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UNIVERSITY STUDENTS' EXPOSURE TO COVID-19 INFORMATION ON SOCIAL MEDIA AND ADHERENCE TO HEALTH PROTOCOLS

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ACCEPTANCE PAGE

This Thesis titled **University Students' Exposure to COVID-19 Information on Social Media and Adherence to Health Protocols** is hereby accepted by the Faculty of Information and Communication Studies, U.P. Open University, in partial fulfillment of the requirements for the degree Master of Development Communication (MDC).

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DEDICATION

Dedicated to:

Papa and Mama,

past, present, and future fur-babies,

and my impostor-syndrome-afflicted self

ABSTRACT

Due to the continuous threat of COVID-19 to people's health, eHealth literacy among social media users increased as news and information abound online. Anchored on Cultivation Theory (Gerbner, 1976), this study aimed to determine the level of exposure to COVID-19 information on social media of university students from Ilocos in Northern Philippines and its relationship to knowledge, anxiety, and adherence to health protocols. Using the survey research design, 192 respondents completed an online survey.

Results revealed that university students had a high level of exposure to COVID-19 news and updates available in social media. A significant positive relationship (0.494) was established between exposure and knowledge about COVID-19 information. However, relationship between exposure and anxiety was not significant even if there were physiological manifestations like inability to relax, nervousness, being terrified or afraid, unsteadiness, being scared, and fearing the worst happening registered among respondents. On the other hand, a negative significant relationship was seen between exposure and adherence to health protocols. This implies that as exposure increases, the propensity to follow health protocols decreases and vice-versa. These results are corroborated by various media effects which point to diverging consequences of social media exposure complemented by values and characteristics of the Ilocanos who have their own local health remedies and adaptation mechanisms as traits of being resilient.

Overall, this study highlights the huge role that social media plays in disseminating information about the current COVID-19 pandemic. Too much information may have caused confusion that left users to ponder on what needs to be done. Thus, more scientists and medical doctors should be encouraged to contribute

to public policy discussions to better address COVID-19. It is also recommended that the cultural background of the target audience for health risk communication efforts be considered in formulating, implementing, and assessing compliance to protocols.

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INTRODUCTION

Rationale and Background of the Study

Health is important as it immensely affects the productivity of the workforce, therefore, greatly impacting the economic growth of a country (Renny, 2012). With this, it is only essential that health literacy be cultivated in people. According to Selden, Zorn, Ratzan & Parker (2000), health literacy is observed when people can capably answer the question, "How do I keep myself well?" With the abundance of health-related messages in every kind of media a person uses in a typical day (Walsh-Childers & Brown, n.d.), the concept of eHealth literacy was born. This is the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to address or solve a health problem (Norman & Skinner, 2006).

Relatively, little research has been done to examine in depth how consumers look for and process health information found on the internet. In turn, only vague, if not weak, gaps are identified in the cognitive, attitudinal, and behavioral changes in people brought about by the level of their exposure to health information found online. Despite this, seeking health information has become one of the most common online activities (Greenberg, D'Andrea, & Lorence, 2003).

One of the major schools of thought in media effects is the cultivation theory. This theory argues that social reality of people is shaped by constant, repetitive, pervasive patterns of information that media supply (Gerbner, 1976). As results of studies under this theory are contended, Shanahan and Morgan (1999) suggests that

at least three dimensions should be explored to come up with more inclusive and consistent results. Despite these assertions, gaps and inconsistencies could still be found in the results of the previous studies.

Also, it is worth noting that almost all of the previous media effects studies have focused on media violence depicted on television. Consideration to other disturbing content such as health risks communicated through other medium of communication was disregarded.

Currently, the few literature on media effects brought about by social media discusses conflicting correlations between and among the exposure level and other determinants. Violent content posted and shared in social media becomes decontextualized and meaningless which results to the decline of the respondents' disgust, sadness, anger, and anxiety about violence (Yumrukuz, 2017; Choudhury, Monroy-Hernández, and Mark 2014; Li, Conathan, and Hughes, 2017). Erfani, Shahriarirad, Ranjbar, Mirahmadizadeh, and Moghadami (2020), and Tadesse, Gebrewahd, and Demoz (2020) as their studies show, higher knowledge did not have a negative effect to the positive attitude and behavior of their respective respondents. This contradicts the findings of Shekarappa, Guttal, Iyer, Gupta, and Shetty (2020) and Lau, Hung, Go, Ferma, Choi, Dodd, and Wie (2020) as high knowledge did not translate into good attitude and behavior.

Taking all of these into consideration, this study determined the effects of COVID-19 information on social media to the adherence to health protocols of Mariano Marcos State University (MMSU) students as mediated by their knowledge and anxiety. Moreover, knowledge about COVID-19 refers to the cognitive; anxiety about COVID-19 pertains to their emotional state, and adherence to COVID-19 health protocols looked into their behavior.

Aside from enriching the existing body of knowledge about media effects, this study is highly relevant as the information gleaned from this research would greatly help health agencies and local government units to review their health communication strategies and materials to combat the spread of COVID-19.

Statement of the Problem

Out of all Southeast Asians, Filipinos are the most disapproving of their government's COVID-19 response (Ranada, 2021; Seah et al., 2021). A great majority (72.3%) of the Filipinos who participated in the survey suggested the encouragement of more scientists and medical doctors to contribute to public policy discussions and heed their advice to better address COVID-19 (Radana, 2021; Seah et al., 2021). The displeasure of Filipinos might stem from the fact that the Philippines, with 1,006,428 confirmed cases and 16,783 deaths (World Health Organization, 2021), ranks second to Indonesia (1,647,138) as the top country in Southeast Asia with the highest number of COVID-19 infections (Center for Strategic & International Studies, 2021). In the local context, Ilocos Norte is experiencing an alarming 30 to 50 increase of COVID-19 cases daily. This drives home the significance of evaluating and looking into the role of messages on social media for health literacy education and promotion, which will lead to minimizing and eventually stopping the spread of the virus. Further, through determining the cognitive, emotional, and behavioral responses of people to exposure to health information, more accurate health communication strategies can be developed for future pandemics to safeguard the health of the nation.

In general, the study sought to answer the question: What is the relationship of university students' exposure to COVID-19 information on social media and adherence to health protocols?

Specifically, it attempted to answer the following questions:

1. What is the level of exposure of MMSU students to COVID-19 information on social media?
2. What is the effect of the exposure of MMSU students' towards COVID-19 information to their:
   a. level of knowledge about COVID-19;
   b. level of anxiety about COVID-19; and
   c. level of adherence to COVID-19 health protocols?

Objectives of the Study

This study aimed to determine the relationship between university students' exposure to COVID-19 information on social media and adherence to health protocols.

Specifically, the study sought to:

1. Measure the level of exposure of MMSU students to COVID-19 information on social media;
2. Identify the effect of the exposure of MMSU students' towards COVID-19 information to their:
   d. level of knowledge about COVID-19;
   e. level of anxiety about COVID-19; and
   f. level of adherence to COVID-19 health protocols.

Significance of the Study

Results of the study can contribute to how media effects can best be addressed in new emerging platforms that are being used in development communication. Understanding how the platform works can guide development communicators in designing or packaging the message that would capacitate people. Conflicting information can greatly affect decision-making that defeats the purpose of having informed choice.

As the third largest Filipino ethnolinguistic group, this study will contribute to the meager literature about the Ilokano people. It can shed light to Ilokanos' treatment of health issues presented to them and their response to such.

To health communication professionals and journalists, improved interpretation of the responses of people to health-related news, i.e. COVID-19, could be used as considerations in crafting of more accurate health messages. Health communication professionals and journalists could use the results of this study to elicit the desired effects of making informed health decisions by the public.

Scope and Limitations of the Study

The study was conducted only among the students of MMSU. Hence, results are not generalizable for the whole of Ilokandia or the Ilokano youth for that matter. The study did not also consider how messages were crafted or who the sources were. Other extraneous variables like exposure to other media were not also considered since the focus was only on social media.

Chapter 2

REVIEW OF RELATED LITERATURE

This chapter presents the related literature and related studies which served as framework for this study. Specifically, it discusses the theoretical bases and underlying constructs on the importance of health in development, eHealth literacy, the current COVID-19 pandemic, media effects with focus on social media, and the variables in media effects studies.

eHealth Literacy and Development

Targeting the basic needs of humans, the basic-needs approach to development prioritizes the fulfillment of food, shelter, sanitation, health, and education (Arnold, 1980; Grosse and Harkavy, 1980). Health is given importance in this as it greatly affects workforce productivity, impacting the economic growth of the country (Renny, 2012). Therefore, there is a great need to cultivate and equip people of health literacy. According to Selden, Zorn, Ratzan, & Parker (2000), people exhibit health literacy when they are competent in answering the question, "How do I keep myself well?" Ratzan and Parker (2000) defined it as "the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions." Further, media literacy education in the promotion of health among the people entail the critical examination of media messages that encourage risky behaviors and actions, and shape and guide their perceptions and practices (Bergsma & Carney, 2008). Hence, as individuals in particular, and the society in general is affected by environmental, social, economic, and cultural aspects in their health decisions, they should possess competencies to

be able to decide anonymously, independently, and consciously (De Caro et al, 2015). Various studies point out limitations in health literacy such as difficulty understanding health information, inadequate knowledge of health conditions, and utilization of preventive health services (Jordan, Buchbinder, Briggs, Elsworth, Busija, Batterham & Osborne, 2013; Denuwara & Gunawardena, 2017 as cited in Abuda & Noroña, 2020).

Low health literacy leads to deteriorated health as a consequence. Volandes & Paasch-Orlow (2007) argued that limited health literacy promoted health disparities especially minority races such as the African-Americans and Hispanics, as well as the socio-economically disadvantaged. Racial and socioeconomic disparities in the United States has deteriorated over the past years as evident in the higher infant mortality rate and lower expectancy in the aforementioned groups (Saha, 2006). Therefore, health inequity in a society is a telltale sign of limited access to health services, and health violations (Nfila, n.d.).

Due to the widespread use of the Internet and its subsequent excess of available information about anything and everything, the concept of eHealth literacy was born. Norman & Skinner (2006) defined it as the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to address or solve a health problem. Health professionals in the past decades have progressively more realized the significant influence of media on the health of people (Bergsma & Carney, 2008). The Committee on Public Education of the American Academy of Pediatrics' (2001) review of researches on media influence to the health of individuals asserted a "primary negative health effects on violence and aggressive behavior; sexuality; academic performance; body concept and self-image; nutrition, dieting, and obesity; and substance use and abuse patterns." With these, the

possession of eHealth literacy is vital for people to maintain good health and attain maximum workforce productivity for their personal lives, and for the nation collectively.

