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36th Dies Natalis Psychology Faculty of Segijapranata Catholic University September 3<sup>rd</sup>, 2020 | 2.00-5.00 P.M. | 20200m

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## Speakers:



Lessons' Learned on The Attempt of Adapting and Developing The Indonesian NP-Tests Battery'

Prof. Dr. Gilles van Luijtelaar

"Neuropsychology - The Necessity to Combine Education and Research for Sustainable Collaborations"

Dr. Marijtje L.A. Jongsma





"The Differences of Health Belief Models between Indonesia and The Philippines"

Jemerson N. Dominguez, Ph.D., LPT, ACAC

Dr. Endang Widyorini, MS, Paikolog





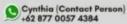
"Cultural-Issues on Adapting and Developing Auditory Verbal Learning Test in Indonesia" Dr. M. Sih Setija Utami, M.Kes.

"Challenges on Adapting and Developing Normative Scores of NP-Test: Case Studies of Indonesian Boston Naming Test Development for Java and Non-Java Population"

Dr. Augustina Sulastri, Psikolog



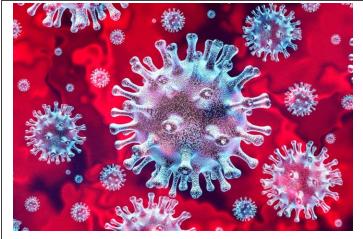
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# COVID19 PANDEMIC OUTBREAK: AN EXPLANATORY FRAMEWORK OF THE INDONESIANS' AND FILIPINOS' HEALTH BELIEF STATUS



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Our research to deliver an explanatory framework of the Health Belief Model (Rosenstock) by describing the Health Belief status of Indonesia and Philippines amidst the CoVid-19 pandemic.

The 2019 coronavirus outbreak (COVID-19) might be stressful for people. Panic and anxiety about an illness can be very high and cause strong negative emotions

The Health Belief Model is a theoretical model that can be used to guide health promotion and disease prevention programs. It is used to explain and predict individual changes in health behaviors.

The model defines the key factors that influence health behaviors as an individual's perceived threat to sickness or disease (perceived susceptibility), belief of consequence (perceived severity), potential positive benefits of action (perceived benefits), perceived barriers to action, exposure to factors that prompt action (cues to action), and confidence in to succeed (self-efficacy).

## Method

Participants

Random selection was rendered almost two months (Mei-June 2020). A total of 902 respondents (570 Indonesian and 332 Filipino Respondents) provided the collective profile described, such as aged 21 (39.36%) up to above 51 years old (14.52%), mostly female (56.98%), majority earned baccalaureate degree (38.47%), commonly single (59.31%), typically private employee (34.26%).

## Measures

The present study delivers the HBM by Rosenstock that posits six constructs of predicting health behavior, they are

- (1) Perceived of susceptibility,
- (2) Perceived of severity,
- (3) Perceived of benefits,
- (4) Perceived of barriers to action,
- (5) cue to action and
- (6) self-efficacy

Negative Psychological Responses has 2 dimensions. They are:

- 1. Worrying
- 2. Emotional Stress

## Validity dan reliability

The concept of HBM was utilized to measure HBS (*Cronbach's alpha of .798*), with the current researchers generating 14 items that measures

The items of NPR (*Cronbach's alpha of .876*) to fit Asian's diverse cultural and tropical contexts associated to the CoVid19 pandemic.

The items were validated by scholars in the areas of Health Psy, Clinical Psychology, and Psychometrics (from SCU) and secure its consistency using the Confirmatory Factor Analysis (CFA) via Statistical Package for Social Sciences (SPSS).

The Instrument of Health Belief Model is both convergent and discriminant. All dimensions have a loading factor above .3. Perceived Severity .508, perceived Susceptibility .376, Perceived Barrier .437, A cue to Action 0.535, Perceived Benefit .674 and Self Efficacy .349.

 Approval and informed consent (ICF) inclusive of anonymity and confidentiality, which address the issues and considerations in data protocol management was conducted by online administration for research that were acquired from DLSUD-ERC with the Ethics Approval in adherence to Ethical Guidelines in conducting human research.

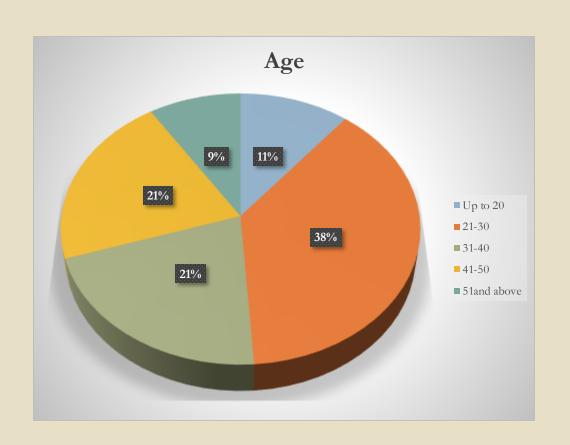
## Statistical Analysis

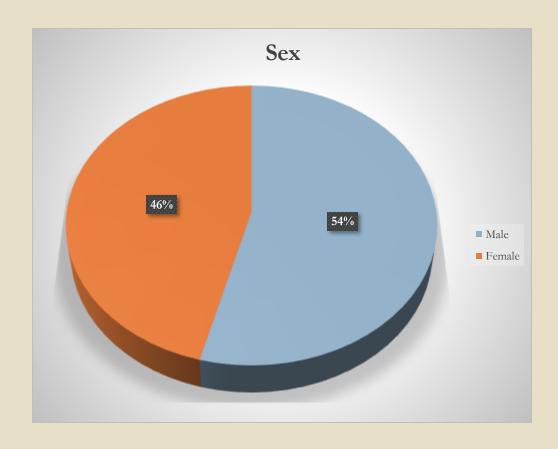
- The software SPSS was used to summarize the data in terms of descriptive statistics.
- Multiple correlation was employed to determine the association of the HBS, NRP and their profile. Equally, Two Independent Samples T-test was computed to determine the difference of the HBS and NRP between Indonesia and Philippines. This test is used to compare the values of the means from the two samples and test whether the samples are from populations having different mean values.

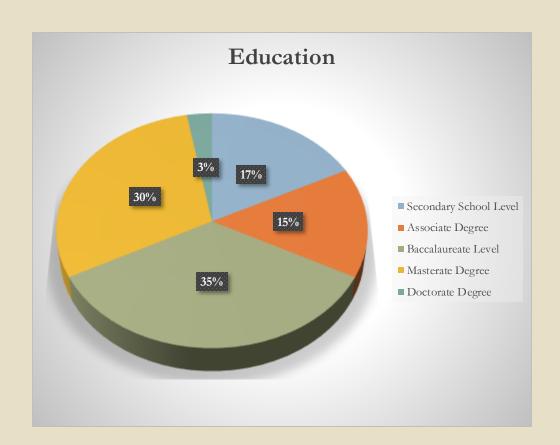
# Study 1 (Indonesian Respondents)

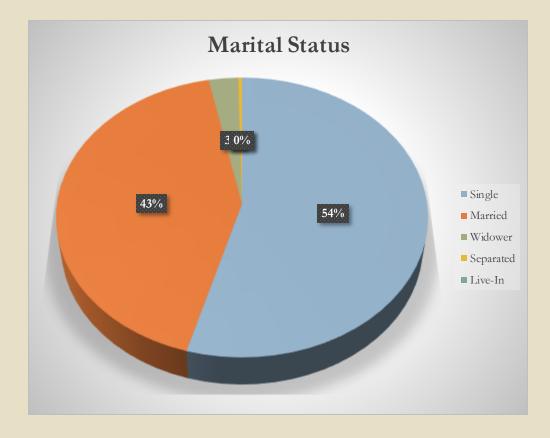


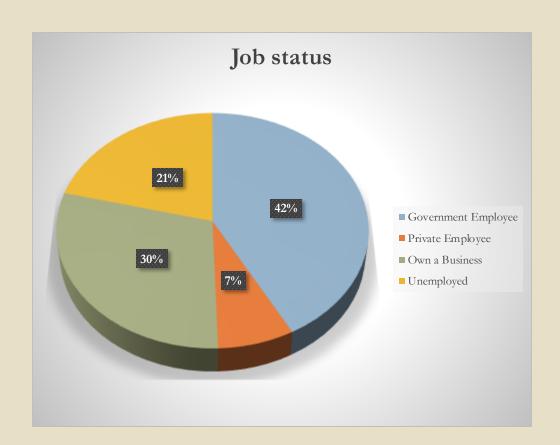
# Profile of Indonesian Respondents

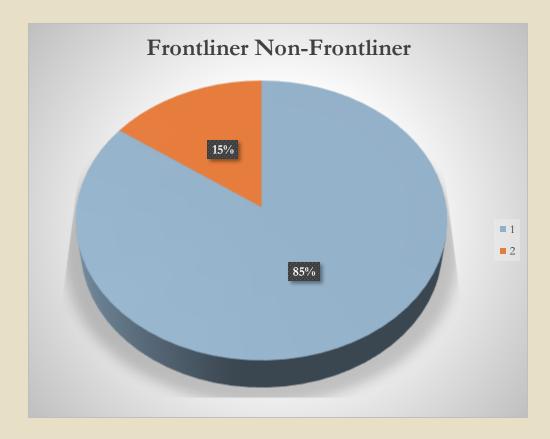












## **Summary Level of Health Belief Study 1**

	M	SD	Classification
Susceptibility	3.580	.405	Extremely Aware
Severity	3.305	.365	Extremely Aware
Benefit	2.865	.513	Moderately Aware
Barrier	3.070	.663	Moderately Aware
Cue to Action	3.205	.379	Moderately aware
Self-Efficacy	2.165	.583	Mildly Aware
Health Belief Status	3.039	.4847	Moderate Health Belief Model

