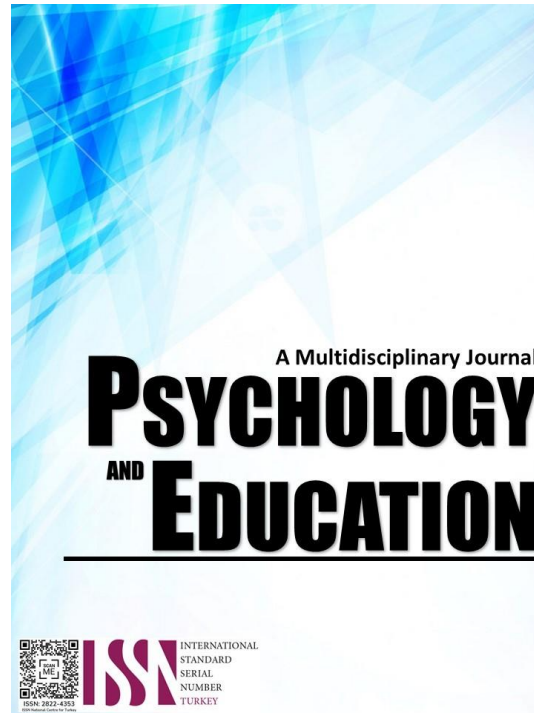


**INFODEMIC THIS PANDEMIC: THE MEDIATING
ROLE OF ANXIETY IN THE RELATIONSHIP
BETWEEN COVID-19 INFORMATION
CONSUMPTION AND PROTECTIVE
BEHAVIORS AMONG PARENTS**



PSYCHOLOGY AND EDUCATION: A MULTIDISCIPLINARY JOURNAL

2023

Volume: 11

Pages: 708-716

Document ID: 2023PEMJ1003

DOI: 10.5281/zenodo.8213195

Manuscript Accepted: 2023-31-7

Infodemic This Pandemic: The Mediating Role of Anxiety in the Relationship Between COVID-19 Information Consumption and Protective Behaviors Among Parents

Dianne Kate F. Ferranco*, Angelica H. Mendoza, Dimple T. Millanes, Catherine G. Javier

For affiliations and correspondence, see the last page.

Abstract

This quantitative study aimed to determine the role of anxiety as a mediator in the relationship between COVID-19 information consumption and protective behaviors. The participants are one hundred (100) parents, specifically those who are living with their children and elderly parents or relatives at home around Barangay Darasa, Tanauan City, Batangas. This study utilized a cross-sectional explanatory research design and used researcher-made questionnaires for data collection. The results of the study revealed that the parents often engage in information consumption, always employ protective behaviors, and strongly agree that they feel symptoms of anxiety. Also, findings revealed that there was a significant positive relationship between information consumption and protective behavior. In mediation analysis, anxiety partially mediated the relationship between information consumption and protective behaviors. The researchers concluded that parents had high anxiety because of the threat of COVID-19. They worry about the situation as well as their family's health, which leads them to search for information about how to prevent the virus and protect themselves. The higher the uncertainty, the more they become anxious, which leads to engaging in information consumption and employing protective behaviors.

Keywords: *anxiety, covid-19 pandemic, protective behaviors*

Introduction

Coronavirus disease 2019 (COVID-19) is profoundly affecting lives around the globe. Isolation, contact restrictions, and economic shutdown impose a complete change on the psychosocial environment. The current situation affects children, adolescents, and their families in an exceptional way (Fegert, Vitiello, Plener, and Clemens, 2020). The percentage of people who said that the situation had affected their lives "a lot" ranged from a high of 67% in Kenya to a low of 10% in Laos (Reinhart, 2021). The survey conducted in the Philippines by Statista (2021) found that 37% of Filipinos perceived that the COVID-19 outbreak had an impact on their daily lifestyle and their family lives.

Given the pandemic's constant and repeated demands, many parents are likely to be concerned. While there is no prescribed target to whom will be affected by COVID-19, parents are expected to have more difficulties especially in parenting around COVID-19. The fact that parents must juggle with ongoing work commitments with additional childcare responsibilities and homeschooling responsibilities (Heggeness and Fields, 2020). It also has fallen on the parents' shoulders to inform and explain to children about the COVID-19 pandemic, and to handle the fear and anxiety accompanying these uncertain times (Fegert, Vitiello, Plener, and Clemens, 2020). These worries can add to the pressure of parenting, which many parents may have experienced more acutely during the pandemic.

During this time, the novelty of the virus posed numerous and continuous challenges in all aspects of life. Because of this, parents will need information about the characteristics of the virus, how it spreads, and how to best prevent and treat it to protect the family and themselves. The increasing new burden for parents who have to care for their children at home has increased pressure on parents, it has an impact on stress and increases parental anxiety (Khomaeny and Kusumaputeri, 2022).