In the Philippine context, experts argued that the health literacy of Filipinos is low (Tuazon, 2017 as cited in The Manila Times, 2017). He contended that many Filipinos are over-entertained and under-informed by television programs. Further, he said that "health programs shown in Philippine television were for entertainment and emotionally-driven rather than truly educating and pushing the meaning of public service." The low level of health literacy in the Philippines, according to Tuazon, is attributed to how media messages are more directed towards awareness, and not for real application and creating public understanding and knowledge on health (The Manila Times, 2017).

Similarly, the study conducted by Camiling (2019) found that high school students in the Philippines are adept in searching and retrieving online health information, but their evaluation strategies were considered as suboptimal because they lack the ability to check for content accuracy and source credibility. Further, in the study conducted by Javier, Jr., Tiongco, Jabar (2019), 855 middle school students (grades 6 to 9) have low to very low level of health literacy despite having grown up with technology and taught of different health and nutrition-related knowledge in science, health, and physical education subjects in school. Even more alarming, the middle school children may not necessarily consider health as a pressing priority in their daily lives (Javier, Jr., Tiongco, Jabar, 2019). Therefore, there is the pressing need for the cultivation of eHealth literacy in people so that they can access, understand, and accurately and effectively apply health information and messages on social media intending to equip media consumers the necessary armaments to combat

any health risk which may come their way and promote their health especially during a pandemic like COVID-19.

COVID-19

The Coronavirus Disease 2019 (COVID-19) pandemic is affecting and will continue to affect the entire world, thus, proving the need for health literacy of every human being. It is a global health crisis and a reminder why people should have the capability to acquire, understand, and use health information in a sound and ethical manner (Bautista, 2020; Paakkari & Okan, 2020).

The onset and prevalence of the COVID-19 pandemic revealed systemic vulnerabilities in various areas of human life, from world and national governance to economy to health care delivery, education, family functions (Goede, 2020). Weak health care system and weak social safety nets have been exposed (Fracalossi de Moraes, 2020). Countries should have state capacity, social trust, and leadership in order to respond better than others and to address the needs of their people (Fukuyama, 2020).

Various and long-lasting changes in the government, healthcare, economy, lifestyle, and more are brought about by the COVID-19 pandemic (Goede, 2020). As cited in Whiting (2020), the World Economic Forum predicted issues such as high levels of structural employment, cyberattacks and data frauds, exacerbation of mental health issues, fresh surge in inequality and social divisiveness, and tighter restrictions on the cross-border movement of people and goods. Other changes include food production in which it is expected that more food will be locally grown or even homegrown which will, in turn, decrease imports (Campbell, 2020). Food security has become a priority, and local farm movements have been initiated (Voegele, 2020; and

Hiller, 2020). With the pandemic forcing countries to go on lockdowns and people to stay at home, a boom in virtual reality especially catering to eLearning and remote working is the new norm (Goede, 2020).

More pressing than ever is the need to minimize and stop the spread of the virus, formulate a vaccine, and eventually eradicate it. One of the approaches that health authorities use in dealing with this pandemic is multichannel (mass media and social media) information, education and communication (EIC) campaigns to disseminate health information that would mitigate the spread of the disease (Bautista, 2020). However, the positive effect of EIC campaigns can only be achieved when people have sufficient health literacy level that enabled them to translate health information to preventive practices such as handwashing, observance of physical distancing, wearing of face masks and shields, among others (Bautista, 2020).

Media Exposure and COVID-19

During the COVID-19 pandemic, numerous research are being conducted to advance the knowledge that may influence people's cognitive, emotional, and behavioral response when exposed to COVID-19 news and updates in the various media.

For instance, Tsao et al. (2021) were able to identify overarching public health themes on the role of social media platforms during the pandemic. These themes are surveying public attitudes, identifying infodemics, assessing mental health, detecting or predicting COVID-19 cases, analyzing government responses to the pandemic, and evaluating quality of health information in prevention education videos. The researches argued that social media can have a critical role in disseminating health information and tackling infodemics and misinformation.

Liu (2020) made an inquiry on how various digital media act as risk information sources, and in turn, influence a person's worry and obedience to preventive behaviors. With a total of 511 people in China, results from the survey showed that seeking COVID-19 information from digital media is a prominent parameter that directly or indirectly promote preventive practices in people. Mediational analyses from Liu (2020) further declared that more COVID-19 information consumption on digital media triggers worry which causes people to adopt preventive behavior. Intense worry are reported by the respondents brought about by consumption of COVID-19 information on social media, mobile social networking apps, and social live streaming services.

In La Paz, Bolivia, Zeballos Rivas et al. (2021) conducted a cross-sectional study that investigated the relationships between and among social media exposure, risk perception, preventive behaviors, and attitudes toward the COVID-19 pandemic. In the 886 participants of the study, it was seen how being female and having high exposure to COVID-19 information on social media were linked to a higher risk perception of COVID-19. Also, the results from the study of Zeballos Rivas et al. (2021) showed that risk perception is associated with the adherence to preventive behaviors and attitudes which includes being amenable to being vaccinated.

Another study was conducted by Gao et al. (2020) looked into the prevalence of mental health problems and its association with social media exposure. More than 80% of the 4,872 respondents reported frequent exposure to social media. This was found to have a positive association with high odds of anxiety and combination of depression and anxiety. Overall, Gao et al. (2020) saw the high prevalence of mental health problems which is positively associated with frequent social media exposure during the COVID-19 outbreak.

An online study carried out by Mertens, Gerritsen, Duijndam, Salemink, Engelhard (2020) elaborated on the predictors of fear of COVID-19. They were able to find out that predictors include psychological vulnerability factors (intolerance of uncertainty, worry, and health anxiety), media exposure, and personal relevance (personal health, risk for loved ones, and risk control). Further, the participants attribute their fear of COVID-19 to health of loved ones, health care systems overload, and economic consequences or media effects.

Media Effects Studies

Disturbing content, such as violence, depicted on various media has varying effects to the people exposed to them. On one hand, studies have claimed that this will make the audience more fearful (Gerbner, 1998; Callanan, 2012). On the other hand, other researchers contended that disturbing content portrayed on media decreases the negative emotional response of an individual (Anderson et al., 2003; Krahe, Moller, and Huesmann, 2011; Zillmann & Bryant, 1982; Baldacci et al., 2004).

Gerbner & Gross (1976) contended the notion that television as a vehicle for cultivating distrust of others and high skepticism and prejudiced perception of the world as singularly dangerous. This is referred to as the cultivation effect. With this, television and other media are then both catalyst and agent for impersonal and fearful attitude among the masses (Toribio, 2019). Furthermore, viewing news on television cultivates a fear of crime among the public (Romer, Jamieson, and Aday, 2003). When people are constantly subjected to news inundated with crime and delinquency stories, they become gradually more afraid of the possibility of falling a victim to the crimes themselves (Toribio, 2019). Not only on television, a study by Heath (1984) saw how

newspaper coverage of crimes occurring in other places could show reassurance, thus, making people safe by comparison.

Anderson and Dill (2000) made an inquiry on the effects of exposure to video game violence on aggression-related variables by conducting two studies. Results from the studies showed the negative relationship between academic achievement and total time spent on playing video games, more aggressive respondents positively responding to violent behavior and delinquency, and exposure to graphic video game violence also increased aggressive thoughts and behaviors.

Discrepancies and inconsistencies in the literature review on cultivation effect has led to a contradicting belief— desensitization. Desensitization is the process involving changes in emotional responsiveness (Krahe, Moller, and Huesmann, 2011). According to Anderson and Dill (2000), the ability of disturbing media content to stimulate strong emotions from the consumers decreases with more exposure. Further, Baldacii, et al. (2004) and Krahe, Moller, and Huesmann (2011) purported that constant exposure to intense media content leads to desensitization, or the gradual decline in cognitive, emotional, and behavioral responsiveness of a person who receives arousal-stimulating stimuli.

Further, Ditton, Chadee, Farrall, Gilchrist, and Bannister's (2004) quantitative study of 167 respondents revealed that no relationship could be found between the respondents' fear of crime and their quantitatively assessed consumption of various types of media. The study showed a greater effect of their perceptions and interpretations than mere exposure and frequency to media content (Toribio, 2019).

Studies by Gebotys, Roberts, and Dasgupta (1988), Williams and Dickinson (1993), and Lane and Mecker (2003) are criticized by Ditton et al. (2004) because of a positive relationship but too low of a level to be significant ($p<0.05$). Williams and

Dickinson's (1993) study in particular generated a poor response rate and effects were not controlled for the influence of other variables (Toribio, 2019). The study of Lane and Mecker (2003), as argued by Ditton et al. (2004), showed inconsistencies for both independent and dependent variables as their study found a positive effect among whites in America, but not for Latinos (Toribio, 2019).

As a response to the cultivation theory, Shanahan and Morgan (1999) were the first ones to attempt a meta-analysis, with the primary goal of answering the question, "Is there any evidence of a cultivation effect?" They indicated the weaknesses in the theory and researches made on it in relation to Gerbner's operationalization of cultivation analysis, which used data gathered by a commercial polling firm that measured the respondents once, instead of longitudinally. Television exposure of respondents were categorized into light, moderate, and heavy viewing and was quantified by asking them how many hours they consumed on an average day the week prior (Toribio, 2019). Shanahan and Morgan (1999) argued that when testing for cultivation indicators, researchers should be more comprehensive and consider at least three types of measures: knowledge, belief, and emotion.

Contrary to the cultivation analysis, Ditton et al. (2014) maintained that the prevailing idea that media is potent and compelling in provoking fear of crime among the viewers is not always applicable and true. Literature review of media effects researches led to how inconsistencies and incongruities on the methods and results of cultivation studies. Bartholow, Bushman, and Sestir (2006) emphasized the detrimental effects of desensitization or the numbness to blood and gore in connection to the presentation of crime in televisions news as well as other media platforms. Outcomes of such numbness involved decreased inhibitions against aggressive

behavior because the audience can no longer perceive anything wrong or peculiar with inappropriate or destructive actions and conduct of behavior.

The researchers added that constant exposure to violence on media decreases its psychological effects, and ultimately led to aggressive approach-related motivational states (Toribio, 2019). In their study, they were able to see that video game violence exposure was strongly linked to increased aggression in the 34 participants. In spite of this, Bartholow, Bushman, and Sestir (2006) highlighted that violent content was more strongly connected to aggression rather than gaming frequency.