## Level of Negative Psychological Responses of Indonesian Respondents

**Study 1 (n=570)** 

	M	SD	Classification
Impact to Self	2.705	.6443	Moderate
Impact to Significant Others	2.623	.6132	Moderate
Overall NRP	2.615	.6091	Moderate

## **Correlation of Profile, HBS and NPR of Indonesian Respondents**

		Age	Gender	Educatio n	Marital Status	Job Type	HBS	NPR
	Pearson	.067	.035	.,021	.106*	.049	1	.298**
НВМ	Sig. (2- tailed)	.113	.407	.614	.011	.238		.000
	N	570	570	570	570	570	570	570
	Pearson	147**	.162**	<b>165</b> **	045	<b>-</b> .149**	.298**	1
NDD	Sig. (2- tailed)	.000	.000	.000	.285	.000	.000	
NPR	N	570	570	570	570	570	570	570

## Discussion

(Study 1)

• This shows that from the demographic profile only gender correlates with the Health Belief Model. From previous studies it is known that gender factors are closely related to health behaviors, Zetua et al reported that females have higher on perceived severity and self-efficacy).

# Discussion Study 1

- ° The negative psychological responses correlated significantly with HBM.
- This model is based on the assumption that people who are afraid of disease will affect health behavior, they are motivated in relation to the level of fear (perceived threat) and potentially take action to reduce fear, as long as that potential does not cause psychological barriers, this is beneficial, because he was driven to develop healthy behavior
- Susceptibility to emotional contagion also positively predicted preventive behaviors taken,
- Negative psychological responses, such as anxiety, worry, emotional distress relate significantly to perceived severity and perceived self-efficacy.

Respondents perceived that they have high susceptibility to contracting corona virus. The combination of perceived severity and perceived susceptibility will be accepted as a challenge. HBM predicts that the higher the perceived severity and perceived susceptibility, the stronger the drivers will be for individuals to do health-promoting behaviors

But Indonesian respondents not so, although Perceived Severity and Perceived Susceptibility are at a high level, they are not enough able to produce a strength that supports behavior change, other dimensions related to the level of one's confidence in the effectiveness of various efforts available in reducing the threat of disease, or perceived benefits, Perceived benefits are reported as average or moderate levels, Perceived barriers or perceived obstacles to change, or if individuals face obstacles found in taking such actions.

In addition to some beliefs or perceptions, Potential negative aspects of a health effort, (which might act as obstacles to recommending a behavior. Indonesian respondents have low self-efficacy (mildly aware), this means that individuals' perceptions about competence to succeed in doing a problem are low, Self-efficacy is an important dimension that shows the level of confidence in his own ability to take actions related to health support

Why Indonesian people's self-efficacy is low, and in general the level of health belief is only moderately, There are a number of reasons why Indonesians feel unable to change their health behavior, because physical distancing instructions are thought to create social vulnerability, the community, especially people who have informal employment status who earn daily income and do not have a fixed base salary, they must work to feed their families may have difficulty following guidelines for staying at home

Cultural factors are very influential on the success of Indonesian society to make changes in health behavior, Culture influences the dimensions of HBM, because of their Javanese philosophy, that life is governed by God, and humans only live their destiny.

For some, Indonesians adhere to one of the Javanese saying of "Nrimo ing pandum", which is a concept of life, which literally means to be sincere and surrender to God, so that the obstacles they face, is not a heavy thing, and can help them pass through any means of illness, has become a guiding strength for Indonesians to not fuss too much over the pandemic.



The Javanese usually accept whatever happens to them without any effort to refuse or avoid. For Javanese people, people believe in destiny and tend to surrender; so, when they experience severe problems, they will accept it as fate and resignation.





## Limitation

• The study has few limitations, (1) a cross-sectional baseline study between two Asian countries, (2) response rate was taken during the first wave of the pandemic, (3) non-infected CoVid-19 respondents and (4) administered a self-reported online survey instrument wherein social desirability bias may exist

## Ethical Statement

• The rights of all participants in the studies were protected, and the studies carried out under the guidelines approved by the DLSUD-Research Ethics Committee.

## Acknowledgements

• We acknowledged all the assistance and support of Soegijaparanta Catholic University and De La Salle University-Dasmariñas, University Research Office in the commence of this health research.











## Pandemi COVID-19: Sebuah Kerangka Eksplanatoris Health Belief Model pada masyarakat Indonesia dan Filipina

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Abstrak. COVID-19 menjadi ancaman bagi kehidupan manusia pada hari-hari ini. Berangkat dari keyakinan bahwa level kesehatan tertentu perlu dicapai untuk berhasil melalui kondisi pandemi ini, studi ini bertujuan untuk meneliti hubungan antara aspek-aspek dalam Health Belief Model (HBM) dan Negative Psychological Response (NPR) pada situasi di Indonesia dan Filipina. Pada penelitian ini, data dari 902 responden (n1=570, n2=332) diambil secara online pada gelombang pertama COVID-19 (Agustus-Desember 2020) dengan menggunakan statistik deskriptif. Penelitian yang menggunakan HBM dari Rosenstock kali ini menemukan bahwa ada perbedaan status atau tingkatan pada aspek-aspek HBM secara keseluruhan dari kedua negara, namun NPR dari kedua negara menunjukkan tingkatan yang sama. Kedua negara menunjukkan bahwa secara keseluruhan aspek dalam HBM berkorelasi signifikan dengan NPR terkait stressor pandemi. Temuan dari penelitian ini menjelaskan bahwa masyarakat Filipina menunjukkan kesadaran yang lebih tinggi, melakukan lebih banyak perilaku kesehatan, dan menunjukkan NPR yang lebih kuat.

Kata Kunci: COVID-19, Pandemi, Health Belief Model, Indonesia, Filipina

## CoVid19 Pandemic Outbreak: An Explanatory Framework of The Indonesians' and Filipinos' Health Belief Model

**Abstract.** Today, the greatest threat to human survival is CoVid-19. Believing that a certain level must be reached for the success of human survival, this study investigates the association between the aspects in Health Belief Model (HBM) and Negative Psychological Responses (NPR), of the situation of Indonesia and the Philippines. In investigating the study, data from 902 respondents (n1=570, n2=332) were generated online during the first wave of CoVid-19 pandemic (August – October 2020) by use of descriptive statistics method. Research using Rosentock's HBM found that there was a different rate for overall aspects of HBM but same degree of NPR for both countries. Both studies affirmed the overall aspects from HBM that is significantly correlated to NPR regarding pandemic-related stressors. This research findings explained that Filipinos exhibits more awareness, practice more health-related behavior to avoid illness, and

projects more intense NPR.

Keywords: COVID-19, Pandemic Outbreak, Health Belief Status, Indonesia, Philippines

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## **INTRODUCTION**

The global threat of novel-Coronavirus disease 2019 (CoVid-19) was identified in Wuhan in China last December 2019, which has been coined as the 'ground zero'. The outbreak of the virus has been declared to be a Public Health Emergency of International Concern on January 30, 2020, and recognized as a pandemic by the World Health Organization (WHO) on March 11, 2020. As of September 5, 2021, there have been 220,406,326 confirmed cases of Covid-19, which included 4,563,885 deaths as reported by 210 countries and territories (John Hopkins University & Medicine, 2021)

The two most affected countries in Southeast Asia are Indonesia and the Philippines. Based on data collected on Wednesday, May 26, 2020 at 12:00 midday, there were 23,165 cases of CoVid-19 in Indonesia. In the Philippines, there were CoVid-19 cases (15,049) and deaths (904). A positive case of CoVid-19 spread in Indonesia for the first time in March 2, 2020, and the Philippines in January 30, 2020 (WHO, 2020).