An uncertain environment or unfavorable circumstances often triggers the need for a person to seek information. Based on PMT (Protection Motivation Theory), when individuals encounter a threatening event, they are primarily motivated to engage in protective behavior (Janmaimool, 2017). This allows them to gain adequate knowledge about a situation to make informed decisions, often not just for themselves but also to assist others (Superio, Anderson, Oducado, Luceño, Palcullo, and Bendalian, 2021). While parents seek information to protect themselves and their families from the Coronavirus disease 2019 (COVID-19), misinformation and conspiracy theories everywhere are pervasive. The Director-General of the World Health Organization (WHO), Tedros Adhanom and Ghebreyesus warned the public that "We're not just fighting an epidemic; we're fighting an infodemic. Fake news spreads faster and more easily than this virus, and is just as dangerous" (Lancet, 2020).

Due to the growing uncertainty, people also started

looking for information about COVID-19, such as symptoms and safety precautions. According to Jin (2020), people used a number of media to stay informed about COVID-19. In the event of a disaster or a public health emergency, such as COVID-19, information sources assist people in understanding the issue, knowing how to take the necessary precautions, and lowering anxiety brought on by the unpredictable circumstances (Chao, Xue, Liu, Yang, and Hall, 2020). When consumers can't distinguish between real news and fake news, the information presented may raise risk perceptions and worry, which could have an adverse effect on the general public's mental health and wellbeing.

Infodemic is a phenomenon described as an overabundance of information- some accurate and some not-that make it hard for people to find trustworthy sources and reliable guidance when they need it (World Health Organization, 2020). The majority of false information on COVID-19 circulating in the Philippines, Thailand, and Myanmar was regarding symptoms, diagnosis, prevention, and treatment methods, accounting for 32–46 percent of the fake news found by IFCN in these countries (Dang, 2021). At this point, anxiety is a natural reaction to uncertainty and potential danger. While anxiety is a natural and expected response to the epidemic, excessive anxiety can be harmful. While seeking the information as a reassurance-seeking behavior may temporarily reduce anxiety, in the long run, obtaining health-related information serves to increase anxiety due to negative reinforcement of information consumption (Jagtap, Shamblaw, Rumas, and Best, 2021). Several research results on parental anxiety during the COVID-19 pandemic showed that almost one third of parents or 35.7% of respondents studied had a severe level of anxiety (Khomaeny and Kusumaputeri, 2022).

The present study wants to shed light on parent's wellbeing during the COVID-19 outbreak by exploring parents' reactions and emotions. It was being overlooked that parents were adapting to a host of exhausting conditions as they face dreadful worries of parenting and finding information to protect the family during the COVID-19 outbreak, which is also new to them. In addition, the COVID-19 pandemic can increase the level of parents' anxiety about the health and safety of their family. In general, little is known about how an emotion may be associated with finding information to protect someone important to them. In order to fill this gap, the main objectives of the present study were to know the level of parents' anxiety during the COVID-19 pandemic and how it mediates the information consumption and protective behaviors.

Moreover, it will also identify how strong the relationship between information consumption and protective behaviors is. It is essential to properly address parents' needs to tailor intervention programs.

Research Questions

Generally, this study aims to assess the mediating effect of anxiety in the relationship between COVID-19 information consumption and protective behaviors. Specifically, it sought to understand and answer the following questions:

1. What is the respondents' assessment on their level of information consumption, protective behaviors, and anxiety?
2. Does information consumption correlate with protective behaviors?
3. Is anxiety has a mediating effect in the relationship between information consumption and protective behaviors?
4. Based on the findings, what possible intervention programs may be proposed for parents?

Literature Review

Anxiety

Anxiety is a natural stress response. It's a feeling of fear and worries about an outbreak of a pandemic disease. Because pandemics are perceived as events that can trigger worries, anxiety is one of the psychological issues that can be found in humans during outbreaks. The COVID-19 pandemic has wreaked havoc on families all across the world. School closures, loss of regular childcare, social distancing, household crowding, economic recession and its associated consequences (e.g., job loss, loss of employer-sponsored insurance, and food insecurity), and disruptions related to managing the pandemic, such as (perceived or actual) supply shortages and an influx of news/media coverage, all-cause widespread disruption to family life. Parents and children's mental health are at risk as a result of such social disruptions, in part due to the potential negative alterations in family structures and connections with reciprocal and self-maintaining effects (Patrick, Henkhaus, Zickafoose, Lovell, Halvorson, Loch, and Davis, 2020). Indeed, compared to pre-pandemic estimations, mental health symptomatology in children and parents is considerably higher, with the rise of stress-related diseases and the exacerbation of pre-existing psychological issues (Racine, Cooke, Eirich, Korczak, McArthur, and Madigan, 2020).

Health anxiety is defined by excessive fears and concerns about contracting, developing, or contracting a serious disease. Furthermore, the typical stress levels associated with the pandemic have even appropriated the introduction of a new syndrome called “COVID stress syndrome”, which has been consistently found to be linked to feelings of depression and anxiety in the general population (Taylor, Landry, Paluszek, Fergus, McKay, and Asmundson, 2020).