The physiological effects of exposure to violent content are explored by Carnagey, Anderson, and Bushman (2007). Decreased heart rate variability (HRV) or variation in time interval between heartbeats, with chronically low HRV generally considered as adverse, and high skin conductance level (SCL) or the phenomenon of the skin becoming a better conductor or electricity for a short period of time. In their study, a decrease in the activity of the amygdala (the section of the brain that generates and regulates responses to threats in a person's environment) could be seen when shooting other characters in a violent video game. Carnagey, Anderson, and Bushman's (2000) decades-worth of researches and analyses deduced that exposure to media violence results to desensitization to violence in real life, which led to people comfortably unfeeling of the agony and misery that others feel.

Review of related literature on media effects indicates four variables which could be used as indicators to test the positive or negative influence of exposure to disturbing or violent content of the viewers: exposure, knowledge, anxiety, and behavior. Additionally, Shanahan and Morgan (1999) argued that researchers should

be more all-inclusive and consider indicators such as knowledge and belief of the presence of danger and emotion.

Exposure, as one of the variables in this study, was considered as an independent variable. The measurement of media exposure is vital for studies and uses and effects of media in communication science, political science, sociology, psychology, and economics (de Vreese & Neijens, 2016). Literature review of media exposure would reveal that frequency and depth to which the audience are consuming information on various forms of media significantly determines the level of influence of the materials have over the audience (Galacgac, 2011). Slater (2004) elaborated on media exposure as referring to "the extent to which the audience members have encountered specific messages or classes of messages/media content."

The second variable is knowledge which is part of the cognitive aspect, and is considered as one of the areas that media effects influence. Quinn (2018) found improved cognitive functioning among novice adult social media users, aged 65 and older. The benefits of social media use is not only restricted to mere social engagement, but also into other dimensions of everyday well-being (Quinn, 2018). A study among older Australians by Jones & Hoang (2005) revealed that media exposure to certain health issues indeed makes an impact on the knowledge of people when it comes to health although in some cases, this led people to adhere to incorrect health perceptions. In children, some researches claimed that mass media foster laxness of thought and reduction of cognitive competencies while attested to media to be enriching, allowing children to vicariously experience and witness places and events far beyond their normal experiences (Anderson & Subrahmanyam, 2017).

Another variable that media effects studies looked into is the emotional response or anxiety in the consumers of disturbing content on various media. In the

study conducted by Liu & Liu (2020) of 1,118 Chinese citizens from 30 provinces in mainland China, results showed that all four types of media (official media, commercial media, social media, and overseas media) cause vicarious traumatization in the respondents to varying degrees. The study also found that the location of the respondents also contributed to how susceptible the respondents were to the vicarious traumatization caused by media. In another study of 4,991 Chinese respondents, Liu, Zhang, & Huang (2020) stated that media exposure to COVID-19 information was differently associated with anxiety. Social proximity and geographic proximity were taken into consideration in the study. Results showed that high anxiety levels were experienced by the respondents who personally knew someone infected with COVID-19 or those living in an area with reported cases (Liu, Zhang, & Huang, 2020).

The fourth and last variable considered was behavior. Hamid, Tamam & Osman (2019) conducted a study to assess the effects of exposure to HIV/AIDS media of 500 Islamiyya girls in Nigeria to their HIV/AIDS knowledge, attitude, and practices. The researchers gathered that media exposure of the respondents was a significant predictor of HIV/AIDS knowledge; HIV/AIDS knowledge consequently significantly predicted both HIV/AIDS attitude and practice. Bleakley, Hennessy, Fishbein, & Jordan (2008) found that sexually active adolescents were more likely to expose themselves to sex in the media, and those who are exposed to sex in media are more likely to advance in their sexual activity. Their findings are consistent with the findings in other literatures as a causal effect of exposure to sexual content on sexual behavior was established (Bleakley, Hennessy, Fishbein, & Jordan, 2008).

In his study, Toribio (2019) used anxiety on media violence and level of sympathy for real-life victims of violence as determinants of desensitization as a form of media effects. In this study, this was the first determinant to ascertain if MMSU

students were already experiencing effects brought about by their exposure to COVID-19 information on social media. Additionally, knowledge and adherence to health protocols in the mitigation of the spread of the disease of the respondents were considered in determining possible media effects among the respondents.

As most media effects studies focused on media violence depicted on television in general, this study positioned its relevance by looking into another disturbing content aside from violence, i.e., health risks, and analyze media effects on another medium specifically social media.

Variables in Media Effects Studies

Infrequencies and discrepancies encouraged researchers to further conduct studies on media effects. Shanahan and Morgan (1999) argued that researchers should be more all-inclusive and consider at least three measures for media effects: knowledge and belief of the presence of danger, and emotion. The focus of previous studies on media effects was given to attitudinal changes (belief) and anxiety levels (affective) of respondents. The inclusion of behavior or the demonstration of attitude with respect to knowledge and level of anxiety has been neglected. Therefore, this study included behavior as an indicator of media effects among MMSU students to COVID-19 information. Together with looking into the knowledge and anxiety of the respondents, the inclusion of behavior gave a clearer view of studying media effects.

The following studies elucidated the relationships of knowledge, anxiety, and behavior of people to health risks. Also, with the varied results, the need for further inquiries should be made with consideration to more determinants of media effects examined.

On one hand, the study by Erfani, Shahriarirad, Ranjbar, Mirahmadizadeh, & Moghadami (2020) on the general population of Iran above 15 years old concluded that higher knowledge about COVID-19 was extensively associated with a greater probability of having positive attitude and good practices with the mitigation of the disease. The current study would probe more on this statement.

Liu & Liu (2020) considered 1,118 Chinese citizens from 30 provinces in mainland China to look into the possible vicarious traumatization that could stem from their social media use. Results showed that official media, commercial media, social media, and overseas media cultivated vicarious traumatization in the respondents. Another study with 4,991 Chinese respondents by Liu, Zhang, & Huang (2020) stated that media exposure to COVID-19 information was differently associated with anxiety. Results showed that social and geographic proximities had a significant effect in which high anxiety levels were experienced by the respondents who personally knew someone infected with COVID-19 or those living in an area with reported cases (Liu, Zhang, & Huang (2020).

An inquiry was made by Hamid, Tamam & Osman (2019) to assess the effect of exposure of 500 Islamiyya girls in Nigeria to HIV/AIDS media to their HIV/AIDS knowledge, attitude, and practices. Results from their study revealed that HIV/AIDS media exposure of the respondents was a significant predictor of HIV/AIDS knowledge, and HIV/AIDS knowledge consequently significantly predicted both HIV/AIDS attitude and practice. Still on the effects of media to sexual health, Bleakley, Hennessy, Fishbein, & Jordan (2008) gathered that sexually active adolescents have more chance to expose themselves to sex in the media. Additionally, adolescents who were exposed to sex in media have a higher tendency to advance in their sexual activities.

Also, the study in Ethiopia by Tadesse, Gebrewahd, and Demoz (2020), showed that while nurses were equipped with good knowledge, favorable attitude, and practical infection prevention level, their psychological response was labelled as "disturbing." Despite their anxiety or feeling of being disturbed, Ethiopian nurses were able to compartmentalize their fear of COVID-19. They still positively responded to practices important in mitigating COVID-19 and have favorable attitudes.

In another study by Quinn (2018), enhanced cognitive functioning could be found among 65 years and older novice adult social media users. The respondents obtained benefits from using social media not only on mere social engagement but also improvements in other dimensions of their everyday lives (Quinn, 2018). In Australia, a study by Jones and Hoang (2005) revealed that media exposure to certain health issues did make an impact on the knowledge of older media users. In some cases, however, media exposure led to people adhering to inaccurate health beliefs and practices (Jones & Hoang, 2005).

On the other hand, the respondents in Dharwad, India in the study of Shekarappa, Guttal, Iyer, Gupta, and Shetty (2020) recorded good knowledge about COVID-19 but surprisingly, their attitude and practices in mitigating the spread of COVID-19 was lower than their apparent knowledge of the disease. With this, it could be deduced that high knowledge did not necessarily translate to positive attitude and adherence to precautionary measures against COVID-19.

This is in agreement with the findings of Lau, Hung, Go, Ferma, Choi, Dodd, and Wie (2020) in their study among low-income Filipino households. They found that 94% of the respondents knew about COVID-19, but only 32.4% and 40.6% identified social distancing and avoiding crowds as means to prevent COVID-19 spread, respectively.

In a different study, Mrug, Madan, Cook III, & Wright (2016) examined the linear and curvilinear associations of exposure to real-life and more violence with PTSD (spell out) symptoms, empathy, and physiological arousal, and emotional and physiological reactivity to movie violence of 209 college students. After measuring blood pressure at rest and during video viewing, they saw that cognitive and emotional empathy increased from low to medium levels of exposure to violence but declined at higher levels. Also, the results showed that exposure to higher levels of real-life violence was associated with diminishing emotional distress when viewing violent videos among the male respondents (Mrug, Madan, Cook III, & Wright, 2016).

In their analysis of Instagram posts related to COVID-19 from February 19 to April 3, 2020 in Iran, Niknam, Mahnaz, Fatehi, Shirdel, Rezazadeg, & Bastani (2019) discovered the 23 underlying themes of 1,612 posts. Some of these themes were epidemiology and statistics, general prevention and guidelines, hygiene, healthy diet and guidelines, diagnosis and treatment, psychology, and cultural aspects. This is indicative of what type of information social media users are choosing to expose themselves to regarding COVID-19 and how social media was utilized as a source of information. They also affirmed the importance and relevance of analyzing social media content during public health crises to gain insights on the thoughts and sentiments of the general public. Identifying their topics of interest can help policymakers and healthcare professionals and providers in managing and addressing current and future pandemics.

Media Exposure and Cultivation Theory

Media plays a significant role in disseminating messages about vital and various aspects of life to the masses (Gandasari & Dwindienawati, 2020). It aids

communities in making decisions and shape collective opinions about events and problems (Suchaya, 2013) as views of the government officials, authorities, and individuals are imparted (McQuail, 2012).

On one hand, cultivation researches have shown the direct relationship of media exposure and attitudes and behaviors. For instance, in their study of the various pathways to tobacco advertising, cigarette product placement in media, and news report coverage about smoking, Wakefield, Flay, Nichter, and Giovino (2003) found that media shaped and reflected social values about smoking at the same time. News reports on smoking issues were seen as reflection and reinforcer of community beliefs and attitudes about smoking and tobacco companies.