The CoVid-19 pandemic causes psychosocial stressors, such as the fear of contracting the coronavirus that can afflict someone and the immediate family. The panic and anxiety about the disease can be overwhelming and cause strong emotions in adults and adolescents. In Indonesia, as much as 56% of the workforce in the informal sector, has the potential to lose work or become unemployed, and thus will not only be an economic problem but also a psychological problem for vulnerable groups. On March 26, Dr. Kluge mentioned that "With the disruptive effects of COVID-19 – including social distancing – currently dominating our daily lives, it is important that we check on each other, call and video chat, and are mindful of and sensitive to the unique mental health needs of those we care for. Our anxiety and fears should be acknowledged and not be ignored, but better understood and addressed by individuals, communities, and governments" (in Kluge and Henri, 2020, paragraph 5)

Human behavior in preventing the transmission of infectious diseases is influenced by psychological factors. People's belief contributes in controlling the spread of infectious diseases, and risk perception was considered as one of the main drivers of health behavior in the health belief models (Glanz & Bishop, 2010; Ibuka et al., 2010). Risk perception in fact has influence in developing preventive actions (Brewer et al., 2007), in addition on severe acute breathing syndrome literature shows that the higher the probability of getting infected the higher possibility to comply with health-related recommendations (Tang & Wong, 2003). In Health Psychology, health belief model (HBM) theory is a conceptual formulation to determine whether individuals perceived acceptance or not about their health. Variables assessed in this study include the desire and efforts of individuals to avoid the pain and the disease.

The HBM is a concept that expresses reasons from individuals to want or not want to do healthy behavior (Janz & Becker, 1984). HBM was originally formulated to model the adoption of preventive health behaviors in the United States (Rosenstock, 1974). HBM has also been interpreted as a theoretical construct regarding individual trust in healthy behavior (Abraham & Sheeran, 2015). The HBM is classified into three categories: (1) health maintenance behaviors (one's efforts to maintain health, so as not to get sick and the efforts to be recovered from sickness), (2) behavior of seeking and using health systems or facilities (one's efforts when suffering and or experiencing accident), and (3) environmental health behavior. In short, HBM is a model used to illustrate the individual's belief in healthy living behavior. This model is believed to be the ideal explanation framework for communication research, and intervention (Carico et al., 2021; de Zwart et al., 2009; Jones et al., 2015) of a pandemic like the Covid-19. HBM is issued by several factors, which are agreed to include demographic factors (Rosenstock, 1974), psychological characteristics (Conner & Norman, 2003), cultural influence (Jones et al., 2015), and structural variables such as knowledge (Sarafino

& Smith, 2012).

This study wants to focus on human behavior, especially health behavior since it is the most decisive factor and difficult to control for someone experiencing a virus disease. Based on the database generated by EBSCO host within 20 years (2020), vast studies focused on help-seeking behavior (Rade et al., 2018), bully-victimization (Wang et al., 2020), and health risks (Gwenzi, 2020). There has been no study conducted, however, which concerns the Health Belief Theory during the CoVid-19 pandemic (EBSCO Industries, 2020). Therefore, it is necessary to study health behavior. In other words, the current research is important to do as it serves as the benchmark for public health for both countries and throughout the South-East Asia nations.

Using the perspectives of Health Psychology and focusing on health interventions, the CoVid-19 pandemic issue has set the context to examine the wider impact on civil society and the implications for a nation-state and its future, thus, allowing this research to deliver an explanatory framework of the HBM (Rosenstock, 1974) by describing the Health Belief status of Indonesia and the Philippines amidst the CoVid-19 pandemic. Reasons for focusing on Indonesian and the Philippines is because both countries have different in responding to the Covid-19. To prevent the spread of the Covid-19 virus, each country has a different policy. The Philippine government implemented a comprehensive lockdown, while the Indonesian government implemented a lockdown in certain areas, known as Large-Scale Social Restrictions. This difference may have an impact on the behavioral and psychological conditions of the community

Specifically, this manuscript (1) describes the level of overall aspects in Health Belief Model (HBM) and Negative Psychological Responses (NPR) of both countries, (2) draws an association among the HBM, NPR, and its profile, and (3) compares the HBM and NPR between Indonesians and Filipinos.

#### Method

This quantitative research on cross-sectional descriptive study allows the delivery of an exploratory framework of the Filipinos' and Indonesians' health belief status based on HBM. To facilitate the survey, data were generated from both Asian countries with the inclusion of the profile, health behavior, and NPR during the CoVid-19 pandemic using online forms.

## **Participants**

Owing to the impact of the pandemic, government policies demanded all Filipinos and Indonesians to observe social distancing and deliver Work from Home (WFH). This condition has increased the chance to obtain data for the CoVid-19 research through an online survey that was conducted using Google forms for both countries via Facebook, Instagram, Twitter, WhatsApp, and other Social Networking Sites (SNS). Different Google Form link for Indonesian participants and Philippines participants were prepared for each country due to the language distinction. Convenient sampling method was rendered for almost three months. Exploring the HBM aspects status and NPR, a total of 902 respondents provided the collective profile described. The participants were from adolescents up to elderly people, with participants of mostly female (56.98%), and with the majority earning a baccalaureate degree (38.47%). Status wise, the participants were commonly single (59.31%), and typically work as private employees (34.26%).

#### **Measures**

Having vast of studies conducted in the field that applied the theories of health behavior (Glanz & Bishop, 2010), the present study used the HBM theorized by Rosenstock (1974) that posits six constructs of predicting health behavior, they are (1) risk susceptibility, (2) risk severity, (3) benefits to action, (4) barriers to action, (5) cue to action, and (6) self-efficacy (Champion & Skinner, 2008; Rosenstock et al., 1988; Rosenstock, 1974).

The concept of HBM was utilized to arranged instrument measuring overall aspects from HBM (*Cronbach's alpha of .798*), the current researchers generating 14 items scale that measures the six

constructs for perceived severity (1, 4, 10), perceived susceptibility (2, 7, \*11), perceived barrier (\*5, 9), cue to action (6, 13), perceived benefits (8, 14) and self-efficacy (3, 12). Items in the HBM instrument are 4-point Likert Scale, with higher score means higher status on HBM aspects. Besides, another instrument was also arranged to measure NPR (*Cronbach's alpha of .876*) to fit Asian's diverse cultural and tropical contexts associated to the CoVid19 pandemic. NPR Scale consists of 10 items which divided into two parts, measuring responses for self and significant others of participants. Items in this measure are 4-point scale from 1 (strongly disagree) up to 4 (strongly agree) Those measures of HBM aspects status and NPR were provided in Indonesian and Filipino languages for ease. The items were then validated by scholars in the areas of Health, Clinical Psychology, and Psychometrics and secured its consistency using the Confirmatory Factor Analysis (CFA) via Statistical Package for Social Sciences (SPSS).

#### **Procedures**

Research data were gathered through interviews and literature about health behavior, which served as the foundation of this study. A pilot testing was administered to validate the face validity. Content validity of the items was checked by three scholars from the fields of Health Psychology, Clinical Psychology, and Psychometrics. Approval and informed consent (ICF) inclusive of anonymity and confidentiality, which address the issues and considerations in data protocol management was conducted by online administration for research. To determine the status of Indonesia and the Philippines, the researchers administer the instrument online to measure the respondents' HBM (each aspects and overall) status and NPR during the CoVid-19 pandemic. An open-ended part of the form was provided to assess and calibrate the contextualization of the health behavior of the respondents to assure other concerns or issues in the conclusion of the study.

## Result

About 902 respondents participated to describe the aspects status of HBM and NPR results. In Indonesia ( $n_1$ =570), respondents were in the age range of 21-30 years old (226 or 39.60%), 41-50 years old (179 or 31.3%), 31-40 years old (123 or 21.6%), over 51 years old and above (90 or 16.1%) and below 21 years old (82 or 14.2%). As for gender, most were female (308 or 54.10%), while the rest were male (262 or 45.9%). Participants of the study vary in their educational attainment, with 198 participants earned Baccalaureate Degree (34.8%), 170 (29.8%) achieved Master's degree, 100 (17.4%) were secondary school level or below, 86 (15.2%) acquired Associate Degree and 16 (2.8%) had Doctoral Degree. Most of the respondents were single (310 or 54.5%), whereas 242 were married (42.1%), 16 were widowers (2.9%), and two were separated (0.5%). As many as 240 participants were Government employees (42%), while the rest were working as private employees (168 or 29.4%), others were unemployed (120 or 21%), or were business owners (56 or 9.8%) and government employees (42 or 7.4%). About 90 (15.79%) were front-liners, whereas 480 (84.21%) were non-front-liners.

