective equipment, and medicines in the community (Francis & Pegg, 2020; Tekleab et al., 2021).

**Subjective Norm (SN)**

SN shows a person's motivation to follow people's views of behaving (normative belief) (Ajzen, 2011). When individuals feel it is their right and not others to determine their actions, they ignore people's views about their behavior (Cialdini & Goldstein, 2004; Long & Khoir, 2020). SN shows the individual’s perceived expectations in which people around them (siblings, peers) approve of certain behaviors and motivate them to comply (Donald et al., 2014). The PPKM policy, an effort to control the spread of the COVID-19 pandemic, has made most people carry out activities at home (Sumaedi
et al., 2020). In an abnormal situation, everyone seeks reliable information, such as family, friends, or known people competent in the pandemic. The perception of close people about the PPKM policy, which prohibits family members to leave the house, makes an individual hoard food. However, when close people see that PPKM is still open, it allows everyone to obtain basic needs as desired. Similarly, close people that consider PPKM to cause difficulties to everyone think that helping others is mandatory. Therefore, the relationship between SN with INHF and INHP is developed as follows:

H1: Subjective norms positively affect intention in hoarding food.
H2: Subjective norms positively affect intention in helping others.

**Perceived Behavior Control (PBC)**

PBC is a person's perception of obstacles in performing a behavior (Deng et al., 2017; Long & Khoi 2020). It is the degree of difficulty a person assumes to behave in a certain way (Ajzen, 2011). Individuals are usually rational and use the information to take action systematically. When the individual feels they lack the resources or opportunity to do something, they would not perform the behavior that requires these resources. In this regard, the PPKM policy encourages everyone to be more sensitive to information on health problems. Everyone seeks information relevant to the COVID-19 pandemic, meaning that they are able to survive when the PPKM policy is effective. Furthermore, health information from various sources is accessible through social media. It forms perceptions about the importance of behaviors that do not violate the PPKM, such as staying at home (Sumaedi et al., 2020) and the need to hoard food (Long & Khoi, 2020). The information received by individuals about the impact of the PPKM policy creates feelings of guilt. These impacts include make many people lose their jobs and difficulty obtaining food and health services. Consequently, this situation makes individuals want to be involved in helping social problems directly or indirectly. Therefore, the relationship between PBC with INHF and INHP is structured as follows:

H3: Perceived behavior control positively affects an intention in hoarding foods
H4: Perceived behavior control positively affects an intention in helping others

**Health Awareness (HAW)**

HAW is concerned about getting better and motivated to improve and maintain health and quality of life by implementing a healthy lifestyle (Michaelidou & Hassan, 2008). It has been widely adopted in various research contexts because it measures an individual's motivation towards health (Su & Zeng, 2020). Tudoran et al. (2009) found that health scores were positively related to health behavior and purchasing health-related products. This was supported by Pajor et al. (2017), which stated that individuals with high health awareness buy food that prevents health problems. Furthermore, this is consistent with Brahmana et al. (2018), which showed that those perceiving health as everything has a strong intention to buy health products. The COVID-19 pandemic raises individual awareness of a healthy lifestyle. As a result, individuals try to be more preventive in maintaining health by providing basic needs to stay at home. Additionally, this HAW causes individuals to reduce direct interactions to help others. Therefore, the following hypothesis is formulated.

H5: Health awareness negatively affects an intention in hoarding food.
H6: Health awareness negatively affects an intention in helping others

**Perceived Social Support (PSS)**

PSS is an individual's perception that social support would be obtained when needed (Hlebec, Mrzel, & Kogovšek, 2009). Perceived social support gives individuals a sense of acceptance that they are valued and cared for (Cao et al., 2019). Moreover, it gives individuals confidence that sufficient support would be available when needed (Raza et al., 2019). Similarly, PSS refers to individuals' actuality and perception that they are valued and part of a supportive social network. Therefore, when they need help, they receive it from their social network. The COVID-19 pandemic has raised concern because people understand the impact and risks for everyone affected by the virus. This situation causes individuals to help others, increase empathy, and avoid harm others. Therefore, the following hypothesis is formulated:

H7: Perceived Social Support negatively affects an intention in hoarding food.
H8 Perceived Social Support positively affects an intention in helping others.
Religiosity (RE)

RE comprises beliefs and practices that dictate individual responses and interpretations of what is supernatural and sacred, and influencing people's goals, decisions, motivations, and satisfaction (Mukhtar & Butt, 2012; Sudarsono & Nugrohowati, 2020). Religion is an important cultural factor of study because it is a universal and influential social institution. It significantly influences individual and community social attitudes, values, and behavior (Mokhlis, 2009; Wirakurnia et al., 2021). The religion adopted in society influences the emphasis on material life and attitudes towards the ownership and use of goods and services. Moreover, spiritual values influence consumer behavior and actions because of human nature, based on their values (Shaari & Arifin, 2010). According to Krause et al. (2019), religiosity has a positive role in helping others. Indonesia's predominantly Muslim population advocates preserving life and offspring, requiring everyone to consider health problems in all actions (Ebrahim, 2014). Therefore, the following hypothesis is formulated:

H9: Religiosity negatively affects an intention in hoarding food.

H10: Religiosity positively affects an intention in helping others

The research model is arranged as follows:

Research Method

Respondents comprised Indonesian citizens from 32 provinces selected using the purposive sampling method. This method assesses the sample to select the subjects most useful for this study and is better placed to provide information (Sekaran & Bougie, 2010). The samples collected were family representatives and holders of spending decisions living in Indonesia during the COVID pandemic between March 2021 and July 2021. Additionally, they knew of the PPKM policy implemented by the government from July 2 to August 16, 2021. The dependent variables were intentions to hoard food and help people, while the independent variables were subjective norms, perceived behavior control, health awareness, social responsibility, and religiosity. Subjective norm variables and perceived behavior control were divided into two based on the variables of intentions to hoard food and help people. A trial questionnaire was distributed through the WhatsApp private network to several colleagues to obtain valid and reliable questions. Questionnaires were distributed from July 7 to 9, 2021 and obtained 47 respondents from 4 provinces. The results of data processing from the test questionnaire obtained 36 valid and reliable questions. Furthermore, questionnaires were distributed to respondents from 32 provinces, from July 13 to 26, 2021 through personal networks and WhatsApp groups. The results were obtained by 575 respondents, of which 139 did not meet the predetermined qualifications because they were students living with their parents. Meanwhile, interviews were conducted with 17 respondents from 9 provinces to confirm the data processing results. Interview questions included responses to actions taken and social issues during PPKM.

Hypotheses were tested using the Partial Least Square (PLS) method, an alternative analysis method with Structural Equation Modeling (SEM) based on variance (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). This method excludes the data distribution normality, making it useful in structural equation modeling because it is implemented using a non-parametric method (Ghazali, 2015). The tool used is the SmartPLS 3 program, specially designed to estimate structural equations based on variance. This study shows the validity analysis using factor loading and AVE tests and reliability analysis using composite reliability and cronbach alpha (Henseler et al., 2016). It was followed by the structural model test and hypothesis testing.
Results and Discussion

The government applies the PPKM level in each region differently based on the number of COVID-19 cases in the region. This condition also causes respondents to have different views about the impact of the PPKM policy on hoarding food and helping others. Table 1 shows that 260 respondents (60%) were women, while 176 (40%) were men. Also, where 201 respondents (46%) have not been vaccinated, 98 (22%) and 137 (31%) have been vaccinated once and twice, respectively. The respondents that graduated with bachelor's degrees were 219 (50%). Based on occupation, 167 respondents (0.35%) were private employees, while 119 (27%) were housewives. Regarding areas of residence, 23% of respondents came from Central Java, 15% from DI Yogyakarta, 13% from East Java, 6% from West Java, and 5% from Banten. Additionally, 4% of respondents came from Jakarta, 3% from South Sulawesi, 3% from East Kalimantan, 2% from Riau, and 2% from West Sumatra. The number of respondents in 13 other provinces is below 2%.