Also, the media exposure to tobacco products directly informed the audience of the updates about new products and brands. Anti-smoking advertising increased public knowledge about previously little-known risks of smoking and the existence of programs and services available to aid people to stop smoking. It was also discussed in said study how anti-smoking advertising significantly reduce smoking prevalence among teenagers and affect other influences. The extent and framing of news stories about tobacco products provide direct reinforcement for smoking and not smoking. Wakefield, Flay, Nichter, and Giovino (2003) emphasized that anti-smoking messages in media can direct efforts for community change, state or at the national level.

Another related study is Primack, Kraemer, Fine, and Dalton's (2010) on the effects of exposure to various media among adolescents in Pittsburgh. They found that exposure to music and movie are independently associated with marijuana and alcohol use, respectively. Despite being thought to be equally represented in popular music, marijuana use was independently associated with music exposure in a dose-response way (Primack, Kraemer, Fine, and Dalton, 2010). On the other hand, video

games and books were associated with reduced odds of the adolescents using either substance. This could be attributed to how video games contain few, if any, references to marijuana and alcohol.

Further, Robinson, Banda, Hale, Lu, Fleming-Milici, Calvert & Wartella (2017) probed on the link between screen media exposure and obesity in children and adolescents. Results surfaced that more screen media consumption is the prominent means by which obesity is promoted in children. With the large amount of time spent in front of a screen and the type of high-energy food and beverages consumed while doing so, media acted as trigger in eating more or distraction from feelings of fullness or satiety.

Food advertising exposure to high-calorie, low-nutrient food and beverages that influence youth's preferences, purchase requests, and consumption habits was also considered as another explanation to children and adolescent obesity (Robinson, Banda, Hale, Lu, Fleming-Milici, Calvert & Wartella, 2017). In 2014, children and adolescents were exposed to 12.8 to 15.2 hours of food, beverage, and restaurant advertisements on television (Sheehan & Harris, 2014). Adding marketing in new media into it, youth are more exposed to marketing that is engaging and often disguised as entertainment or messages from friends, making it harder for them to recognize its persuasive intent (Robinson, Banda, Hale, Lu, Fleming-Milici, Calvert & Wartella, 2017).

On the contrary, Ditton, Chadee, Farrall, Gilchrist, and Bannister (2004) argued that the dominant idea of the media as being powerful in eliciting fear among the viewers do not always apply. In fact, in another study conducted by Batholow, Bushman, and Sestir (2006) on video game violence exposure, they noticed that the violent content was more strongly associated with aggression than gaming frequency.

This reiterates that differing amounts of media content can have varying effects on consumer behavioral changes.

In the same light, in 2016, Coyne, Callister, Gentile, and Howard studied 1,429 undergraduate students' response to media violence. They found that the respondents categorized violence as "not offensive," a determining factor of desensitization. A similar study on adolescent respondents can further the dialog on desensitization.

In the world of psychotherapy, virtual reality exposure therapy (VRET) is a therapeutic practice where patients wear a head-mounted display (HMD) for virtual reality and enter a simulation designed to bring back triggering memories (Crawford-Holland, 2017). VRET is incorporated in treatment regimens for soldiers with post-traumatic stress disorders anxiety disorders (PTSD) and for other anxiety disorders such as fear of flying (Friedrich, 2016). HMDs are used to trigger traumatic event in order to re-engage with a patient's anxiety-inducing situations and by doing so, it helps the patients in processing and reducing the resulting fears and psychosomatic stress symptoms of the experience (Friedrich, 2016). Friedrich (2016) further affirmed the effectivity of VRET as results of quantitative clinical studies yielded positive results in reducing PTSD symptoms.

Toribio (2019) investigated the desensitization of Ilokano youth to violence depicted in television news. In the study, the respondents only have moderate exposure, hence, desensitization has not taken place yet. Further, he said that a "saturation point" to which viewers of TV news violence should be exposed to in order for desensitization to take effect. This study then looked into the possibility of the saturation point of Ilokano youth to COVID-19 information available in social media and its consequent possible desensitization. Also, unlike most studies conducted on

media effects, this study attempted to consider other disturbing content aside from violence, i.e. health risks.

In relation to this, Sanchez (2020), in her study of Internet memes and media effects especially desensitization surmised that exposure to violence-related media in a humorous manner and positive context led to desensitization of natural emotional responses. Similarly, Yumrukuz (2017) looked into the effects of violence in relation to social media. In the study, it was argued that once a violent content is posted or shared with disregard to the emotion of other people, desensitization has now developed. It was also concluded that once violent content is communicated in social media, it becomes decontextualized and meaningless.

In congruence, the study of Choudhury, Monroy-Hernández, and Mark (2014) found that there was a decline in the negative emotional expression of the respondents in their analysis of desensitization in social media, specifically Twitter, during the Mexican Drug War. It was also observed that there was a marked decrease in the respondents' sadness, anger, anxiety, and inhibition to the Mexican Drug War.

In a similar study conducted by Li, Conathan, and Hughes (2017) in the Twitter platform, respondents showed a significant decrease in disgust, sadness, and anger, but a notable increase in anxiety towards gun violence. They urged for more studies conducted and careful conceptualization of the term to determine effects of media exposure to users.

Theoretical Framework

As proposed by George Gerbner in 1969, cultivation theory contends that people's social reality is constructed through repeated and heavy exposure to media

(Encyclopedia of Communication Theory, 2009). Therefore, media consumption creates one's worldview leading to the acceptance of particular attitudes and behaviors (Toribio, 2019). Further, cultivation theory sees effects of media exposure as cognitive, affective, and behavioral (Encyclopedia of Communication Theory, 2009). Findings from cultivation researches show repetitive 'distorted' reality which will gradually dominate the view of heavy consumers of the media (Stacks, Li & Spaulding, 2015).

Guided by the aforementioned theory, this study looked into the level of exposure of the respondents to COVID-19 information on social media as an independent variable. Gagalac (2011) described the level of exposure of the respondents in terms of frequency and depth of news exposure. This study also incorporated frequency to measure MMSU students' level of exposure to COVID-19 information. This served as basis to ascertain 'cultivation' of media effects has indeed taken place.

As effects exemplified by cultivation theory, this study looked into two mediating variables: knowledge about COVID-19 (cognitive) and anxiety about COVID-19 (affective), with adherence to COVID-19 health protocols (behavioral) of MMSU students as the dependent variable. Shanahan and Morgan (1999) emphasized the inclusion of at least three variables to establish possible media effects. As existing studies fail to consider behavioral changes as one of the consequences of media exposure, this stresses the value and importance of this study.

With these, the study looked into how frequency of exposure to COVID-19 information on social media alters the behavior of MMSU students as mediated by their cognitive and affective states.

Conceptual Framework

Guided by the cultivation theory, this study assumed that exposure to COVID-19 information on social media can influence MMSU students' adherence to protocols that must be observed to avoid contracting the virus. For exposure to have that influence on MMSU students, the degree of exposure must have been extensive to cultivate their minds on the subject at hand which is COVID-19. Therefore, exposure in this study was measured by the frequency or the number of times the respondents were subjected to COVID-19 information on social media. Such frequency of exposure, however, can only lead to adherence to protocols if the information exposed to had increased their knowledge and anxiety. As mediating variables, it can be surmised that increased knowledge and anxiety can lead to adherence to protocols on how to prevent contracting the disease.

Knowledge in this study refers to the understanding of respondents to COVID-19 facts about familiarity of the symptoms, causes, incubation period, treatment, vulnerable group, and preventive practices of the disease. It can be further assumed that because MMSU students are always connected to social media, they could have been exposed to COVID-19 information extensively as well which would have increased their knowledge level about COVID-19. Since they have been exposed extensively to COVID-19 information, it can be deduced that their anxiety levels may have also increased because they might contract the disease. Anxiety in this study referred to feeling of nervousness, worrying, relaxation, restlessness, irritability/annoyance, fear, and uneasiness of respondents which was measured by the Beck Anxiety Inventory I scale. Without the vaccines yet, the likelihood of

contracting the disease would also be high. Hence, knowledge and anxiety levels would determine adherence to protocols.

Adherence to protocols in this study refers to the degree to which the respondents followed preventive practices in order to mitigate the spread of COVID-19. This was measured with an affirmative answer to corresponding item-indicators to signify their faithfulness to preventive practices. Thus, it can be assumed that exposure to COVID-19 information on social media can lead to adherence to protocols if knowledge and anxiety levels are high (Figure 1).

Since it is imperative to establish an extensive exposure to COVID-19 information of the respondents, they were asked the frequency whether they are subjected to such everyday, several times a week, several times a month, rarely, or only by chance.

As a mediating variable and an effect of exposure, knowledge was measured by how the respondents were able to answer correctly the questions about COVID-19 facts and development true to the province of Ilocos Norte. They were either knowledgeable or not knowledgeable.

Anxiety is also a mediating variable as an outcome of exposure. The respondents were asked as to the extent of their discomfort with various item-indicators.

Adherence is the effect of the respondents' exposure to COVID-19 information as intermediated by knowledge and anxiety. They were then asked whether they always, very often, sometimes, rarely, or never follow the statements of preventive practices.

After, to get the levels of the variables, they were are all classified into Very High, High, Medium, Low, and Very Low.