For 332 Filipinos ( $n_2$ =332), 129 falls to the age bracket of 21-30 years old (38.86%) and accordingly to 31-40 years old (66 or 19.88%), up to the age of 20 (61 or 18.37%), 51 years old and above (41 or 12.35%) and 41-50 years old (35 or 10.54%). As many as 206 were female (62.05%), whereas, 122 were mals (36.75%), while 4 (1.20%) identified themselves as members of the LGBTQA+. In educational attainment, 149 (44.88%) earned a baccalaureate degree, 80 (24.10%) were senior high school graduates, 65 (19.58%) gained master's degree, 24 (7.23%) acquired doctorate degree, and 14 (4.22%) achieved an associate degree. The majority were single (225, 67.77%), some were married (97, 29.22%) and 5 were separated (1.51%), 3 were widowers (%=0.90), and 2 were domestic-partnered (%=0.60). Regarding employment type, 66 (19.88%) were government employees, 141 were private employees (42.47%), and 19 were business owners (5.72%), while 106 were unemployed (31.93%). Exactly 43 (12.95%) were front-liners whereas 289 (87.05%) were non-front-liners. The profile of the respondents in the form of a table is seen below.

**Table 1. Profile of Respondents** 

		Indonesi	a (n <sub>1</sub> =570)	Philippin	es (n <sub>2</sub> =332)
Variable	Categories	Frequency	Rel. freq (%)	Frequency	Rel. freq (%)
Age	Up to 20 years old	82	14.2	61	18.37
	21-30 years old	226	39.8	129	38.86
	31-40 years old	123	21.6	66	19.88
	41-50 years old	179	31.3	35	10.54
	51 years old and above	90	16.1	41	12.35
Sex	Male	308	54.1	122	36.75
	Female	262	45.9	206	62.05
	LGBTQA+	-	-	4	1.20
Education	Secondary School Level	100	17.4	80	24.10
Attainment	Secondary School Level	100	17.4	00	24.10
	Associate Degree	86	15.2	14	4.22
	Baccalaureate Level	198	34.8	149	44.88
	Master's Degree	170	29.8	65	19.58
	Doctorate Degree	16	2.8	24	7.23
Marital Status	Single	310	54.5	225	67.77
	Married	242	42.1	97	29.22
	Widower	16	2.9	3	0.90
	Separated	2	0.5	5	1.51
	Live-In	-	-	2	0.60
Employment Type	Government Employee	240	42.0	66	19.88
	Private Employee	42	7.4	141	42.47
	Own a Business	168	29.4	19	5.72
	Unemployed	120	9.8	106	31.93
Job Type	Non-Frontliner	476	84.4	289	87.05
	Frontliner	94	16.6	43	12.95

As shown in Table 2, Indonesians presented a moderate HBM with a mean score of 3.04 (SD= $\pm$ .485). In terms of HBM specific dimensions, respondents projected two high ratings such as perceived susceptibility of the CoVid-19 ( $\mu_1$ =3.58, SD= $\pm$ .405) and believe that they were at low risk of developing a corona disease for perceived severity ( $\mu_2$ =3.305, SD= $\pm$ .365). Meanwhile, in the other three areas, respondents projected moderate health behavior. These are perceived benefit ( $\mu_3$ =2.87, SD= $\pm$ .513), perceived barrier ( $\mu_4$ =2.38, SD= $\pm$ .663) and cue to action ( $\mu_5$ =3.21, SD= $\pm$ .583). Lastly, Indonesians showed mild self-efficacy explaining an individual's perception of their competence to successfully perform a behavior ( $\mu_6$ =2.165, SD= $\pm$ .583).

By comparison, the Filipinos displayed an overall high health belief of 3.26 (SD=±.268). In terms of health concerns, their primary goal was to be safe from the CoVid-19 impact as well as to avoid the pain this pandemic could cause them and their loved ones. Specifically, they projected four extreme awareness of health behavior in the areas of perceived susceptibility ( $\mu_1$ =3.42, SD=±.473), perceived severity ( $\mu_2$ =3.48, SD=±.565), perceived benefit ( $\mu_3$ =3.40, SD=±.485) and perceived barrier ( $\mu_4$ =3.41, SD=±.493). Filipinos highly observed the HBM guide health promotion and disease prevention programs. The Philippine government provided an online channel as an Inter-Agency Task Force (IATF) that explained to everyone the status of the Philippines, as well as conducting studies and mass testing to predict individual changes in health behaviors. Whereas, cue to action ( $\mu_5$ =3,16, SD=,517) and self-efficacy ( $\mu_6$ =2,68, SD=,697), both

showed moderate ratings. Thus, it confirmed that the Filipino respondents showed sensible health behavior concerning the prompt to action such as doing physical distancing which can be attributed to discipline. Likely, they assumed they had a reasonable extent of confidence that the CoVid-19 cases in the Philippines and other countries, such as in Indonesia were of similar conditions.

**Table 2. Summary Level of Health Belief** 

Variable	Mean	SD	Verbal Interpretation
<b>Indonesia</b> (n <sub>1</sub> =570)			
Susceptibility	3.580	.405	High
Severity	3.305	.365	High
Benefit	2.865	.513	Moderate
Barrier	3.070	.663	Moderate
Cue to Action	3.205	.379	Moderate
Self-Efficacy	2.165	.583	Low
Health Belief Model	3.039	.485	<b>Moderate Health Belief</b>
Overall Status			
Philippines			
$(n_2=332)$			
Susceptibility	3.417	.473	High
Severity	3.477	.565	High
Benefit	3.404	.485	High
Barrier	3.407	.494	High
Cue to Action	3.158	.517	Moderate
Self-Efficacy	2.676	.697	Moderate
Health Belief Model	3.256	.268	<b>High Health Belief</b>
Overall Status			

The impact of the CoVid-19 pandemic has marked psychological imprints on the Filipinos as illustrated in Table 3. For the NPR, the score stated an overall moderate rating for both Indonesian ( $\mu$ =2.62, SD=±.609) and Filipinos ( $\mu$ =2.89, SD=±.519). It explained the scenario where precautionary behaviors toward *self* ( $\mu$ =2.79, SD=±.546) and *significant others* ( $\mu$ =2.98, SD=±.582) were evident among Filipinos. This underscored that the CoVid-19 pandemic inflicted pandemic-related stressors for both the self and their significant others.

**Table 3. Summary Level of Negative Psychological Responses** 

Variables	Mean	SD	Level
Indonesia (n <sub>1</sub> =570)			
Impact to Self	2.705	.644	Moderate
Impact to Significant Others	2.623	.613	Moderate
Overall NPR	2.615	.609	Moderate
Philippines (n <sub>2</sub> =332)			
Impact to Self	2.792	.546	Moderate
Impact to Significant Others	2.980	.582	Moderate
Overall NPR	2.886	.519	Moderate

Meanwhile, Tables 4-5 illustrated the association of the variables using Pearson's correlation coefficient. As shown with HBM and NPR, the obtained value (568) is  $.298^{**}$  and  $p_{value}$  of .000 shows a significant relationship. Connecting to HBM overall aspects status, it established a weak correlation with variables on demographics such as with age (r=0.067, p=0.113), marital status (r=0.067, p=0.324), educational attainment (r=-0.021, p=0.614), and job status (r=0.049, p=0.238), However, gender only draws a significant correlation with HBM overall aspects status (r=0.106\*, p=0.011) for the Indonesian participants. In terms of correlation with NPR, some variables on demographics showed significant negative relationships, such as age (r=-0.147, p=0.000), education (r=-0.165, p=0.000), and job type (r=-0.149, p=0.000). Meanwhile, significant positive correlation was underscored by the gender (r=0.162, p=0.000). Marital status was non-significant with the NPR (r=-0.045, p=0.285).

Table 4. Correlation of Profile, HBM, and NPR of Indonesian Respondents

	Age	Gender	Education	Marital	Job Type	HBM	NPR
				Status			
Age	1						
Gender	156**	1					
Education	.276**	.022	1				
Attainment							
Marital Status	.671**	075	.260**	1			
Job Type	.615**	177**	.296**	.561**	1		
HBM	.067	.035	.,021	$.106^{*}$	.049	1	
NPR	147**	.162**	165**	045	149**	.298**	1

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed). rcrit=0.148 or 0.114 for ∞ samples

For table 5, HBM and NPR were resulted  $r_{\rm obt}(330)$ =.204\*\* or weak positive correlation and significancy were at  $\alpha.01$  ( $p_{\rm value}$ =.000), thus allowing the H<sub>a</sub> to be accepted. Three posits of HBM, severity (r=0.113, p=0.039), susceptibility (r=.315, p=.0001) and barrier (r=.172, p=.002) were significantly associated to NPR. Instead, the perceived benefit (r=-0.042, p=0.642), cue to action (r=0.026, p=0.642) and self-efficacy (r=0.056, p=0.313) did not establish a direct connection to NPR. HBM aspecsts status drew significant relationships with age (r=.207, p=.000), educational attainment (r=.184, p=.001), marital status (r=.198, p=.000), employment type (r=-.130, p=.018). But sex (r=.003, p=.957) and job type (r=.059, p=.288) were non-significant. Working at NPR, two demographic profiles established significant positive correlation insex (r=.180, p=.001) and employment type (r=.166, p=.002). However, there was a significant negative correction depicted by age (r=-.188, p=.001) and educational attainment (r=-.130, p=.017). There was an exception, however, on marital status (r=.007, p=.903) and job type (r=-.021, p=.706) which showed non-association to NPR.