Information Consumption

Information consumption is the process or activity of obtaining information from different sources in the environment. This is a type of behavior that includes motivations, needs, habits, and perceptions that drive information usage. The pandemic has exposed how important it is for information to flow freely and serve as the basis for decision-making by both governments and citizens (Pousadela, 2020).

People immediately began looking for COVID-19 information, such as symptoms and precautionary actions, as a result of the growing uncertainty. According to Jin (2020), people used a variety of sources to stay informed on the COVID-19. In the event of a public health emergency, such as COVID-19, or a disaster, information sources help individuals in making sense of the situation, learning protective actions, and reducing anxiety induced by the uncertain scenario (Chao, Xue, Liu, Yang, and Hall, 2020). The information present may exaggerate risk perceptions and worry, particularly when people can't tell the difference between true and fake news, thus impacting the public's mental health and well-being (Laato, Islam, and Whelan, 2020). Information overload is another drawback of having a large number of information sources.

Protective Behaviors

Protective behavior is action done to protect themselves or others from a threat to health and safety. During a health crisis, such as an outbreak, people become more aware of disease-preventive activities and acquire health-protective attitudes. Protective behavior in a pandemic can be categorized broadly into three types: preventive, avoidant, and management behavior. Preventive behavior includes an increase in hygiene (e.g. handwashing), avoidant behavior refers mainly to physical distancing, and management includes taking medication and seeking help from health professionals and use of help lines (Zickfeld, Schubert, Herting, Grahe, and Faasse, 2020).

Fear is a fundamental emotion for survival, which is presented as a response to a specific and imminent perceived threat (Schimmenti, Billieux, and Starcevic, 2020). Studies indicate that feeling at risk of being infected allows for greater engagement in certain health prevention behaviors, such as hand washing and maintaining social distancing during the early stages of a pandemic (Wise, Zbozinek, Michelini, Hagan, and Mobbs, 2020).

Protection Motivation Theory

The Protection Motivation Theory (PMT), which was first introduced by Rogers in 1975, has been widely used as a framework to predict protective behaviors. PMT assumes that adopting a protective behavior against health threats is dependent on personal motivation for self-protection (Ezati Rad, Mohseni, Takhti, Azad, Shahabi, Aghamolaei and Norozian, 2021).

Methodology

In this study, a quantitative approach and cross-sectional explanatory research design were utilized, in which the researchers' collected data from various individuals at a single point in time and explained the phenomenon observed (Thomas, 2020).

This research design was the most suitable means for the study since the research sought to gather data at a single time and make implications of a possible relationship between information consumption and protective behaviors of the parents in Barangay Darasa. The study used mediation analysis, which was employed to assess the mediating role of anxiety between information consumption and protective behaviors of parents through statistically analyzed data.

Participants

The participants are 100 parents who reside in Barangay Darasa, Tanauan City, Batangas. The purposive sampling method was used to select the respondents. Purposive sampling is the most applicable sampling technique because it can access a specific subset of individuals. Parents, specifically parents who are living together with their children or elders at home, were recognized as a distinct population with their own set of criteria that distinguishes them from others, and they were labeled as samples that are necessary to the purpose of the study.

Instruments of the Study

In order to gather the needed data and responses, a researcher-made questionnaire was used. The questionnaire was constructed under the guidance of information collected through various related literature sources, such as related studies, journal articles, and electronic sources. The three questionnaires consist of 10 statements designed to measure parents' anxiety, information consumption, and protective behaviors. It was checked and validated by registered psychologists, psychometricians, and quantitative data experts and was suggested for implementation.

Procedure

Data gathering procedure starts in preparing a letter of request approved by the Thesis Adviser and addressed the participants for the latter's consent in taking the survey. The researchers explained the purpose of the study to the selected parents and made sure that each participant corresponded to the predefined criteria. Questionnaires were handed personally and individually and they were given enough time to answer the questionnaire. Attached to each questionnaire was a letter to the respondents indicating the objectives of the study and the confidentiality of the information that were collected. Thereafter the questionnaire has been answered, it was tallied, computed by the chosen statistician, analyzed and were interpreted by the researchers.

Results

This section presents the gathered data along with the corresponding analysis and interpretation of the data collected from the participants.

The study managed to gather one hundred (100) participants (78=female, 22=male) who completed all the questionnaires. The respondents are from Barangay Darasa, Tanauan City, Batangas who are parents living with their children or elderly relatives. Data were interpreted using the four-point Likert scale; one (1) never, two (2) sometimes, three (3) often, and four (4) always. The descriptive statistics specifically the mean, standard deviation, composite mean, and verbal interpretation are presented in Table 1.

As shown in Table 1, the respondents often employ information consumption with a composite mean of 3.02 which indicates that the respondents often take in pandemic information through different sources.

Table 1. Respondent's Assessment on their Level of Information Consumption, Protective Behaviors, and Anxiety

Variables	Standard Deviation	Composite Mean	Verbal Interpretation
Information Consumption	1.06	3.02	Often
Protective Behaviors	0.82	3.48	Always
Anxiety	0.88	3.38	Strongly Agree

They tend to gather information to be knowledgeable on numerous COVID-19 news for them to become prepared about what precautions need to be taken. The study of Chao and colleagues (2020) concluded that in the event of a public health emergency, such as COVID-19, or a disaster, information sources help individuals in making sense of the situation, learning protective actions, and reducing anxiety induced by the uncertain scenario.