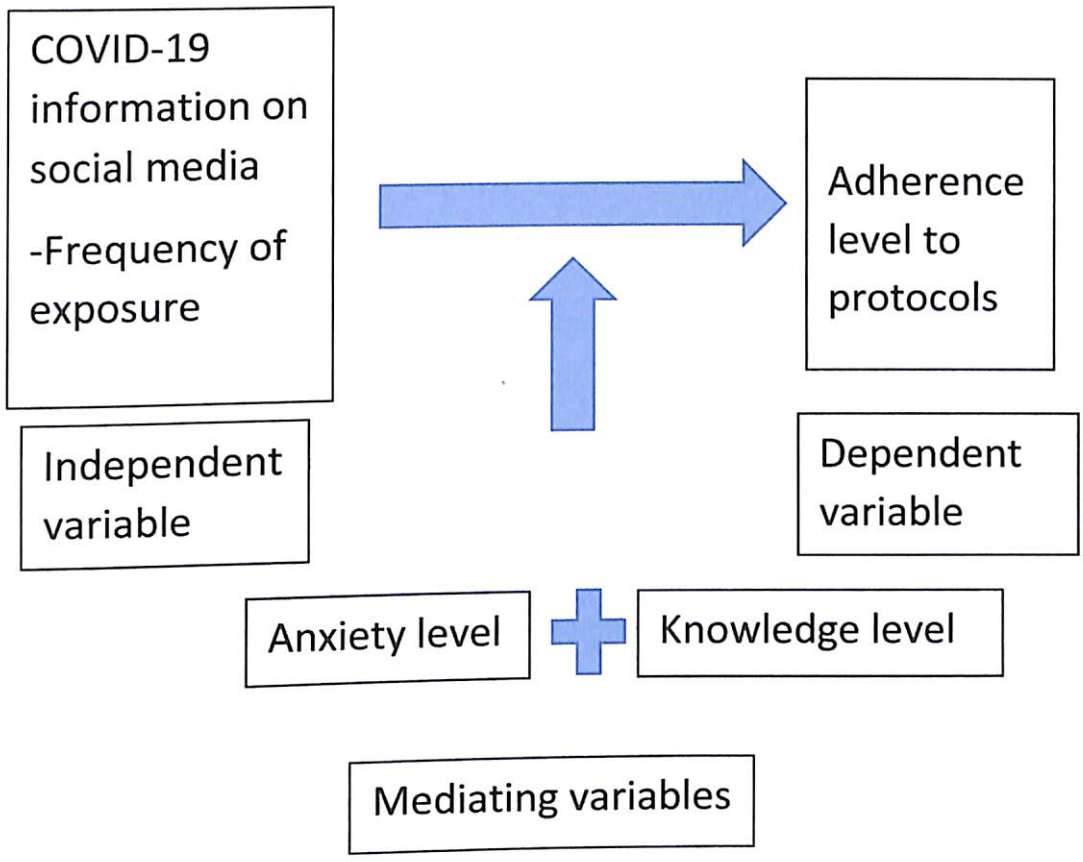

Figure 1. Exposure to COVID-19 information and concomitant effects

Operational Definition of Terms

Adherence

This is the degree to which the respondents followed preventive practices in order to mitigate the spread of COVID-19. This was measured with an affirmative answer to corresponding item-indicators to signify their faithfulness to preventive practices.

Anxiety	This is indicated by the feeling of nervousness, worrying, relaxation, restlessness, irritability/annoyance, fear, and uneasiness of the respondents measured by the Beck Anxiety Inventory I scale.
Exposure	This refers to the frequency or the number of times the respondents were subjected to COVID-19 information on social media.
Knowledge	This is the understanding and familiarity of respondents to COVID-19 facts about familiarity of the symptoms, cause, incubation period, treatment, vulnerable group, and preventive practices of the disease.

Chapter 3

METHODOLOGY

Research Design

This study employed quantitative method approach with survey research design. Quantitative research draws its strength from structured procedures and formal instruments for collecting data (Queirós, Faria, & Almeida, 2017). A survey research design is often used to explain and explore human behavior (Singleton & Straits, 2009). Thus, this study was able to determine the level of the respondents' exposure to COVID-19 information on social media, their knowledge of COVID-19 information, anxiety about COVID-19, and their adherence to COVID-19 health protocols in preventing the spread of the disease. All of these data were the bases for the correlational analysis of the effect of the level of exposure (independent variable) to the adherence to health protocols of the respondents (dependent variable) with knowledge and anxiety as mediating variables.

Locale of the Study

This study was conducted at the Mariano Marcos State University, Ilocos Norte, Northern Luzon, Philippines. Being one of the biggest university in the province, MMSU has a diverse set of students in terms of literacies, religious affiliations, economic statuses, and ethnic affiliations. This high level of diversity could provide a wide-ranging and general perspective of how Ilokano people respond to health information exposure on social media.

Figure 2. Administrative Divisions of Ilocos Norte. (Balingit, 2012)

Respondents of the Study

The respondents of the study were bona fide students of the Mariano Marcos State University for the Second Semester, Academic Year 2020-2021. It was ensured that the respondents are 18 years old and above to adhere to the specifications of the Ethics Certificate awarded by the University Research Ethics and Review Board (URERB) of MMSU.

The respondents were chosen as they represent a major portion of social media users. Also, they were also selected as the academe is one of the sectors majorly

transformed by the COVID-19 pandemic. This study looked into the potential anxiety of the respondents brought about by the current pandemic.

Sampling Procedure

The study employed the complete enumeration of the population of the following courses: BA Communication Second Year, BS Accountancy Second Year Sections A and B, BSBA Human Resource Management Second Year Section A, and BS Ceramic Engineering Third Year Section D. A total of 192 respondents answered the survey and participated in the study.

Research Instrument

This study used survey questionnaire in the collection of data from the respondents which contained item-indicators to ascertain their level of exposure to COVID-19 information, knowledge, anxiety, adherence to COVID-19 health protocols (Please refer to Annex II).

The study delved into the knowledge, anxiety, and adherence to health protocols of the respondents from March 16, 2020 to December 16, 2020. The timeline is divided into three quarters as follows:

Quarter 1: March 16 to June 16, 2020

Quarter 2: June 17 to September 16, 2020

Quarter 3: September 17 to December 16, 2020

Hence, the research instrument was divided into four (4) parts: sources of COVID-19 information, Quarter 1, Quarter 2, Quarter 3. For each of the quarter, item-indicators were included to determine the respondents' level of exposure to COVID-

19 information, knowledge about COVID-19, anxiety about COVID-19, and adherence to COVID-19 health protocols, specific for that quarter.

Before distribution, a pre-test of the questionnaire was conducted to confirm its reliability. It was subjected to Cronbach's alpha, and yielded to a high reliability as manifested by the computed reliability coefficient of 0.911.

Sources of COVID-19 Information. Social media sites and platforms where the respondents access and retrieve information about COVID-19 were also identified: Facebooks pages of news agencies, Facebook pages of government agencies, Twitter pages of news agencies, and other sources.

Exposure to COVID-19 Information. The respondents were asked about their level of exposure to COVID-19 news and updates in terms of their frequency in accessing such: Everyday, Several times a week, Several times a month, Rarely, Only by chance. This study adopted questions by Toribio (2019) in his study about the desensitization of Ilokano youth to violence in televised news. The questions were modified to suit the needs of this study. The item-indicators asked to the respondents remained unchanged throughout Quarters 1, 2, and 3.

Knowledge about COVID-19. Eight (8) questions about COVID-19 news development, quarantine guidelines and protocols, symptoms, cause, incubation period, treatment, vulnerable group, infection, recovery and death counts, and preventive practices of the disease exclusive and occurred for a particular quarter were created. Knowledge item-indicators varied and this necessitated the creation of questions different from quarter to quarter.

Anxiety about COVID-19. The study used the original Beck Anxiety Inventory I (Reliability – Internal Consistency = 0.92) to determine the respondents' anxiety about COVID-19 on social media. Anxiety is characterized by the following indicators:

nervousness, worrying, relaxation, restlessness, irritability/annoyance, fear, uneasiness, etc. A four-point Likert scale with the following ranks: 1 (Not at All), 2 (Mildly but it did not bother me much), 3 (Moderately – it wasn't pleasant at times), and 4 (Severely – it bothered me a lot) were used to establish respondents' emotional state as a result to being exposed to COVID-19 information on social media. The set of indicators remained the same for the Quarters 1, 2, and 3.

Adherence to COVID-19 health protocols. The study adopted the questionnaire by Erfani, Shahriarirad, Ranjbar, Mirahmadizadeh, & Moghadami (2020). Modifications were made to take into consideration the quarantine and health protocols of the province of Ilocos Norte from March 16 to December 16, 2020, the timeline of the study. The same set of item-indicators were posed to the respondents for the three quarters.

Additionally, to facilitate recall of the respondents, a short narrative of the highlights of the quarter were given before they answered the questions related to their exposure, knowledge, anxiety, and adherence to health protocols for each quarter at the beginning of Parts 2, 3, and 4. Furthermore, inclusion of statements evoking the happenings during the quarter was to ensure that the respondents have provided information specifically for that particular quarter. Essentially, this is to reduce the potential inaccuracy brought about by self-reports.

Lastly, after data collection, correlations among the data provided by the respondents were made to answer the research problems and to test the hypotheses.

Data Gathering Procedure

Before approaching the respondents, it was necessary to secure an ethics certificate from the University Research Ethics and Review Board (URERB) of MMSU.

This process entailed the submission of application form, endorsement certificate from the advisory committee, research protocol and assessment forms, and informed consent document and assessment forms. The review board awarded an "Exempt" research certificate to the study which meant that the research poses minimal to no risk to the participants should they decide to participate. This process took four (4) weeks, from February 11 to March 12, 2021.

After the issuance of the ethics certificate from URERB, the survey link was sent to the respondents via Messenger group chats. A virtual survey via Google Forms was employed to take into consideration the new normal and to limit face-to-face interaction with the respondents. After agreeing to the Informed Consent Information, the respondents proceeded to answer the four-part questionnaire.

The first part of the survey asked for the respondents' sources of COVID-19 information on social media which could be Facebooks pages of news agencies, Facebook pages of government agencies, Twitter pages of news agencies, and other sources.

The second part of the survey asked the respondents their level of exposure to COVID-19 information posted and shared on social media (Very High, High, Moderate, Low, and Very Low), knowledge about COVID-19, anxiety about COVID-19, and their adherence to health protocols for March 16 to June 16, 2020 (Quarter 1).

The third part was dedicated for Quarter 2 (June 17 to September 16, 2020). Level of exposure, knowledge, anxiety, and adherence to protocol of the respondents were probed in this part.

The fourth part looked into the respondents' level of exposure to COVID-19 information, knowledge, anxiety, and adherence to health protocols for Quarter 3 (September 17 to December 16, 2020).

After data gathering, the data was subjected to statistical treatments such as median to ascertain the level of exposure of respondents to COVID-19 information, and correlation to get the relationship between the independent variable (exposure) to the independent variable (adherence to protocols) as mediated by knowledge and anxiety.

Data Analysis

Analysis of the data gathered was done by tabulating the results and linking them to various ideas and existing information from studies and literatures relevant to the study. Median and correlation using Spearman's coefficient were used in statistically treating the data gathered.

Correlation, as a statistical treatment, was used to identify the relationship between the level of exposure of the respondents to their knowledge, anxiety, and adherence to health protocols.

The independent variable in the study is the level of exposure of the respondents to COVID-19 information in social media. The respondents was asked for the frequency to which they are exposed to COVID-19 information in social media. They were asked to state their frequency of exposure: everyday, several times a week, several times a week, several times a month, rarely, and only by chance. This variable was then classified as Very High, High, Medium, Low, and Very Low.

The other variables that were examined in this study are knowledge about COVID-19 and anxiety about COVID-19 (mediating variables), and adherence to COVID-19 health protocols (independent variable).