Table 5. Correlation of Profile, HBM, and NPR of Filipino Respondents

	Age	Gender	Educatio	Marital	Employme	Job Type	NPR	HBM
			n	Status	nt Type		Overall	
Age	1							
Gender	142**	1						
Education Attainment	.604**	038	1					
Marital Status	.497**	.063	.283**	1				

<sup>\*.</sup> Correlation is significant at the 0.05 level (2-tailed). rcrit=0.113 or 0.087 for  $\infty$  samples

<b>Employment Type</b>	467**	.120*	618**	225**	1				
Job Type	.117*	013	.140*	.051	240**	1			
NPR Overall	188**	.180**	130*	.007	.166**	021	1		
HBM	.207**	.003	.184**	.198**	130*	.059	.205**	1	

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed). rcrit=0.148 or 0.114 for ∞ samples

The t-test of Independent Two Samples with the assumption of unequal variances was employed to determine the disparities on HBM and NPR between Indonesia and the Philippines. Examining the HBM, the  $t_{\rm obt}(900)$ =-10.215 exceeded beyond the area of acceptance with an acquired  $p_{\rm value}$ .000 ( $p_{\rm value}$ <0.01), allowing the Ha to be accepted. Elucidating the disparity in overall health behavior between Indonesia and the Philippines with a medium effect (Cohen's d=0.701), the Filipinos ( $\mu_2$ =3.256, SD<sub>2</sub>=±.268) were more aware of how to deal with health-related behavior to avoid illness. Because they practiced health action, the Filipinos felt they could get well quicker than the Indonesian ( $\mu_1$ =3.06, SD<sub>1</sub>=±.279) respondents if they were contacted by CoVid-19.

Table 6. Summary Difference of HMB Overall Status and its Posits. N=902

	Sources of Data	Mean	SD	Mean Difference	Df	T	p-value	Effect size
Severity	Indonesia	3.5884	.36577	.11164	900	3.230	.001	0.234826
	Philippines	3.4767	.56457					
Susceptibility	Indonesia	3.4202	.33743	.00355	900	0.120	.904	0.00851
	Philippines	3.4167	.47374					
Benefit	Indonesia	2.9482	.49287	45537	900	-13.515	.000	0.931221
	Philippines	3.4036	.48517					
Barrier	Indonesia	2.8649	.66298	54171	900	-13.966	.000	0.926921
	Philippines	3.4066	.49348					
Cue to Action	Indonesia	3.2868	.42412	.12871	900	3.845	,000	0.272204
	Philippines	3.1581	.51693					
Self-Efficacy	Indonesia	2.2781	.58492	39813	900	-8.762	.000	0.618583
	Philippines	2.6762	.69730					
НВМ	Indonesia	3.0644	.27944	19196	900	-10.215	.000	0.701419
	Philippines	3.2564	.26790					

 $t_{crit} \alpha 0.05 (1.962)$  and 0.01 (2.581)

Regarding to *severity*,  $t_{obt}(900)$ =3.23 that went outside the area of acceptance ( $p_{value}.001$ <.01), it was indicated that there was a significant difference between Indonesians ( $\mu_1$ =3.588,  $SD_1$ =±.279) who were having a more subjective assessment of the severity of CoVid-19 and its related impact than the Filipinos ( $\mu_2$ =3.476,  $SD_2$ =±.565). In connection to HBM, it proposed that Indonesians who perceived a given health serious problem were more likely to engage in behaviors to prevent the health problem from occurring than the Filipinos.

Looking at perceived *benefit*,  $t_{obt}(900)$ =-13.515 fell far from the area of acceptance ( $p_{value}.000$ <0.01). It confirmed a significant difference in the potential positive assistances of action between Indonesia ( $\mu_1$ =2.948,  $SD_1$ =±.493) and the Philippines ( $\mu_2$ =3.403,  $SD_2$ =±.485). Although, both the Indonesians and Philippine governments provided basic food aid and cash assistance to the people affected by Covid-19, the implementation of the assistance varied in two countries, which elaborated the evidence of help delivered to its people.

<sup>\*.</sup> Correlation is significant at the 0.05 level (2-tailed). rcrit=0.113 or 0.087 for  $\infty$  samples

Regarding perceived *barrier*,  $t_{obt}(900)$ =-13.966 moving in the reception area ( $p_{value}.000$ <0.01), there was found a significant difference. Filipino respondents ( $\mu_2$  =3.406,  $SD_2$  =±.493), in comparison to the Indonesian respondents ( $\mu_1$ =2.864,  $SD_1$ =±.663) clarified the constraint to completely find ease and effectivity of the programs to address the CoVid-19 pandemic and its impact on the country. This barrier condition, which included the nonadherence to the guidelines about Enhance Community Quarantine (ECQ) show the evidence of the lack of discipline and irrational personal wants. This happened not only because of a matter of physical difficulty, but also of social difficulty. Changing health behaviors can cost effort, money, and time, and this may prevent engagement in the health-promoting behavior among Filipinos.

About cue to action,  $t_{obt}(900)=3.845$  marked to reject Ho ( $p_{value}.000<0.01$ ). It has verified the significant difference of the exposure of factors that prompted action to make health changes. Describing that the Indonesians ( $\mu_1=3.845$ ,  $SD_1=\pm.424$ ) acknowledges more triggers has necessitated them to prompt engagement in health-promoting behaviors than the Filipinos ( $\mu_2=3.158$ ,  $SD_2=\pm.517$ ). One could have a physiological cue of the NEWS about increasing daily rates of CoVid-19 cases in the country and other cues to actions associated with CoVid-19 pandemic. A cue to action was something that helped people to move from the intention to make a healthy change to initiating the change in real action. Since there were relationships between Health Knowledge, Social Support, and Cues to Action (Jones et al., 2015), the Indonesia people with strong Javanese culture, tended to prioritize cooperation (guyub), mutual cooperation ( $gotong\ royong$ ) and mutual support (Huda, 2017), which were the social support that strengthened the dimensions of a cue to action.

Concerning the *self-efficacy*,  $t_{obt}(900)$ =-8.762 exceeded beyond the acceptance area for  $H_0$  ( $p_{value}.000<0.01$ ) and directed a significant difference on the perceived personal competence between the Philippines ( $\mu_2$ =2.676,  $SD_2$ =±.693) that projected high hopes and great faith in God (' $pananalig sa Diyos') to successfully beat CoVid-19. In comparison, the Indonesians' (<math>\mu_1$ =2.278,  $SD_1$ =±.585) displayed other ways to beat the present pandemic. For some, Indonesians adhere to one of the Javanese sayings of 'Nrimoingpandum'. It was a concept of life, which meant to be sincere and surrender to God, so that the obstacles they face, will not heavily burden them. This concept of life was believed to help them pass through any means of difficulties. The Javanese people believed in destiny and tended to surrender; so, when they experienced severe problems, they will accept it as their fate and resignation (Huda, 2017).

After examining the HBM, only *susceptibility* with  $t_{obt}(900)$ =.120 depicted non-significance (p<sub>value</sub>.904>0.05). Hence, both Indonesia ( $\mu_1$ =3.420, SD<sub>1</sub>=±.337) and the Philippines ( $\mu_2$ =3.416, SD<sub>2</sub>=±.474) show the similar extent of perceived threat or risk in acquiring CoVid-19. This was shown in how the Indonesian and Filipino respondents shared the same perception about the vulnerability to contracting Covid-19.

**Table 7. Summary Difference of NPR** 

N	=	9	n	2
Τ.4	_	,	v	_

Sources of Data	N	Mean	SD	Mean Difference	Df	T	pvalue	Effect size
Indonesia	570	2,5254	,51281	-,36071	900	-10,101	,000	0,698595
Philippines	332	2,8861	,51981					

The obtained value of NPR  $t_{obt}(900)$ =-10.101 fell beyond the area of acceptance ( $p_{value}.000$ <0.01) and allowed the  $H_a$  to be accepted. This result explained that the NPR ratings of the respondents between countries significantly differ. This also showed a medium effect (Cohen's d=(0.699), which explained that the Philippines ( $\mu_2$ =2.886,  $SD_2$ =±.520) showed more NPR by being sad, anxious or worried and even fear of dying in certain ways than those from the Indonesians ( $\mu_1$ =2.525,  $SD_1$ =±.513).