A study conducted in six developed countries in April 2020 showed that while the majority of people used official news organizations as their primary source of information, about half of the participants reported also using Google or other online search and social media platforms for COVID-19 related information. Specifically, 25–53% of the participants across six countries reported using Facebook to obtain information on COVID-19 at least once over the past week, while 15–46% of the participants used YouTube for the same purpose (Nielsen et al., 2020).

On the other hand, the respondents always employ protective behaviors with a composite mean of 3.48. This means that the respondents always engaged in behaviors to protect themselves and the family from the threats of COVID-19. In addition, they tend to engage in protective behaviors to develop safety skills and coping strategies that allow parents to effectively protect their children and elders from the risks of COVID-19. The study of Wise and colleagues (2020) revealed that feeling at risk of being infected allows for greater engagement in certain health prevention behaviors, such as hand washing and maintaining social distancing during the early stages of a pandemic. While Wang and colleagues (2020) stated that it is recommended that individuals wear facemasks, avoid traveling, maintain social distance, observe cough etiquette, maintain environmental cleanliness, and practice hand hygiene.

However, many factors play an important role in an individual's protective behavior adoption. For



instance, during H1N1 influenza, differences in demographics, knowledge, perceptions, risk-specific worries, communication inequalities, and trust in the source of information are associated with practicing protective behaviors (Tang, Chen, and Wu, 2021).

Moreover, the respondents strongly agreed that they feel symptoms of anxiety with a composite mean of 3.38 which indicates that the respondents have mental health concerns related to anxiety, they worry about COVID-19 and their family's health. Parents become anxious because they learn too much and different information about the virus, they feel uncertain and worry about the health and wellbeing of their loved ones.

These findings are similar to another study that found reading/hearing about the severity and contagiousness of COVID-19 was the most commonly experienced stressor among a sample of US adults (Park et al., 2020). In addition, during the recent coronavirus disease 2019 (COVID-19) outbreak in China, 54% of the participants of a large online study rated the impact of the outbreak on their mental health as moderate to severe, with depressive symptoms and anxiety being the conditions most often stated (Wang et al., 2020).

Table 2. Correlation between Information Consumption and Protective Behavior

Variables	Correlation Coefficient	p-value	Decision	Conclusion
Protective Behavior Information Consumption	0.534	0.000	Reject Ho	Significant Positive Relationship

Table 2 shows the results of the correlation between information consumption and protective behavior. Pearson's correlation was used to calculate the strength of correlation between information consumption and protective behavior. The results revealed that there was a moderately positive association between information consumption and protective behavior ($r=0.534, p<0.01$). This means that knowledge is significantly associated with health protective behaviors, the respondents get COVID-19 related information and this reflects their behavior of protecting themselves and their family. In addition, it shows that parents will act more protectively to lower their chance of risk for contracting the virus as they more get knowledgeable about how the virus spreads and observe in the news the struggles of individuals who are victims of COVID-19.

In a recent review on public perception of a pandemic,

the public perception of the pandemic, and the severity of the disease, facilitated feelings of vulnerability, which predicted a higher likelihood of adopting preventive measures (Khosravi, 2020). In addition, the pandemic has exposed how important it is for information to flow freely and serve as the basis for the decision-making by both government and citizens (Pousadela, 2020). Furthermore, people immediately began looking for COVID-19 information, such as symptoms and precautionary actions, as a result of the growing uncertainty. According to Jin (2020), people used a variety of sources to stay informed on the COVID-19. In the event of a public health emergency, such as COVID-19, or a disaster, information sources help individuals in making sense of the situation, learning protective actions, and reducing anxiety induced by the uncertain scenario. This supports the result of the study since the provided research shows the association between information consumption and protective behavior.

Table 3. Analysis on the mediating role of Anxiety between Protective Behavior and Information Consumption

Variables	B	SE	T	p-value	R ²	LLCI	ULCI	Interpretation
Direct Effects of Information Consumption* Anxiety (a)	.5154	.0924	5.578	.0000	0.2410	.3320	.6987	Significant Positive Prediction
Anxiety*Protective Behavior (b)	.3713	.0716	5.1821	.0000	0.4398	.2291	.5135	Significant Positive Prediction
Information Consumption*Protective Behavior (c)	.2688	.0752	3.5737	.0006	-	.1195	.4181	Significant Positive Prediction
Indirect Effect	.1913	.0561	-	0.000	-	.0859	.3051	Partial Mediation

Table 3 shows the summary of computations in testing the mediating role of Anxiety on the relationship of Information Consumption and Protective Behaviors. In this mediation model, the examination of each of the elements was tested. Herein, investigating the direct effects shows that (path a) Information Consumption positively predicts Anxiety with a path estimate of .5154, SE of .0924, r square of 0.2410, LLCI of .3320, ULCI of .6987, and p-value of .0000.