Knowledge about COVID-19 of the respondents was determined by the degree to which they get the correct answer to the questions about COVID-19, locally

contextualized in the province of Ilocos Norte. The questions about its cause, incubation period, treatment, vulnerable group, symptoms, preventive practices, quarantine guidelines specific for the particular quarter, and the like.

Anxiety about COVID-19 of the respondents was measured by the Beck Anxiety Inventory 1 (Reliability – Internal Consistency – 0.92). Item-indicators for this variable remained the same throughout the three quarter periods.

Adherence to COVID-19 health protocols of the respondents was seen to which degree they answer *Always, Very Often, Sometimes, Rarely,* and *Never* to the statements indicative of their obedience in following preventive practices in the questionnaire. Item-indicators to assess respondents' adherence were constant in the three quarters.

Indicators for the three dependent variables (knowledge, anxiety, and adherence) are Very High, High, Medium, Low, and Very Low.

Median was used to determine the exposure to COVID-19 information of respondents. Later on, the data was subjected to correlations of the level of exposure to the aforementioned dimensions.

Chapter 4

RESULTS AND DISCUSSION

This chapter presents the results of the data gathered in the conduct of the study. Generally, this study aimed to contribute to the scholarly study of communication with focus on media effects. In detail, it determined the relationship of exposure to COVID-19 information of social media to three variables of media effects which are 1) knowledge, 2) anxiety, and 3) adherence.

Profile of Student-Respondents

Of the 192 student-respondents, more than a third (72 or 37.5%) were taking up BS Accountancy. The rest of the group came from BS Civil Engineering, BA Communication, and BSBA Human Resource Management with more or less equal distribution. This distribution gives a macro presentation of what courses students were taking and gave a broader perspective of their exposure to social media information.

In terms of age, almost all respondents (167 or 86.98%) belonged to the 18 to 20 years old age group. It can be implied that this was a homogeneous group which could represent a good glimpse of the sample of the study. Since their ages did not differ much, it can be assumed that exposure to social media may be the same because their age group belongs to the Gen Z generation. As Gen Z people are born and brought up with technology, they are digital-centric and technology is their identity (Gaidhani, Arora, Sharma, 2019).

Geographically, almost all (180 or 93.75) came from Ilocos Norte. The rest of the students were from nearby provinces like Ilocos Sur, Cagayan, and Apayao (Table 1).

Table 1. Distribution of respondents by profile

Respondents	*f* *n=192*	%
Course		
BS Accountancy	72	37.5
BS Civil Engineering	37	19.27
BA in Communication	44	22.92
BSBA Human Resource Management	39	20.31
Age		
18 to 20 years old	167	86.98
21 to 23 years old	22	11.46
24 to 27 years old	3	1.56
Province		
Ilocos Norte	180	93.75
Ilocos Sur	4	2.08
Cagayan	6	3.13
Apayao	2	1.04

Sources of COVID-19 Information

Table 2 show the sources of respondents of COVID-19 information. Facebook pages of government agencies (88%) and Facebook pages of news agencies (78.6%) are the two main sources of the respondents of COVID-19 news and updates. This implies that they prefer Facebook as the social media platform to retrieve COVID-19 information from. With almost all (98.7%) of the 88.4 million Filipino Facebook users as of February 2021 (NapoleonCat, 2021; Datareportal, 2021) accessing the app on mobile devices, this implies the respondents' preference of Facebook because of its accessibility and convenience of use.

Table 2. Sources of COVID-19 information of the respondents

Sources	*f*	%
Facebook pages of news agencies	151	78.6
Facebook pages of government agencies	169	88.0
Twitter pages of news agencies	54	28.1
Others	56	29.2

Exposure to COVID-19 Information

Data in Table 3 shows that a high level of exposure of MMSU students is sustained from March 16 to December 16, 2020. This means that they were exposed to COVID-19 updates and developments, infection, recovery and death counts, and quarantine guidelines several times a week. Attainment of this level proves the extensive and pervasive manner in which the respondents have watched or read COVID-19 information. Further, following the framework of the study, high exposure level should be able to affect the respondents' knowledge and anxiety, and in turn, their adherence to health protocols.

Table 3. Respondents' median scores of their level of exposure to COVID-19 information

Exposure	Quarter 1 (March 16 to June 16, 2020)		Quarter 2 (June 17 to September 16, 2020)		Quarter 3 (September 17 to December 16, 2020)	
	Median	Descriptive Rating	Median	Descriptive Rating	Median	Descriptive Rating
I intently read/watched COVID-19 information on social media.	4	High	4	High	4	High
I intentionally looked for COVID-19	4	High	4	High	4	High

information on social media.						
I really allot time to read/watch COVID-19 on in social media.	4	High	4	High	3	Moderate
I felt like the day was not complete when I did not read/watch COVID-19 information on social media.	4	High	4	High	3	Moderate
Overall Exposure Level	**4**	**High**	**4**	**High**	**4**	**High**

1	Very Low
2	Low
3	Moderate
4	High
5	Very High

Moreover, Galacgac (2011) acknowledged the role of consistency of exposure as a benchmark to understand audience consumption but the engagement of the respondents to the content significantly determines the level of influence to them. This means that despite the decrease on the regularity to which they were exposed to COVID-19 information, the sustained high intention of reading, watching, and looking for such evened out the decrease in time allotment and sense of satisfaction of respondents when reading or watching COVID-19 news Quarter 3. Thus, the respondents were still able to maintain their high exposure to COVID-19 information.

With statistics showing that the Philippines has one of the highest numbers of social network users in Southeast Asia (Statista, 2020) with social media penetration rate of 67% in January 2021 (Datareportal, 2021), it could then be assumed that information related to COVID-19 posted and shared on social media occupies an

immense part in the lives of the respondents. There was an increase of 16 million social media users in the Philippines between 2020 and 2021 (Datareportal, 2021) as attributed to the COVID-19 pandemic (GlobalWebIndex, 2020). With an average of 10.56 hours a day using online media (Statista, 2021), Filipino social media users are equivalent to 80.7% of the total population in January 2021 (Datareportal, 2021).

Knowledge about COVID-19 Information

A significant positive relationship (0.494) was established in the correlation between exposure and knowledge of respondents about COVID-19. With this, it can be said that the two variables are directly related: when the level of exposure goes up, the knowledge goes up, and when the level of exposure goes down, the knowledge decreases. Specifically, this signifies that the high level exposure of the respondents to COVID-19 news and updates on social media made them knowledgeable about the transfer mechanisms, symptoms, provincial quarantine and mobility guidelines, and other pertinent information related to COVID-19. Therefore, the study suggests that respondents who have high level of exposure to COVID-19 information on social media are knowledgeable, while those who have low level of exposure are not. Basing on the framework of the study, consistent exposure meant that the respondents were regularly reading and/or watching COVID-19 information and cultivation took effect which, in turn, increased their knowledge about COVID-19.

Table 4. Correlations of the level of exposure of MMSU students to their knowledge on COVID-19 Information

Exposure	Knowledge
I intently read/watched COVID-19 information on social media.	0.639**

I intentionally looked for COVID-19 information on social media.	0.524**
I really allot time to read/watch COVID-19 on in social media.]	0.374**
I felt like the day was not complete when I did not read/watch COVID-19 information on social media.	0.537**
Overall Exposure Level	0.494**

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

With all of the exposure item-indicators registering a significant positive relationship with knowledge, the indicator *I intently read/watched COVID-19 information on social media* obtained the highest correlation strength of 0.639. This means that because the respondents exerted focus and concentration while reading/watching COVID-19 news and information on social media, they were able to internalize these pieces of information and retain them in their minds. By seeking information totally by their own volition, the respondents experienced a reduced amount of affective filter that could have affected their understanding and recall of information. This proactive role assumed by the respondents complemented by the feeling of incompleteness they experienced when they did not read/watch COVID-19 information on social media (0.537) and intentionally looking for such (0.524) in their purposeful allocation of time several times a week (0.374) enabled them to achieve a high level of exposure. Accordingly, cultivation effects occurred in the form of increase of knowledge of the respondents about means of transmission, causes, symptoms, and contextualized information about COVID-19 specifically true to the province of Ilocos Norte.

Ilokanos' ingenuity and need to be up-to-date about their surroundings can be traced back to their adaptive capabilities as required by living in a terrain hard to till during the hot season and treacherous during the wet season (Galeon, 2020). This could be where their obvious need to make themselves be informed about COVID-19 facts and news and the resultant high level of knowledge could be attributed from. Being a community used to surviving severe conditions, Ilokanos know that they need to be well-informed of what is happening in their area to be able to respond to challenges and continue living.

With knowledge as a mediating variable and its positive relationship to exposure, this study stresses its role in the cultivation of adherence of MMSU students to COVID-19 health protocols.

Anxiety about COVID-19

The study did not see any statistically significant relationship between the respondents' level of exposure to COVID-19 information on social media and their anxiety.

Despite this, less than half (10 or 48%) of the indicators of anxiety registered a significant relationship with the respondents' exposure to COVID-19 information on social media. It is notable that on one hand, physiological manifestations of anxiety like wobbliness in legs, feeling of choking, and difficulty in breathing point to a direct relationship to the respondents' level of exposure with correlation strength of 0.203, 0.198, and 0.224 respectively. There is an exception with *feeling dizzy or lightheaded* (-0.147) as it shows an inverse relation to exposure. On the other hand, mental manifestations of anxiety in the respondents with an inverse relation to exposure are inability to relax (-0.312), nervousness (-0.231), being terrified or afraid (-0.217),

unsteadiness (-0.214), being scared (-0.185), and fearing the worst happening (-0.180). Contrary results were also found by Tadesse, Gebrewahd, and Demoz (2020) of 415 Ethopian nurses. They were able to find out that despite having a favorable attitude, i.e. believing that COVID-19 can be successfully controlled, Ethiopia winning the battle against COVID-19, confident that they nor their family members will not contract the disease, etc., most (85.3%) of the respondents showed "disturbed" psychological response. The disturbed psychological response of the Ethiopian nurses manifested in feeling depressed or hopeless because COVID-19, difficulty in falling asleep, keeping sleep, or sleeping too much, losing interest or pleasure in work or leisure activities, not having appetite or overeating, and others.