## **Discussion**

The results of this study (N = 570) reported that profile demographics such as Age, Education Level, and Job Status did not have a significant relationship with the Health Belief Model (HBM) overall aspects status. An exception was gender, which showed that from the demographic profile only gender correlated with the HBM overall status. This status was influenced by several factors, including demographic, sociopsychological, and structural factors. From previous studies, it was known that gender factors were closely related to health behaviors (Al-Omiri et al., 2012; Guiney et al., 2011; Rom Korin et al., 2013). Zetu et al. (2014) reported that females have higher perceived severity and self-efficacy.

In the study, NPR correlated significantly with HBM overall status. Thus, this model was based on the assumption that people who were afraid of disease would have their health behavior affected. In this case, people were predicted to be motivated to showing a level of fear (perceived threat) and potentially took action to reduce that fear. As long as that potential did not cause psychological barriers, this was beneficial because as a consequence, there was a drive to develop healthy behavior (Glanz & Bishop, 2010). Susceptibility to emotional contagion was also positively predicted as preventive behavior. (Liao et al., 2014). Meanwhile, NPR, such as anxiety, worry, emotional distress was related also significantly to perceived severity and perceived self-efficacy (Bults et al., 2011; Coe et al., 2012).

Respondents for this research perceived that they had a high susceptibility to contracting coronavirus. The combination of perceived severity and perceived susceptibility were accepted as a challenge like predicted by Coe et al. (2012). HBM predicted that the higher the perceived severity and perceived susceptibility, the stronger the drivers would be for individuals to do health-promoting behaviors. Unfortunately, the Indonesian respondents were found not to be doing so. Although Perceived Severity and Perceived Susceptibility were at a high level, they could not produce the strength that supported behavior change.

As shown in the new findings, the Covid-19 pandemic had a huge impact to the psychology of the respondents. Sun et al., (2021) informed that the corona virus spread resulted an NPR, which was in the form of being afraid of and feeling the anxiety of getting infected with the virus. The fear and anxiety of being exposed of the virus to himself or to his family and loved ones, caused him to develop preventive behaviors, such as washing hands, maintaining distance, and wearing masks, to prevent infection with COVID -19 (Tesema et al., 2021).

Other dimensions related to the level of one's confidence in the effectiveness of various efforts could reduce the threat of disease, or perceived benefits because perceived benefits were reported as average or moderate levels. Perceived barriers or perceived obstacles were found to change, however, when individuals face obstacles. In addition, potential negative aspects of a health effort, (which might act as obstacles to recommending a behavior) showed how Indonesian respondents have low self-efficacy. This mild awareness of the situation meant that individuals' perceptions about the competence to succeed in doing a problem were low. As informed by Golden and Manika (2011), self-efficacy was an important dimension that showed the level of confidence in taking the actions related to health support.

This research found that there were several reasons why Indonesians felt unable to change their health behavior. One of those was that physical distancing instructions were thought to create social vulnerability to the community. This was especially affecting those who had informal employment status, who earned daily income and who did not have a fixed base salary. People who had limited financial capacity, had to work to feed their families. These people were found to have difficulty in following the regulations for staying at home like reported by Vaughan and Tinker (2009). Cultural factors were found very influential on the success of Indonesian society to make changes in health behavior. The culture influenced the dimensions of HBM, because the Javanese philosophy about life that was governed by God, and how humans only live their destiny (Maharani, 2018) affected their decision makings.

#### Filipino participants

This study was valuable to know and be on track about the medical and psychosocial outcomes of the pandemic, in addition to the economic downfall, public health systems, and human behavior in general.

In the case of the Filipinos, they believed that no one was spared in the impression of CoVid-19 regardless of their age, gender or sexual orientation, educational background, marital status, employment, and job type.

The extent of HBM and NPR among Filipinos were clearly evident during the CoVid-19 phenomenon. The extending number of infected cases in the Philippines, with loaded hospitals, limited health facilities, and death toll of Filipinos created a complex status of HBM. Filipinos displayed above norm health behaviors for keeping themselves healthy by not being exposed to anyone with symptoms of the virus and ensuring personal safety by wearing personal protective equipment (PPE) as well as taking in healthy food and supplements (perceived susceptibility). They confirmed that CoVid-19 was pandemic due to the number of cases and deaths reported each day (perceived severity). It increased the adherence of the guidelines set by the Local Government Units (LGUs) with high hopes of finding the cure and save the lives of the CoVid-19 victims (perceived benefit). It had, however, fell short in observing the guidelines set by the government to eradicate the CoVid-19 (perceived barrier) and acknowledged the limitations to actions (cue to action) or total success of their battle towards CoVid-19 (self-efficacy). These findings were aligned to the HBM theorized by Rosenstock (1988).

The Filipinos pronounced their thoughts, feelings, and actions responsive to the threat of becoming sick and being infected, by taking the potential benefits, gained restrictions, prompted actions and rate of being successful against the virus to save human lives. Equally, other pandemics that strike the world such as SARS in 2002 (World Health Organization, 2003), H1N1 in 2009 (Pamaran et al., 2013), MERS in 2012 (World Health Organization, 2015), and Ebola in 2014 (Carlos et al., 2015; Peñas et al., 2019) described health risks and how human behaviors were shaped among Filipinos.

Many Filipinos experienced psychological difficulties such as emotional distress, which ranged from usual fear up to a severe situation of suicidal ideation and death. Others reacted with intense anxiety, while some socially disruptive behavioral patterns took place as a result of widespread health communication about the serious outcome of the infection. Currently, Filipinos are dealing with the psychological factors that influence pandemic-related emotional reactions such as being emotionally sad, having worry/panic and anxiety, expressing irritability or anger, as well as fear of death or dying. Likewise, they also shaped new behaviors like avoidance resulted in environmental isolation, and even stigmatization among the frontliners. Researches done by Honingsbaum (2019), also Nicomedesa and Avila (2020) affirmed that people differ in how they reacted to psychosocial stressors such as the threat, actual occurrence of the pandemic from fear to indifference to fatalism. It was found that the Filipinos' depicted the importance of how human factors have influenced the dispersion of the disease, emotional uneasiness, and health risks.

Among Filipinos, a moderate level of NPR towards the self and their significant others were known as *kapwa*. It was found to likely exhibit fear or anxiety vis-à-vis, which imposed heightened behaviors of health threats such as hygiene practices, social distancing, isolation, and use of PPE to keep them and their significant others free from infection. This was in accordance to Taylor's (2019), reactions, which were suggestive of the sickness behavior observed during pandemics. This, however, could be difficult to determine whether the emotional reactions (e.g., irritability, depression) were due to an immune response (sickness behavior) or whether they were reactions to psychosocial stressors (e.g. physical hardships due to food shortages, crowding at hospitals, or loss of loved ones). This was also similar to the result found by Dantzer, et al (2008) who described that people infected by viral/bacterial agents may experience 'sickness behavior syndrome'. In this case, symptoms may have included nausea, fatigue, sleep disturbance, depression, irritability, and mild cognitive impairment to prove that infections induced psychological reactions.

Meanwhile, Miller and Maner's (2011) findings suggested a bidirectional and compensatory relationship between biological and behavioral immune systems. The system provided a maximum protection against the infection. When one of the systems failed (e.g. the BIO system is weakened), the other system provided an alternative solution (e.g. avoiding potential sources of contagion). Seemingly without being infected, healthy people, as well as persons with chronic conditions had the opportunities to improve their health by regularly engaging in health promotion activities (Ryan, 2009).

Results of HBM aspects status such as severity, susceptibility, and barrier that ensured significant correlation to NPR explained that fear appealed as a threat regardless of different platforms of health communication. Based on the study of de Hoog, Stroebe, and de Wit (2007), the important factors included the severity of the perceived threat, where it was perceived severity and personal susceptibility concerning what the person believed can be done to cope with the threat leading to perceived efficacy. Likewise, Nicomedes & Avila (2020, p.19) mentioned that "Anxiety in times of pandemic could lead to a positive outcome. A previous study during the Influenza A (H1N1) also showed that the higher the anxiety people have, the more compliant they would be to the mandates of national and international authorities."

HBM overall aspects status was found to show a direct connection with age, educational attainment, marital status, and employment type. This explained that the increase of age, the higher the academic attainment, and having a married life had directly increased the Filipinos' health behavior. Despite association, interestingly the employment type projected the inverse association with health behavior. This meant that the work type, which was equated to socio-economic served as a factor that influenced the odds of being inflicted with CoVid-19, as well as acquiring distress and other psychosocial by-products. Filipinos confirmed that whether those who fall below and above the poverty rate, were affected by the pandemic. According to Mamelund (2018), the first wave of infection primarily affected the poor, whereas people from the upper social classes were more afflicted by the second wave.

Looking at the NPR, which was associated positively to gender and employment type meant that psychological factors played an important role for the females. Meanwhile, those with work coped better with the threat of pandemic that concerned the fear for their health, safety, family, finances, or jobs. This fact was related to the findings from Taylor (2019), who stated that the historical record, granting scant details, suggested that both wealthy and poor people would be at risk for pandemic-related psychological distress.