On the other hand, both (path b) anxiety having a path estimate of .3717, SE of .0716, r square of 0.4398, LLCI of .2291, ULCI of .5135, and a p-value of .0000 and (path c) Information Consumption that generated a path estimate of .2688, SE of .0752, LLCI of .1195, ULCI of .4181, and a p-value of .0006 positively predicts Protective Behaviors. However, the indirect effect of Information Consumption on Protective Behaviors through Anxiety (path c') was found to be statistically significant with a path estimate of .1913,

SE of .0561, LLCI of .0859, ULCI of .3051, and p-value of 0.000.

Model suggests that Anxiety predicts Information Consumption and Protective Behaviors, therefore Anxiety partially mediates the relationship between Information Consumption and Protective Behaviors. The study of Cypryańska and Nezlek (2020) about anxiety during the onset of the pandemic in Poland suggests that emotional reactions to perceived threats can serve an instrumental function as motivation to engage in coping behaviors.

The study found out that information consumption positively predicts anxiety (path a). This implies that due to the uncertainty brought by COVID-19 parents will likely be concerned about their family. In that case, parents will need information about the virus and how to best prevent it to protect their children and elderly relatives who are considered to be at high risk of being infected by the virus. In that case, they will search for information through different sources such as social medias, television news, and through their friends or relatives. But some information is accurate and some are not, thus they will experience overabundance of information about COVID-19 and this will result to increase of anxiety.

Due to the growing uncertainty, people also started looking for information about COVID-19, such as symptoms and safety precautions. According to Jin, people used a number of media to stay informed about COVID-19 (2020). In the event of a disaster or a public health emergency, such as COVID-19, information sources assist people in understanding the issue, knowing how to take the necessary precautions, and lowering anxiety brought by the unpredictable circumstances (Chao, Xue, Liu, Yang, and Hall, 2020). While seeking the information as a reassurance-seeking behavior may temporarily reduce anxiety, in the long run, obtaining health-related information serves to increase anxiety due to negative reinforcement of information consumption (Jagtap, Shamblaw, Rumas, and Best, 2021).

Moreover, the study found that anxiety predicts protective behavior (path b). This implies that when a person involves in an uncertainty, they become anxious and tend to engage in protective behavior. Anxiety provide protection in the face risk. Parents anxiety is an emotional response triggered by COVID-19 pandemic. The study found that parents with high anxiety levels engage in protective behavior more frequently during the pandemic suggesting that anxiety can help the family become safe and avoid

being infected.

Furthermore, it tries to explain that society's perception of risk and anxiety of being ill have an impact on prevention behaviors and measures to be taken. Knowing what to do helps people feel safer and enhances the belief that they can take meaningful steps to protect themselves (Morganstein, 2020). Some prohibitions and precautions were taken against the coronavirus disease outbreak such as social isolation, quarantine, travel restrictions, contact avoidance. These measures affect people's social life, emotional status, and psychological well-being (Wang et al., 2020).

Moreover, the study found out that information consumption positively predicts the protective behavior (path c). This signifies that the more information they gather from different sources, the more likely they become highly engaged in protective behaviors. The more parents gather information from various sources, the more they will understand how COVID-19 affects people's lives. As a result, they will feel more triggered and more likely to engage in protective behavior, which allowed them to be more vigilant and take all necessary precautions to ensure their safety and stop the spread of the disease. Social distancing, hand sanitation, and wearing facemasks are some of these precautions.

According to the research findings of Jin (2020), people immediately began looking for COVID-19 information, such as symptoms and precautionary actions, as a result of the growing uncertainty. People used a variety of sources to stay informed on the COVID-19.

The indirect effect of information consumption on protective behavior through anxiety (path c') found to be statistically significant which indicates that anxiety has a partial mediating effect on the relationship between information consumption and protective behaviors. Parents found to have high anxiety because of the threat of COVID-19. They worry about the situation as well as their family's health which lead them to search for information about how to prevent the virus and to protect themselves. The high the uncertainty, the more they become anxious which leads to engage in information consumption and employ protective behaviors. The COVID-19 which is considered as a public health emergency makes the parents worry too much as it affects their all aspects of life. Because of that they gather more information about preventive measures to avoid getting infected and to cope with the situation.

In addition, it was consistent that a moderate level of fear or anxiety can motivate people to cope with health threats, but severe distress can be debilitating (Taylor, 2019). Additionally, the study of Montano and Acebes (2021) investigates if the COVID-19 stress predicts common mental health concerns such as stress, depression, and anxiety. The ongoing rise in COVID-19 cases may have a psychologically impact on the people. Hence, it can trigger the development of symptoms of common mental illnesses such as anxiety, depression, and post-traumatic stress disorder that have been observed in the Ebola outbreak back in 2014. Filipino respondents who had direct contact with COVID positive patients had a higher level of health anxiety (hypochondriasis) compared to those who had no exposure to COVID positive patients (Nicomedes and Avila, 2020).