Table 5. Correlations between the level of exposure of the respondents to indicators of anxiety about COVID-19

Indicators of Anxiety	Exposure Level
Numbness or tingling	-.124
Feeling hot	.083
Wobbliness in legs	.203**
Unable to relax	-.312**
Fear of worst happening	-.180*
Dizzy or lightheaded	-.147*
Heart pounding/racing	-.100
Unsteady	-.214**
Terrified or afraid	-.217**
Nervous	-.231**
Feeling of choking	.198**
Hands trembling	.015
Shaky/unsteady	.035
Fear of losing control	-.067
Difficulty in breathing	.224**
Fear of dying	-.140
Scared	-.185*
Indigestion	.007
Faint/lightheaded	.046
Face flushed	.141
Hot/cold sweats	-.047
Overall Anxiety	-.097

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

As the results do not show a relationship between exposure and anxiety, cultivation effects in the form of increasing the anxiety of the respondents has not yet taken place. The role of anxiety as a mediating variable was not realized which could be attributed to the insufficient exposure of respondents to COVID-19 information. Thus, it could be argued that the respondents' high exposure was still not enough, and a greater amount of exposure, i.e. very high, is needed.

This study also presumes that if the respondents are anxious, it is attributed to other factors and not only the fear of contracting COVID-19. This is supported by the study conducted by Mertens, Gerritsen, Duijndam, Salemink, Engelhard (2020) in which risks for loved ones, health care systems overload, and economic consequences appeared to be the main predictors of fear of the COVID-19 pandemic.

Additionally, the tight-knit Ilokano community exemplifies strong ties with each other as demonstrated in their celebration of fiestas, production of native delicacies like *empanada* and *chichacorn*, and playing of indigenous games (Galeon, 2020). This could be the reason why manifestations of anxiety like worry, nervousness, unsteadiness, fear of losing control, and others are not that observable as they can acquire much-needed social support from their family, friends, and other community members during the COVID-19 pandemic. Religiosity and resiliency of the Ilokano people (Galeon, 2020) also bring them hope which contributes to looking at the pandemic as something that will soon come to an end. Moreover, they believe that willpower to live is a must.

The nature of social media as the medium of communication could also be parsed to elaborate on the insights of the study. Social media's interactivity and its focus on user-generated content provide a huge opportunity to users to voice their opinions and viewpoints. Interpretation of public sentiment from comments on the

Facebook page of government units (respondents' main source of COVID-19 information) would reveal some Ilokanos' skepticism about COVID-19. These few but resounding deviances from news based on scientific facts now create ripples of uncertainty among the community. These contradictory beliefs might contribute to the confusion and uncertainty among Ilokanos about COVID-19 resulting to possible anxiety.

The direct effect of social media exposure and use to anxiety which this study has not been able to establish has been proven in American respondents. Vannucci, Flannery, Ohannessian's (2017) study of 563 emerging adults in the United States found that "more time spent on social media usage was significantly associated with greater symptoms of dispositional anxiety." Also, American respondents aged 19 to 32 years old in the study of Shensa, Sidani, Dew, Escoba-Viera, & Primack, B. A. (2018) considered as "wired" and "connected" with their social media use had increased chance of elevated depression and anxiety symptoms.

Adherence to COVID-19 Health Protocols

As shown in Table 6, the results indicate a significant negative relationship between the respondents' exposure and their adherence to COVID-19 health protocols (-0.367). This implies that the cultivation effect as manifested in their obedience in the form of following mitigation practices that was supposed to be brought about by exposure has not taken place in the respondents yet. It is then assumed that despite of the high exposure of respondents, it was not enough for cultivation to take effect.

Table 6. Correlations between exposure and adherence to COVID-19 health protocols of the respondents

Adherence	Exposure Level
I avoided going out of my home	-.256**
I avoided unnecessary vacations	-.310**
I avoided consuming outdoor food	-0.099116611
I avoided handshaking, hugging, and kissing	-.335**
I avoided public transportations (tricycle, jeep, bus, plane, etc.)	-.288**
I avoided going to school	-.360**
I frequently washed my hands	-.209**
I paid more attention to my personal hygiene than usual	-.232**
I used disinfectant and solutions	-.244**
I used herbal products and traditional medicine	.456**
I took vitamin supplements	-0.138720017
I used face mask only	-.240**
I used both face mask and face shield	-.353**
I removed my face mask when in public	.669**
I practiced physical distancing when outside my home	-.287**
Overall Adherence	**-.367****

***. Correlation is significant at the 0.01 level (2-tailed).*
**. Correlation is significant at the 0.05 level (2-tailed).*

It is worth noting that most (86.67%) of the item-indicators for adherence to COVID-19 health protocols show a negative significant relationship to exposure. Despite this, two (2) item-indicators revealed a positive significant relationship which are *I used herbal products and traditional medicine* (0.456) and *I removed my face mask when in public* (0.669). First, the respondents are more likely to depend on herbal products and traditional medicine because of the current unavailability of the vaccine to them being non-frontline workers. Thus, using these alternatives to the vaccine, the respondents perceive that they have already protected themselves against the disease. As a result, they are now lenient in following the health protocols as show on Table 6. Second, the item-indicator *I removed my face mask when in*

public is a contrary practice in mitigating the spread of the virus. Hence, it still supports the claim of the study that the respondents' level of exposure to COVID-19 information on social media has a negative relationship to the degree to which they follow COVID-19 health protocols.

Interestingly, it was shown in Table 4 that exposure and knowledge have a positive relationship, but this time, exposure has a negative relationship to adherence. It could then be inferred that high knowledge of people does not necessarily mean that they would follow precautionary and preventive measures against COVID-19. These results and claims of the study regarding adherence corroborates with the study of Shekarappa, Guttal, Iyer, Gupta, and Shetty (2020) conducted in Dharwad, India. The respondents recorded good knowledge about COVID-19 but their attitude and practices in mitigating the risk and spread of the disease is lower than that of their knowledge.

Contextualizing the results of the study to the values and characteristics of Ilokano people, their preference of herbal products and traditional medicine could be related to their forced resourcefulness as brought about by their not-so-fertile land. Ilokanos are compelled to make the best out of their considerably lesser natural resources compared to the South of the Philippines (Galeon, 2020). This explains Ilokano people's propensity in using herbal products and traditional medicine as protection against the possibility of contracting COVID-19. Also, high inclination of Ilokanos to save their money which is misinterpreted by non-Ilokanos as being tightwad or *kuripot* (Ingel, 2006) could also be another reason why they would prefer traditional medicine over spending astronomical doctor fees and hospitalization costs. Inconclusive anxiety and non-adherence to health protocols could also be attributed to low risk perception of Ilokanos. Anecdotes from elderly Ilokanos would tell their pride

of being able to clean their backyard even before sunrise. By maintaining cleanliness in their surroundings and good personal hygiene, Ilokanos could have a more positive attitude in combating the spread of COVID, thus, being lax in following good health practices in mitigating the spread of COVID-19.

With social media's feature of interactivity among its users, some dissenting sentiments about COVID-19's existence could be seen in the comments and replies of Ilokanos to the updates made by Local Government Units. With how tight-knit the Ilokano community is, these differing ideologies could be accepted easily which results to non-compliance to health protocols.

Following the study's framework of analysis, exposure can only lead to adherence to protocols of respondents if the information they were exposed to resulted to increase in knowledge and anxiety. The mediating variables (knowledge and anxiety) in the study have differing relationships with exposure. On one hand, exposure and knowledge had a significant positive relationship, and there was an increase of knowledge in the respondents (Table 4). On the other hand, there was no relationship established between exposure and anxiety. These resulted to the negative relationship between exposure and adherence. Thus, this study concludes that MMSU students has yet to reach the required level of exposure (very high) for them to experience increase in propensity to follow COVID-19 health protocols.

Chapter 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

This study aimed to determine the relationships between exposure to COVID-19 information on social media and adherence to COVID-19 health protocols with knowledge about COVID-19 and anxiety about COVID-19 as mediating variables. Specifically, it sought to: 1) measure the level of exposure of MMSU student to COVID-19 information on social media; and 2) identify the effects of the exposure of MMSU students to their a) knowledge about COVID-19, b) level of anxiety about COVID-19, and level of adherence to COVID-19 health protocols.

The study was conducted at the Mariano Marcos State University, City of Batac, Ilocos Norte with a total of 192 student-respondents. The study followed a quantitative approach, particularly, the survey research design. Median and Spearman's coefficient were used in statistically treating the data gathered from the respondents.

Existing literature on media effects studies especially cultivation theory, with focus on social media as a channel was used to frame this study.

Facebook pages of government agencies were reported by the respondents to be their main source of COVID-19 information followed by Facebook pages of news agencies. Alternative sources COVID-19 news and updates were Twitter pages of news agencies and other sources.

Based on the survey, the respondents reported a high level of exposure to COVID-19 information on social media. This means that the respondents are exposed to COVID-19 information several times a week. The correlation between the respondents' exposure to their knowledge about COVID-19 information showed a positive significant relationship. This implies that as the exposure of the respondents increases, in turn, their knowledge about COVID-19 also increases. This study then suggests that the respondents who have a high level of exposure are knowledgeable while those who have low level of exposure have low knowledge. The item-indicator *I intently read/watched COVID-19 information on social media* gained the highest correlation strength. This means that the intentionality and focus that the respondents exert when consuming COVID-19 information is the main contributor of their knowledge about COVID-19 like how the virus is spread, symptoms, provincial quarantine guidelines, and others.

No significant relationship between the respondents' exposure and their anxiety was established in the study. In spite of this, less than half of the anxiety indicators showed a significant relationship to the exposure of the respondents to COVID-19 information on social media. Physiological manifestations like wobbliness in legs, feeling of choking, and difficulty in breathing have a positive relation to exposure. Meanwhile, mental manifestations of anxiety such as inability to relax, nervousness, being terrified or afraid, unsteadiness, being scared, and fearing the worst happening registered an inverse relation to exposure.

Correlations between exposure to item-indicators of adherence showed a negative significant relationship. This signifies that despite the high level of exposure of the respondents, cultivation effect manifested in the form of increase in the propensity of the MMSU to follow COVID-19 health protocols was not established in

the study. Intervention by knowledge and anxiety as mediating variables was inconclusive as the former had a positive relationship with exposure and the latter with no relationship at all. It is then argued that for MMSU students to cultivate adherence to health protocols, they are yet to acquire a higher level of exposure to COVID-19 information needed for cultivation to take effect.

Culturally, Ilokanos are characterized by their ingenuity and resourcefulness arising from living in harsh conditions, frugality coming from knowing the importance of every peso, and their strong community kinship. The results of this study are substantiated by these allusions to resilience supplemented by local health remedies and adaption mechanisms of the Ilokanos and in the differing effects of social media exposure.