### Table 1

<table>
<thead>
<tr>
<th>Variables</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Gender</td>
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<td></td>
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<tr>
<td></td>
<td>One time</td>
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<td>0.22</td>
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<tr>
<td></td>
<td>Two times</td>
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<td>0.31</td>
</tr>
<tr>
<td>Status</td>
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<td>0.90</td>
</tr>
<tr>
<td></td>
<td>Not married</td>
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<td>0.10</td>
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<tr>
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<td>33-42-year-old</td>
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<td>43-52 year old</td>
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<td>0.15</td>
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<tr>
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<tr>
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<td>Entrepreneur</td>
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</tr>
<tr>
<td></td>
<td>Housewife</td>
<td>119</td>
<td>0.27</td>
</tr>
</tbody>
</table>

*Source*: Data Analysis, 2022

The data processing results show that the loading factor gives a value above 0.7. It means that the indicators used are valid or have met convergent validity (Henseler, Hubona, & Ray, 2016). Table 2 shows that the Average Variance Extracted (AVE) value is greater than 0.70 or meets the requirements above 0.50. The loading and AVE factors indicate that the questionnaire is valid or that the questions reveal something measurable. Furthermore, the composite reliability (CR) value for all constructs is above 0.7, indicating that the constructs in the estimated model meet the discriminant validity criteria. The reliability test could also be strengthened with Cronbach's Alpha (CA) above 0.6. Table 1 shows that the CA value for all constructs is above 0.7 (Ghazali, 2015). From the composite reliability and CA values, the questionnaire is reliable or remains consistent after repeated on the subject and under the same conditions.

The structural model with PLS evaluates the value of R-square for each endogenous variable. The R-square value of INHF is 0.594, the meanings are SNHF, PBCHF, HAW, PSS, and RE explain the variance of INHF by 59.4%, while 40.6% is influenced by other factors. Furthermore, the R-square value for INHP is 0.279, meaning that the influence of SNHP, PBCHP, HAW, PSS, and RE on INHP is 27.9%, while 72.1% is influenced by other factors.
Table 3 shows that SNHF positively affects INHF, with a β value of 0.483 (p-value <0.01). Therefore, hypothesis H1, which states that SNHF positively affects INHF, is accepted. However, SNHP has no effect on INHP, or hypothesis H2 is rejected. PBCHF positively affects INHF, with a β value of 0.302 (p-value <0.01). Similarly, PBCHP positively affects INHP, with a β value of 0.237 (p-value <0.01). Therefore, hypotheses H3 and H4 are accepted. Conversely, HAW negatively affected INHF, with a β value of -0.202 (p-value <0.01), and negatively affected INHP, with a β value of -0.158 (p-value <0.01). This shows that hypotheses H5 and H6 are rejected. Moreover, PSS affected INHP, with 0.443 (p-value <0.01), while PSS did not affect INHF. This means that hypothesis H7, which states that PSS positively affects INHP, is accepted while hypothesis H8 is rejected. Hypotheses H9 and H10, which state that RE positively affects INHF and INHP, are rejected because the p-value is above 10%.

SN positively affects INHF but does not affect INHP. The PPKM policy makes things unusual or abnormal for all parties. Everyone is encouraged to think pragmatically to ensure food is available to stay at home for more than a week. Subsequently, guarding against possible food shortages makes everyone consider hoarding food. This condition is felt by everyone, with the closest people influence individuals to hoard food. However, close people do not affect the individual's intention in helping others, meaning that PPKM makes people prioritize short-term personal intentions. With the increasing COVID-19 cases every day, people are worried about making mistakes that will make them sick. Therefore, they stay at home to protect themselves and their families from COVID-19 (Sumaedi et al., 2020).