Discussion

The research's primary goal is to identify the mediating role of anxiety in the relationship between COVID-19 information consumption and protective behaviors. The purpose of this research is to know the level of parents' anxiety during the COVID-19 pandemic and how it mediates the information consumption and protective behaviors. Moreover, it will also identify how strong the relationship between information consumption and protective behaviors is. It is essential to properly address parents' needs to tailor intervention programs.

Conclusion

As a result of the COVID-19 virus's emergence, parents experience anxiety that leads them to adopt protective behavior. This anxiety, which is regarded as a public health emergency, causes the parents to worry excessively because it impacts every part of their lives. As a result, parents learn more about precautions to take in order to stay healthy and deal with the issue. As a result, they will feel more triggered and more likely to engage in protective behavior, which allowed them to be more vigilant and take all necessary precautions to ensure their safety and stop the spread of the virus. Additionally, it was consistent that a moderate level of fear or anxiety can motivate people to cope with health threats.

References

Abd-Alrazaq, A., Alhuwail, D., Househ, M., Hamdi, M., & Shah, Z.

(2020). Top concerns of tweeters during the COVID-19 pandemic: Inveovallance study. *Journal of Medical Internet Research*, 22(4), e19016. <https://doi.org/10.2196/19016>

Ahorsu, D.K., Lin, C.Y., Imani, V. et al. The Fear of COVID-19 Scale: Development and Initial Validation. *Mental Health Addiction* (2020). <https://doi.org/10.1007/s11469-020-00270-8>

Allington, D., Duffy, B., Wessely, S., Dhavan, N., & Rubin, J. (2021). Health- protective behaviour, social media usage and conspiracy belief during the COVID-19 public health emergency. *Psychological Medicine*, 51(10), 1763- 1769. doi:10.1017/S003329172000224X

Antwerpen, N., Turnbull, D., & Searston, R. A. (2022). The role of anxiety in mediating the relationship between information consumption and COVID-19 protective behaviours. *Psychology, health & medicine*, 27(9), 2043–2056. <https://doi.org/10.1080/13548506.2021.2008994>

Brown, S. M., Doom, J. R., Lechuga-Peña, S., Watamura, S. E., & Koppels, T. (2020). Stress and parenting during the global COVID-19 pandemic. *Child abuse & neglect*, 110, 104699.

Chao, M., Xue, D., Liu, T., Yang, H., & Hall, B. J. (2020). Media use and acute psychological outcomes during COVID-19 outbreak in China. *Journal of Anxiety Disorders*, 74, 102248.

Cole, N.L. (2017). Understanding purposive sampling: An Overview of the method and its applications. Retrieved from <https://www.verywellmind.com/what-is-conformity-2795889>.

CoronaVirusFacts Alliance. (2020). Fighting the infodemic: The #CoronaVirusFacts Alliance. <https://www.poynter.org/coronavirusfacts%20alliance/>

Dang, H.L. (2021). Social media, fake news, and the COVID-19 pandemic: Sketching the case of Southeast Asia. *Austrian Journal of South-East Asian Studies*. <https://aseas.univie.ac.at/index.php/aseas/article/view/3930>

Dohle, S., Wingen, T., & Schreiber, M. (2020). Acceptance and adoption of protective measures during the COVID-19 pandemic: The role of trust in politics and trust in science. <https://doi.org/10.31219/osf.io/w52nv>

Fighting misinformation in the time of COVID-19, one clicks at a time. (2021, April 27). WHO World Health Organization. <https://www.who.int/news-room/feature-stories/detail/fighting-misinformation-in-the-time-of-covid-19-one-click-at-a-time>

Galido, A., Ecleo, J. J., Husnayain, A., & Chia-Yu Su, E. (2021). Exploring online search behavior for COVID-19 preventive measures: The Philippine case. *PLOS ONE*, 16(4), e0249810. <https://doi.org/10.1371/journal.pone.0249810>

Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The novel coronavirus (COVID-2019) outbreak: Amplification of public health consequences by media exposure. *Health psychology: official journal of the Division of Health Psychology, American Psychological Association*, 39(5), 355–357. <https://doi.org/10.1037/hea0000875>

Heggeness, M., & Fields, J. (2020). Parents juggle work and child care during pandemic. The United States Census Bureau.