Concerning significant negative connection, the age and educational attainment described that the lower the age and educational attainment they have, the more the impact of fear and other emotional distress were acknowledged. This was related to Lau, Griffiths, Choi, and Tsui's findings (2010, p.1), which mentioned that "During the SARS pandemic in Hong Kong, panic and worry were prevalent in the community and the general public that avoided staying in public areas. Such avoidance behaviors have greatly impacted the daily routines of the community and the local economy."

Although, psychological factors concerning the profile were important for understanding and managing broader societal problems associated with pandemics, individualized perspectives (individual differences) served, however, as factors involved in the NPR like the spreading of excessive fear, isolation and stigmatization, sadness, and other socially disruptive behavioral patterns during the pandemic. The possibility of this happening was because it was influenced by modifying variables, demographic, or sociopsychological variables that were not measured in this study (Abraham & Sheeran, 2015; Jones et al., 2015).

The above findings, seemingly, displayed the Indonesians and Filipinos' commonly perceived susceptibility or risk in acquiring the CoVid-19. The overall health belief of Filipinos, however, was marked afar from Indonesians. Specifically, Filipinos showed more extent of health-related behavior in perceived benefit through supportive aids, that were collectively delivered by the government, non-government agencies, and even usual citizens structured as social amelioration program, relief goods, PPE supplies, and others. Hence, social support, which offered financial assistance, equipment support, or needed services supported the strengthened perceived benefits (Susetyo et al., 2014). Despite the perceived barrier, however, Filipinos foresaw more obstacles to behavior change that could hinder the effectiveness of the programs to respond to the CoVid-19 pandemic and might prevented their engagement in the health-promoting behavior. In light, their self-efficacy projected high hopes and great faith in God to successfully beat the CoVid-19 pandemic. Generally, their perceived risk or susceptibility was seen as an important determinant of preventive action. Perceived susceptibility and perceived severity were core dimensions of HBM, along with others such as perceived barriers and cues to action (Abraham & Sheeran, 2015) and have been used to explain and predicted individual health behavior.

The research also found that Filipinos differently projected their NPR than Indonesian respondents. Psychological related behavior such as sadness, shock, gaining anxiety or being worrisome even beyond self like significant others, fear of being infected or dying, and even blaming the government and its health sectors were an indication of NPR, which exhibited high regard towards others, themselves, and their 'kapwa' which explained the extreme connectedness of the Filipinos. Nicomedes and Avila (2020) illustrated similar behavior during any pandemic. They highlighted that that "indifference, annihilation, nihilism, paranoia, sadness, fear, transmission of virus, shock, government blaming, anxiety, relating to past pandemics, worry on self/family/others, information dissemination, composure, compliance, protection, cautiousness, optimism, and health consciousness" were reported as the upshot of panic responses of the people, who lived in various locations (Nicomedes & Avila, 2020, p.21)

Limitations in this study were the emergence of (1) a cross-sectional baseline study between two Asian countries, (2) a response rate that was taken during the first wave of the pandemic, (3) non-infected CoVid-19 respondents, and (4) an administration of a self-report online survey instrument that showed the bias of social desirability.

## **Conclusions**

The results of this study indicated that health behavior was influenced by individual HBM on exposure to COVID-19. A significant relationship between HBM aspects' status and NPR was shown by Indonesian and Filipino participants. As seen in the findings, Filipino participants scored better on the HBM aspects than Indonesian participants. In more detail, the dimensions of Susceptibility and Severity in the HBM of both countries (Indonesia and the Philippines) were at the same level, while for the other dimensions, Indonesian participants were at a lower level. However, in the moderate level, the NPR shown by the two countries were at the same level.

## **Suggestion**

In addition, the knowledge of cognition and behavior about HBM have asserted as a foundation to gain control on any form of outcome related to the CoVid-19 pandemic in Indonesia and the Philippines. The rise of the NPR was found to have prevented a wider damage to human lives, and have managed the aftermath of the pandemic. The research had, however, also found the need to strengthen the health system of both countries, which included the health facilities and e-health (public health policies available online) to minimize health risks behavior.

## References

Abraham, C., & Sheeran, P. (2015). The Health Belief Model (Vol. 2).

- Al-Omiri, M. K., Barghout, N. H., Shaweesh, A. I., & Malkawi, Z. (2012). Level of education and gender-specific self-reported oral health behavior among dental students. *Oral Health & Preventive Dentistry*, 10(1), 29–35.
- Brewer, N., Chapman, G., Gibbons, F., Gerrard, M., Mccaul, K., & Weinstein, N. (2007). Meta-Analysis of the Relationship Between Risk Perception and Health Behavior: The Example of Vaccination. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, 26, 136–145. https://doi.org/10.1037/0278-6133.26.2.136
- Bults, M., Beaujean, D. J. M. A., de Zwart, O., Kok, G., van Empelen, P., van Steenbergen, J. E., Richardus, J. H., & Voeten, H. A. C. M. (2011). Perceived risk, anxiety, and behavioural responses of the general public

- during the early phase of the Influenza A (H1N1) pandemic in the Netherlands: results of three consecutive online surveys. *BMC Public Health*, *11*(1), 2. https://doi.org/10.1186/1471-2458-11-2
- Carico, R. R. J., Sheppard, J., & Thomas, C. B. (2021). Community pharmacists and communication in the time of COVID-19: Applying the health belief model. *Research in Social & Administrative Pharmacy : RSAP*, *17*(1), 1984–1987. https://doi.org/10.1016/j.sapharm.2020.03.017
- Carlos, C., Capistrano, R., Tobora, C. F., delos Reyes, M. R., Lupisan, S., Corpuz, A., Aumentado, C., Suy, L. L., Hall, J., Donald, J., Counahan, M., Curless, M. S., Rhymer, W., Gavin, M., Lynch, C., Black, M. A., Anduyon, A. D., Buttner, P., & Speare, R. (2015). Hospital preparedness for Ebola virus disease: a training course in the Philippines. *Western Pacific Surveillance and Response Journal: WPSAR*, 6(1), 33–43. https://doi.org/10.2471/WPSAR.2014.5.4.008
- Champion, V. L., & Skinner, C. S. (2008). The health belief model. In *Health behavior and health education: Theory, research, and practice, 4th ed.* (pp. 45–65). Jossey-Bass.
- Coe, A. B., Gatewood, S. B. S., Moczygemba, L. R., Goode, J.-V. K. R., & Beckner, J. O. (2012). The use of the health belief model to assess predictors of intent to receive the novel (2009) H1N1 influenza vaccine. *Innovations in Pharmacy*, *3*(2), 1–11. https://doi.org/10.24926/iip.v3i2.257
- Conner, M., & Norman, P. (2003). The Health Belief Model. Open University Press.
- Dantzer, R., O'Connor, J. C., Freund, G. G., Johnson, R. W., & Kelley, K. W. (2008). From inflammation to sickness and depression: when the immune system subjugates the brain. *Nature Reviews. Neuroscience*, *9*(1), 46–56. https://doi.org/10.1038/nrn2297
- de Hoog, N., Stroebe, W., & de Wit, J. B. F. (2007). The Impact of Vulnerability to and Severity of a Health Risk on Processing and Acceptance of Fear-Arousing Communications: A Meta-Analysis. *Review of General Psychology*, *11*(3), 258–285. https://doi.org/10.1037/1089-2680.11.3.258
- de Zwart, O., Veldhuijzen, I. K., Elam, G., Aro, A. R., Abraham, T., Bishop, G. D., Voeten, H. A. C. M., Richardus, J. H., & Brug, J. (2009). Perceived Threat, Risk Perception, and Efficacy Beliefs Related to SARS and Other (Emerging) Infectious Diseases: Results of an International Survey. *International Journal of Behavioral Medicine*, *16*(1), 30–40. https://doi.org/10.1007/s12529-008-9008-2
- EBSCO Industries. (2020). Health belief theory of covid19 pandemic in south-east asia. http://eds.b.ebscohost.com/eds/results?vid=7&sid=c2f966be-a5d9-45be-a7a8-ade98fae5746%40pdc-v-sessmgr02&bquery=Health+Belief+Theory+of+CoVid19+pandemic+in+the+South+East+Asia&bdata=JkF1dGhUeXBlPXNoaWImY2xpMD1GVCZjbHYwPVkmdHlwZT0wJnNlYXJjaE1vZGU9QW5kJnNpdG
- Glanz, K., & Bishop, D. B. (2010). The role of behavioral science theory in development and implementation of public health interventions. *Annual Review of Public Health*, *31*, 399–418. https://doi.org/10.1146/annurev.publhealth.012809.103604
- Golden, L., & Manika, D. (2011). Self-Efficacy, Threat, Knowledge and Information Receptivity: Exploring Pandemic Prevention Behaviors to Enhance Societal Welfare. *Academy of Health Care Management Journal*, 7, 31–44.
- Guiney, H., Woods, N., Whelton, H., & Morgan, K. (2011). Predictors of utilisation of dental care services in a nationally representative sample of adults. *Community Dental Health*, *28*(4), 269–273.
- Gwenzi, W. (2020). Occurrence, behaviour, and human exposure pathways and health risks of toxic geogenic contaminants in serpentinitic ultramafic geological environments (SUGEs): A medical geology perspective. *The Science of the Total Environment*, 700, 134622. https://doi.org/10.1016/j.scitotenv.2019.134622
- Honigsbaum, M. (2019). *The Pandemic Century*. W. W. Norton & Company.
- Huda, M. D. (2017). The Variation of Javanese Islamic Society in the Existence of Paranormal. Journal of