PBCHF and PBCHP positively affect INHF and INHP, respectively. These results support Long and Khoi (2020), which found a positive relationship between PBC and the intention to hoard food. It shows that individual experiences form beliefs that it is necessary to accumulate food. Indonesia has struggled to overcome COVID-19 from April 10 to June 4, 2020, with the issuance of Large-Scale Social Restrictions (PSBB) throughout the country. This experience builds confidence in individuals to prepare basic needs during PPKM to avoid unexpected possibilities. The government’s policies in 2020 have increased the number of people with low income due to job losses, stimulating empathy for others. PPKM implementation shows that HAW negatively affects INHF and has no effect on INHP. People with health awareness seek other alternatives to avoid queuing to buy groceries. These results support Tudoran et al. (2009), which stated that health values positively relate to health behavior. HAW is an effort to maintain health and quality of life through a healthy lifestyle (Michaelidou & Hassan, 2008). Additionally, the PPKM policy allows stalls and shops at certain times for people to shop for necessities rather than crowding and risking of contracting the COVID-19 virus. HAW also reduces people's intention in helping others directly. The highest viral spread of COVID-19 was caused by crowded activities. Therefore, people reduce activities to help others directly to avoid the COVID-19 virus.

PPS does not affect INHF but positively affects INHP. Hoarding food during a pandemic is considered a lack of empathy for others. Furthermore, circumstances felt together form an attitude of mutual support and respect (Cao et al., 2019). This situation creates an individual desire to help others in times of need (Raza et al., 2019). Social responsibility encourages people to help others.
during PPKM, which makes most workers in the informal sector feel the most diverse impacts. People working in the informal sector, such as street vendors, rely on daily income. Moreover, since PPKM reduces people's incomes and limits their operating time, the impact is also felt by service buyers or users. This encourages some people to provide basic needs assistance for others around them during the PPKM period.

Most Indonesians are Muslim, which affects their daily behavior, though RE does not influence INHF and INHP. This contradicts Ayten and Karagoz (2021) and Krause et al. (2019), which found a positive relationship between religiosity and intention to help others. This is because people's actions are based on current information on COVID-19. Therefore, people understand that government policies are a representation of religious and community leaders. Personal religiosity influences individual decisions to hoard, help others, and understand that the situation is part of God's will. However, it is not understood that religiosity technically helps the community provide food and help others during PPKM. The PPKM policy is considered by the community the right policy, but its implementation must be consistent with its goals. The policy does not make most people panic about hoarding food to survive staying at home. Most respondents think that PPKM allows the community to shop at certain times with strict health protocols. Several respondents commented, such as:

“The government issues PPKM regulations and ensures the rules are implemented. However, this needs good cooperation from all stakeholders in monitoring and increasing public awareness about COVID-19 because some people in remote areas do not apply health protocols.” (Hatijah, Housewife, South Sulawesi).

“The PPKM implementation by the government should tolerate micro-entrepreneurs and the community for them not to lose their livelihoods. Alternatively, the community should be assisted to relieve their livelihoods during this PPKM.” (Noverima, Civil Servant, West Sumatra).

“They do not hoard food because they spend according to their weekly budget, and they have no difficulty finding food. Their view regarding people hoarding food is that it is not good because PPKM reduces production. Hoarding food only exacerbates the situation, such as scarcity.” (Azizy, Civil Servant, Yogyakarta).

“The PPKM policy is not accompanied with basic needs supply for the community, and people with a family, children, and a wife are unable to work. How could the government be silent seeing people around them unable to eat, while the PPKM policy does not know when it would end?” (Pati, Entrepreneur, East Java).

Conclusions

PBCHF and HAWHF, as well as PBCHP and HAWHP have important roles in influencing INHF and INHP. Meanwhile, SNHP and REG have no effect on INHP, as well as PSSHF and REGHF have no effect on INHF. These results are consistent with the growing news of COVID-19 through various media and the increasing number of organizations based on helping people exposed to COVID-19. Therefore, the government needs to increase the continuity and update of COVID-19 information provided in various media. In addition, the government needs to regulate community assistance by making provisions that are more accommodating to all elements of society.

First, this study obtained data from a sample of only 436 respondents as one of its limitations. Therefore, further research should use more samples focusing on occupation. Second, this study did not examine the public's view of the PPKM policy. Therefore, future research should include the public perception of PPKM policy as a moderating variable. Subsequently, it would determine the policy's effect on health awareness, perceived social responsibility, religiosity, subjective norms, and perceived behavior control on intentions to hoard food and help others.

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