- <https://www.census.gov/20library/stories/2020/08/pants-juggle-work-and-child-care-during-pandemic.html>
- Islam, S., Sarkar, T., Khan, S. H., Kamal, A. H. M., Hasan, S. S., Kabir, A., Yeasmin, D., Islam, M. T., Chowdhury, K., Anwar, K. S., Chughtai, A. A., & Seale, H. (2020). COVID-19-Related Infodemic and Its Impact on Public Health: A Global Social Media Analysis. *American Journal of Tropical Medicine and Hygiene*, 103(4), 1621–1629. <https://doi.org/10.4269/ajtmh.20-0812>
- Janmool P. Application of Protection Motivation Theory to investigate sustainable waste management behaviors. *Sustainability*. 2017;9(7):1079. doi:10.3390/su9071079
- Jiow, H. J., Mwangi, F., & Low-Lim, A. (2021). Effectiveness of protection motivation theory based: Password hygiene training programme for youth media literacy education. *Journal of Media Literacy Education*, 13(1), 67–78. <https://doi.org/10.23860/jmle-2021-13-1-6>
- Khosravi, M. (2020). Perceived Risk of COVID-19 Pandemic: The Role of Public Worry and Trust. *Electronic Journal of General Medicine*, 17(4), e2033. <https://doi.org/10.29333/ejgm/7856>
- Kim, S., Capasso, A., Cook, S. H., Ali, S. H., Jones, A. M., Foreman, J., DiClemente, R. J., & Tozan, Y. (2021). Impact of COVID-19-related knowledge on protective behaviors: The moderating role of primary sources of information. *PLOS ONE*, 16(11), e0260643. <https://doi.org/10.1371/journal.pone.0260643>
- Laato, S., Islam, A. N., Islam, M. N., & Whelan, E. (2020). What drives unverified information sharing and cyberchondria during the COVID-19 pandemic? *European journal of information systems*, 29(3), 288-305
- Lau, L. L., Hung, N., Go, D. J., Ferma, J., Choi, M., Dodd, W., & Wei, X. (2020). Knowledge, attitudes and practices of COVID-19 among income-poor households in the Philippines: A cross-sectional study. *Journal of global health*, 10(1), 011007. <https://doi.org/10.7189/jogh.10.011007>
- Lee, M., Kang, B., & You, M. (2020). Association between knowledge, attitudes and practices (KAP) towards the COVID-19: A cross-sectional study in South Korea. <https://doi.org/10.21203/rs.3.rs-73653/v1>
- Lencucha, R., & Bandara, S. (2021). Trust, risk, and the challenge of information sharing during a health emergency. *Globalization and Health*, 17(1). <https://doi.org/10.1186/s12992-021-00673-9>
- Liu, J., & Ulrich, C. (2016). Mediation analysis in nursing research: a methodological review. *Contemporary nurse*, 52(6), 643–656. <https://doi.org/10.1080/10376178.2015.1041999>
- Mækela, M. J., Reggev, N., Dutra, N., Tamayo, R. M., Silva-Sobrinho, R. A., Klevjer, K., & Pfuhl, G. (2020). Perceived efficacy of COVID-19 restrictions, reactions and their impact on mental health during the early phase of the outbreak in six countries. *Royal Society Open Science*, 7(8), 200644. <https://doi.org/10.1098/rsos.200644>
- Marzo, R., Villanueva III, E. Q., Chandra, U., Htay, M. N. N., Shrestha, R., & Shrestha, S. (2021). Risk perception, mental health impacts and coping strategies during COVID-19 pandemic among Filipino healthcare workers. *Journal of Public Health Research*, 10(s2). <https://doi.org/10.4081/jphr.2021.2604>
- Mertens, G., Gerritsen, L., Duijndam, S., Saleminck, E., & Engelhard, I. M. (2020). Fear of the coronavirus (COVID-19): Predictors in an online study conducted in March 2020. *Journal of anxiety disorders*, 74, 102258.
- Mioc'ević, M., & MacKinnon, D. (2018). (Vols. 1-4). SAGE Publications, Inc., <https://doi.org/10.4135/9781506326139>
- Montano, R. L. T., & Acebes, K. M. L. (2020). Covid stress predicts depression, anxiety and stress symptoms of Filipino respondents. *International Journal of Research in Business and Social Science* (2147- 4478), 9(4), 78–103. <https://doi.org/10.20525/ijrbs.v9i4.773>
- Morganstein, J. C., & Ursano, R. J. (2020). Ecological Disasters and Mental Health: Causes, Consequences, and Interventions. *Frontiers in psychiatry*, 11, 1. <https://doi.org/10.3389/fpsy.2020.00001>
- Parikh, P. A., Shah, B. V., Phatak, A. G., Vadnerkar, A. C., Uttekar, S., Thacker, N., & Nimbalkar, S. M. (2020). COVID-19 Pandemic: Knowledge and Perceptions of the Public and Healthcare Professionals. *Cureus*, 12(5), e8144. <https://doi.org/10.7759/cureus.8144>
- Patrick, S. W., Henkhaus, L. E., Zickafoose, J. S., Lovell, K., Halvorson, A., Loch, S., & Davis, M. (2020). Well-being of parents and children during the COVID-19 pandemic: a national survey. *Pediatrics*, 146(4).
- Pousadela, I. (2020). Access to Information During a Pandemic – A Matter of Life or Death. *Just Security*. <https://www.justsecurity.org/72557/20access-to-information-during-a-pandemic-a-matter-of-life-or-death/>
- Racine, N., Cooke, J. E., Eirich, R., Korczak, D. J., McArthur, B., & Madigan, S. (2020). Child and adolescent mental illness during COVID-19: A rapid review. *Psychiatry research*, 292, 113307.
- Reuben, R. C., Danladi, M. M. A., Saleh, D. A., & Ejembi, P. E. (2021). Knowledge, Attitudes and Practices Towards COVID-19: An Epidemiological Survey in North-Central Nigeria. *Journal of community health*, 46(3), 457–470. <https://doi.org/10.1007/s10900-020-00881-1>
- Sanchez, M.J. (2019). Market share of search engines in the Philippines. 2019;06,18. <https://www.statista.com/statistics/954885/philippines-market-share-of-search-engines/>
- Schimmenti, A., Billieux, J., & Starcevic, V. (2020). The four horsemen of fear: An integrated model of understanding fear experiences during the COVID-19 pandemic. *Clinical Neuropsychiatry: Journal of Treatment Evaluation*, 17(2), 41–45.
- Shahsavari, S., Holur, P., Wang, T., Tangherlini, T. R., & Roychowdhury, V. (2020). Conspiracy in the time of corona:



Automatic detection of emerging COVID-19 conspiracy theories in social media and the news. *Journal of computational social science*, 3(2), 279-317.

Sokolov, M. (2020, March 3). The pandemic infodemic: how social media helps (and hurts) during the coronavirus outbreak. *The Drum*. <https://www.thedrum.com/opinion/2020/03/03/the-pandemic-infodemic-how-social-media-helps-and-hurts-during-the-coronavirus>

Talidong, K., & Toquero, C., (2020). Philippine Teachers' Practices to Deal with Anxiety amid COVID-19. *Journal of Loss and Trauma*, 25 : 6 - 7 , 573- 579 . DOI: 10.1080/15325024.2020.1759225

Tang, C., Chen, H., & Wu, W. (2021). Factors influencing the protective behavior of individuals during COVID-19: A transnational survey. *Scientific Reports*, 11(1). <https://doi.org/10.1038/s41598-021-01239-w>

Taylor S., Landry C.A., Paluszek M.M., Fergus T.A., McKay D., & Asmundson G.J.G. (2020). Development and initial validation of the COVID Stress Scales, *Journal of Anxiety Disorders*, Volume 72, 2020. <https://doi.org/10.1016/j.janxdis.2020.102232>

Tee M, Wang C, Tee C, Pan R, Reyes PW, Wan X, Anlacan J, Tan Y, Xu L, Harijanto C, Kuruchittham V, Ho C & Ho R (2021) Impact of the COVID- 19 Pandemic on Physical and Mental Health in Lower and Upper Middle- Income Asian Countries: A Comparison Between the Philippines and China. *Front. Psychiatry* 11:568929. doi: 10.3389/fpsy.2020.568929

Tworek, H., Beacock, I., & Oji, E. (2020). New research on pandemic communications from nine democracies reveals pioneering methods for reaching citizens and supporting public health.

Varcas, M. (2021). Coronavirus takes its toll on mental health as Filipinos battle stress, anxiety. *Philippine Star*. <https://www.bworldonline.com/%20coronavirus-takes-its-toll-on-mental-health-as-filipinos-battle-stress-anxiety/>

Wang C., López-Núñez M., Pan R., Wan X., Tan Y., Xu L., Choo F., Ho R., Ho C., & Aparicio García M. (2021). The Impact of the COVID-19 Pandemic on Physical and Mental Health in China and Spain: Cross-sectional Study. *JMIR Form Res* 2021;5(5): e27818

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate psychological responses and associated

factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, 17(5), 1729. <https://doi.org/10.3390/ijerph17051729>

Westcott, R., Ronan, K., Bambrick, H. et al. Expanding protection motivation theory: investigating an application to animal owners and emergency responders in bushfire emergencies. *BMC Psychol* 5, 13 (2017). <https://doi.org/10.1186/s40359-017-0182-3>

Wise, T., Zbozinek, T. D., Michelini, G., Hagan, C. C., & Mobbs, D. (2020). Changes in risk perception and self-reported protective behaviour during the first week of the COVID-19 pandemic in the United States. *Royal Society open science*, 7(9), 200742.

World Health Organization. (2020). Coronavirus disease (COVID-19) advice for the public: Myth busters. 2020. Viewed on June, 30.

Zickfeld, J., Schubert, T. W., Herting, A. K., Grahe, J. E., & Faasse, K. (2020). Correlates of health-protective behavior during the initial days of the COVID-19 outbreak in Norway. <https://doi.org/10.31234/osf.io/6vgf>

Zaki M, Devane D, Conway T Et al. Battling the COVID-19 Infodemic in An Irish Context: The Role of iHealthFacts [version 1; peer review: 2 approved]. *HRB Open Res* 2020, 3:81 (<https://doi.org/10.12688/%20hrbopenres.13174.1>)

Affiliations and Corresponding Information

Dianne Kate F. Ferranco

Batangas State University – Philippines

Angelica H. Mendoza

Batangas State University - Philippines

Dimple T. Millanes

Batangas State University - Philippines

Catherine G. Javier

Batangas State University - Philippines