- Development Research, 6(2).
- Ibuka, Y., Chapman, G. B., Meyers, L. A., Li, M., & Galvani, A. P. (2010). The dynamics of risk perceptions and precautionary behavior in response to 2009 (H1N1) pandemic influenza. *BMC Infectious Diseases*, 10(1), 296. https://doi.org/10.1186/1471-2334-10-296
- Janz, N. K., & Becker, M. H. (1984). The Health Belief Model: a decade later. *Health Education Quarterly*, *11*(1), 1–47. https://doi.org/10.1177/109019818401100101
- John Hopkins University & Medicine. (2021). Coronavirus Resource Center. https://coronavirus.jhu.edu/
- Jones, C. L., Jensen, J. D., Scherr, C. L., Brown, N. R., Christy, K., & Weaver, J. (2015). The Health Belief Model as an Explanatory Framework in Communication Research: Exploring Parallel, Serial, and Moderated Mediation. *Health Communication*, *30*(6), 566–576. https://doi.org/10.1080/10410236.2013.873363
- Kluge, H., & Henri, P. (2020). *Mental health and psychological resilience during the COVID-19 pandemic*. World Health Organisation. http://www.euro.who.int/en/health-topics/health-emergencies/coronavirus-covid-19/news/news/2020/3/mental-health-and-psychological-resilience-during-the-covid-19-pandemic
- Lau, J. T. F., Griffiths, S., Choi, K. C., & Tsui, H. Y. (2010). Avoidance behaviors and negative psychological responses in the general population in the initial stage of the H1N1 pandemic in Hong Kong. *BMC Infectious Diseases*, 10(1), 139. https://doi.org/10.1186/1471-2334-10-139
- Liao, Q., Cowling, B. J., Lam, W. W. T., Ng, D. M. W., & Fielding, R. (2014). Anxiety, worry and cognitive risk estimate in relation to protective behaviors during the 2009 influenza A/H1N1 pandemic in Hong Kong: ten cross-sectional surveys. *BMC Infectious Diseases*, *14*, 169. https://doi.org/10.1186/1471-2334-14-169
- Maharani, R. (2018). Penerapan Falsafah Narimo ing Pandum dalam Pendekatan Person-Centered untuk Mengatasi Depresi Remaja. *Seminar Nasional Bimbingan Dan Konseling*.
- Mamelund, S.-E. (2018). 1918 pandemic morbidity: The first wave hits the poor, the second wave hits the rich. *Influenza and Other Respiratory Viruses*, *12*(3), 307–313. https://doi.org/10.1111/irv.12541
- Miller, S. L., & Maner, J. K. (2011). Sick body, vigilant mind: the biological immune system activates the behavioral immune system. *Psychological Science*, *22*(12), 1467–1471. https://doi.org/10.1177/0956797611420166
- Nicomedes, C. J. C., & Avila, R. M. A. (2020). An analysis on the panic during COVID-19 pandemic through an online form. *Journal of Affective Disorders*, *276*, 14–22. https://doi.org/10.1016/j.jad.2020.06.046
- Pamaran, R. R., Kamigaki, T., Hewe, T. T., Flores, K. M. C., Mercado, E. S., Alday, P. P., Tan, A. G., Oshitani, H., Olveda, R. M., & Tallo, V. L. (2013). Epidemiological Characterization of Influenza A(H1N1)pdm09 Cases from 2009 to 2010 in Baguio City, the Philippines. *PLoS ONE*, 8(11), e79916. https://doi.org/10.1371/journal.pone.0079916
- Peñas, J. A., Miranda, M. E., de Los Reyes, V. C., Sucaldito, M. N. L., & Magpantay, R. L. (2019). Risk assessment of Ebola Reston virus in humans in the Philippines. *Western Pacific Surveillance and Response Journal: WPSAR*, 10(3), 1–8. https://doi.org/10.5365/wpsar.2017.3.004
- Rade, D. A., Crawford, G., Lobo, R., Gray, C., & Brown, G. (2018). Sexual Health Help-Seeking Behavior among Migrants from Sub-Saharan Africa and South East Asia living in High Income Countries: A Systematic Review. *International Journal of Environmental Research and Public Health*, *15*(7). https://doi.org/10.3390/ijerph15071311
- Rom Korin, M., Chaplin, W. F., Shaffer, J. A., Butler, M. J., Ojie, M.-J., & Davidson, K. W. (2013). Men's and women's health beliefs differentially predict coronary heart disease incidence in a population-based sample. *Health Education & Behavior : The Official Publication of the Society for Public Health Education*, 40(2), 231–239. https://doi.org/10.1177/1090198112449461

- Rosenstock, I M, Strecher, V. J., & Becker, M. H. (1988). Social learning theory and the Health Belief Model. *Health Education Quarterly*, *15*(2), 175–183. https://doi.org/10.1177/109019818801500203
- Rosenstock, Irwin M. (1974). The Health Belief Model and Preventive Health Behavior. *Health Education Monographs*, *2*(4), 354–386. https://doi.org/10.1177/109019817400200405
- Ryan, P. (2009). Integrated Theory of Health Behavior Change: background and intervention development. *Clinical Nurse Specialist CNS*, *23*(3), 161–162. https://doi.org/10.1097/NUR.0b013e3181a42373
- Sarafino, E. P., & Smith, T. W. (2012). *Health Psychology: Biopsychosocial Interactions*. John Wiley & Sons, Inc.
- Sun, N., Wei, L., Wang, H., Wang, X., Gao, M., Hu, X., & Shi, S. (2021). Qualitative study of the psychological experience of COVID-19 patients during hospitalization. *Journal of Affective Disorders*, *278*, 15–22. https://doi.org/https://doi.org/10.1016/j.jad.2020.08.040
- Susetyo, D. P. B., Widiyatmadi, H. M. E., & Sudiantara, Y. (2014). Konsep Self dan Penghayatan Self Orang Jawa. *Psikodimensia*, *13*(1), 47–59.
- Tang, C. S. K., & Wong, C. (2003). An outbreak of the severe acute respiratory syndrome: predictors of health behaviors and effect of community prevention measures in Hong Kong, China. *American Journal of Public Health*, *93*(11), 1887–1888. https://doi.org/10.2105/ajph.93.11.1887
- Taylor, S. (2019). *The Psychology of Pandemics: Preparing for the Next Global Outbreak of Infectious Disease*. Cambridge Scholars Publishing.
- Tesema, A. K., Shitu, K., Adugna, A., & Handebo, S. (2021). Psychological impact of COVID-19 and contributing factors of students' preventive behavior based on HBM in Gondar, Ethiopia. *PLOS ONE*, *16*(10), e0258642. https://doi.org/10.1371/journal.pone.0258642
- Vaughan, E., & Tinker, T. (2009). Effective health risk communication about pandemic influenza for vulnerable populations. *American Journal of Public Health*, *99 Suppl 2*(Suppl 2), S324-32. https://doi.org/10.2105/AJPH.2009.162537
- Wang, Q., Liu, Y., & Mati, K. (2020). Bully victimization is a correlate of sleep loss over worry (SLOW) among adolescents in four South-East Asian countries. *Sleep Medicine*, *69*, 179–188. https://doi.org/10.1016/j.sleep.2020.01.022
- WHO. (2020). *Coronavirus disease (CoVid-19) in the Philipines*. https://www.who.int/philippines/emergencies/covid-19-in-the-philippines
- World Health Organization. (2003). *SARS multi-country outbreak: situation in China, the Philippines, and Mongolia*. https://www.who.int/csr/don/2003\_05\_10/en/
- World Health Organization. (2015). *Middle East Respiratory Syndrome Coronavirus (MERS-CoV)-the Philippines*. https://www.who.int/csr/don/08-july-2015-mers-philippines/en/
- Zetu, I., Zetu, L., Dogaru, C. B., Duţă, C., & Dumitrescu, A. L. (2014). Gender Variations in the Psychological Factors as Defined by the Theory of Planned of Oral Hygiene Behaviors. *Procedia Social and Behavioral Sciences*, 127, 353–357. https://doi.org/https://doi.org/10.1016/j.sbspro.2014.03.270