Conclusion

This study found a high level of exposure of MMSU students to COVID-19 information available on social media. The respondents reported to being exposed to COVID-19 news and updates several times a week. They admitted to intentionally reading or watching COVID-19 information and having the feeling of unease when they do not get to consume such. Thus, the respondents assumed a proactive role in making themselves informed about COVID-19, and they allocated a portion of their day for doing so. It is then concluded that social media plays a major role in the dissemination of COVID-19 news and updates, together with intentionality and frequency of exposure.

Correlations carried out between exposure and knowledge point to a positive significant relationship. Due to the high exposure to COVID-19 information of the

respondents, their knowledge about COVID-19 was also high. The high focus exerted by the respondents when reading and/or watching COVID-19 news and updates appeared to be the main reason why they are familiar with COVID-19 symptoms, how it is transmitted, preventive measures, provincial quarantine guidelines, and other important information in order for them to protect themselves from contracting COVID-19. This study then concludes that deliberate, planned, and focused consumption of information related to COVID-19 helps in the familiarization and retention of information of the respondents.

With less than half of the anxiety indicators showing a significant relationship to exposure, overall, the study did not see a significant relationship between exposure and anxiety of the respondents. Physiological manifestations of anxiety show a direct relation to exposure while mental manifestations have an inverse relation to exposure. Factors like social and geographical proximity as well as economic, educational, and familial disturbances could also be affecting MMSU students with whatever anxiety they might have felt.

About exposure and adherence, the study saw a negative significant relationship between the two variables. This implies that when exposure increases, there would be less tendency for the respondents to follow COVID-19 health protocols. Also, while exposure has a positive relationship with knowledge, exposure has a negative relationship with adherence. Therefore, further inquiries should be made to explore other possible reasons why knowledge of best practices in mitigating the spread of COVID-19 does not necessarily translate to the actual act of people performing them. Too much information may have caused confusion that left users to ponder on what needs to be done. Perhaps, more scientists and medical doctors should be encouraged to contribute to public policy discussions to better address

COVID-19. It is recommended that the cultural background of the target audience for health risk communication efforts be considered in formulating, implementing, and assessing compliance to protocols.

In general, results of correlation made between exposure (independent variable) and adherence (dependent variable) with knowledge and anxiety as mediating variables do not point to cultivation. Framed by the cultivation analysis, this study puts forward that the level of exposure of the respondents fell short of the requirement for cultivation to take place. Ilokano values and characteristics such as frugality, ingenuity, and having a tight-knit community combined with their local health remedies and adaption mechanism may have influenced the way they respond to health risks like the current COVID-19 pandemic as revealed by their knowledge, inconclusive anxiety, and non-adherence to health protocols. Ilokano social media users might have experienced confusion attributed to too much information available, thus, scientists and medical doctors should be encouraged to contribute to policy discussions to further public understanding of current and future health crises. Additionally, the cultural background of the target audience of health communication endeavors should be taken into consideration in the formulation, implementation, and assessment of such.

Recommendations

This study forwards the following recommendations:

For Health communicators

- Look into creating, implementing, and assessing health communication strategies adapted and customized to address positive and problematic cultural beliefs and practices of local communities.

For Scientists and medical professionals

- Participate in public health fora and other platforms for information dissemination to ensure a more informed society.

For development communication

- Formulate, implement, and assess health communication programs and consider the cultural background of the audience whom the efforts are being targeted to.

For policymakers

- Formulate policies on online news or content creation
- Develop a fact check mechanism to verify health information posted online
- Institute a two-step verification check for social media platforms to ensure accuracy of information posted on their sites

For future research

- Employ other anxiety tests and measures in measuring the anxiety of respondents.
- Conduct studies to come up with other anxiety tests and measure specifically focusing on worry and apprehension that is brought about by the COVID-19 pandemic.
- Conduct longitudinal studies to ascertain and substantiate the results of the study.
- Investigate the types of Information Education Communication materials about COVID-19 being produced, its message channels, the communication strategies used, and its subsequent effects to the respondents' knowledge about COVID-19, anxiety about COVID-19, and adherence to COVID-19 health protocols.
- Consider social and geographical proximities of the respondents to COVID-19 as possible sources of anxiety. Likewise, other dimensions of human life aside from health and health risks should be considered as other possible sources of anxiety of respondents.
- Explore other sources of COVID-19 where the respondents retrieve information from.

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ANNEXES

Annex I – Ethics Certificate

MARIANO MARCOS STATE UNIVERSITY
University Research Ethics Review Board

EXEMPT RESEARCH CERTIFICATE

Reference Number: **2021-024**

Research Title: **THE EFFECTS OF MMSU STUDENTS EXPOSURE TO COVID-19 INFORMATION ON SOCIAL MEDIA TO THEIR KNOWLEDGE, ATTITUDE AND ADHERENCE TO HEALTH PROTOCOLS**

Nature of Research: **MASTERAL THESIS**

Lead Researcher: **KARLA AURIA GALEON**

On behalf of the University Research Ethics Review Board (URERB), I hereby certify that the above-mentioned research project is qualified as exempt research under the category/ies:

"2. Research involves only the use of educational tests, survey procedures, interview procedures, or observation of public behavior."

The researcher(s) may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the certification is effective **March 12, 2021 to March 12, 2022.** Likewise, post-approval submissions are not necessary; however, all modifications to the study that has been certified as exempt research must be submitted to the board for prospective review and certification of exemption prior to implementation.

CERTIFIED TRUE AND CORRECT:

REY JOHN C. VILLANUEVA
Secretary

APPROVED:

RYAN DEAN D. SUCGANG
Chair

2nd Floor, COM Bldg. #16 S Quiling Sur, City of Batac, Ilocos Norte
urerb@mmsu.edu.ph 0908-895-596 www.mmsu.edu.ph

Annex II – Survey Questionnaire

Name (optional): _____

Age: _____

Address: _____

*Mobile number: _____

*e-mail address: _____

*Providing your mobile number and e-mail address would mean that you are giving the researcher the permission to contact you for clarification or verification of your responses.

Part 1. Informed Consent Information

Part 2. Exposure, Knowledge, Anxiety, and Adherence to Protocols

QUARTER 1

During this quarter, face-to-face classes were suspended after our midterm examinations of 2nd sem, AY 2019-2020.

Highlights from this quarter:

- Start of province-wide Enhanced Community Quarantine (March 16)
- Work, transportation, and face-to-face classes in schools are suspended.
- First local transmission of COVID-19 was recorded in the province.
- General Community Quarantine (May 16) and Modified General Community Quarantine (June 2) were also implemented in this quarter.

Level of Exposure

Last March 16 to June 16...

No.	Items	Everyday	Several times a week	Several times a month	Rarely	Only by chance
		5	4	3	2	1
1	I intently read/watched COVID-19					

	information on social media.					
2	I intentionally looked for COVID-19 information on social media.					
3	I really allotted time to read/watch COVID-19 information in social media.					
4	I felt like the day is not complete when I did not read/watch COVID-19 information in social media.					

Knowledge

Movement of people was limited to accessing basic necessities during this quarter.

a. True

b. False

Since hoarding, reselling, and price spikes for gain was prevalent during this quarter, _____ was implemented in the province.

a. shortage

b. inflation

c. price freeze

d. curfew

Children, senior citizens, immunocompromised and with comorbidities, and pregnant women are considered as _____.

a. Individuals with high infection risk

b. Individuals with high reaction risk

c. Individuals with high transmission risk

d. Individuals with high retention risk

_____ is a person who has possibly been exposed to COVID-19 without symptoms

a. Person under monitoring (PUM)

b. Person under investigation (PUI)

c. Person under analysis (PUA)

d. Person under scrutiny (PUS)

_____ is a person who shows symptoms of COVID-19

a. Person under monitoring (PUM)

b. Person under investigation (PUI)

c. Person under analysis (PUA)

d. Person under scrutiny (PUS)

_____ is the term used for a PUI who exhibit mild, severe, or critical symptoms that has not been tested yet

a. Suspect

b. Probable

c. Confirmed

d. Denied

_____ is the term used for a PUI who exhibit mild, severe, or critical symptoms that has been tested but its results are unidentified.

a. Suspect

b. Probable

c. Confirmed

d. Denied

_____ is the term used for a person who tests positive for COVID-19

a. Suspect

b. Probable

c. Confirmed

d. Denied

Anxiety

Last March 16 to June 16, when I read/watched COVID-19 information on social media, I felt the following:

No.	Items	Severely – it bothered me	Moderately – it wasn't pleasant at times	Mildly but it did not bother me much	Not at all
When I read/watch COVID-19 information in social media, I feel the following:		4	3	2	1
1	Numbness or tingling				
2	Feeling hot				
3	Wobbliness in legs				
4	Unable to relax				
5	Fear of worst happening				
6	Dizzy or lightheaded				
7	Heart pounding/racing				
8	Unsteady				
9	Terrified or afraid				
10	Nervous				
11	Feeling of choking				
12	Hands trembling				
13	Shaky/unsteady				
14	Fear of losing control				
15	Difficulty in breathing				
16	Fear of dying				
17	Scared				
18	Indigestion				

19	Faint/lightheaded				
20	Face flushed				
21	Hot/cold sweats				

Adherence to health protocols

March 16 to June 16 Practices:

	Always	Very Often	Sometimes	Rarely	Never
I avoided going out of my home					
I avoided unnecessary vacations					
I avoided consuming outdoor food					
I avoided handshaking, hugging, and kissing					
I avoided public transportations (tricycle, jeep, bus, plane,etc.)					
I avoided going to school					
I frequently washed my hands					
I paid more attention to my personal hygiene than usual					
I used disinfectant and solutions					
I used herbal products and traditional medicine					
I took vitamin supplements					
I used face mask only					
I used both face mask and face shield					
I removed my face mask when in public					
I practiced physical distancing when outside my home					

QUARTER 2

During this quarter, the new school year started, and classes were conducted purely online via mVLE.

The coverage of this quarter ends before the start of the midterm examination.

Highlights from this quarter:

- Modified General Community Quarantine was in effect throughout this quarter.
- People are limited to work travel and access to essential goods and services.
- Vehicles can operate but must not succeed half of its capacity.
- The last two weeks of September ended with 35 active cases.

Level of Exposure

Last June 17 to September 16...

No.	Items	Everyday	Several times a week	Several times a month	Rarely	Only by chance
		5	4	3	2	1
1	I intently read/watched COVID-19 information on social media.					
2	I intentionally looked for COVID-19 information on social media.					
3	I really allotted time to read/watch COVID-19 information in social media.					
4	I felt like the day is not complete when I did					

	not read/watch COVID-19 information in social media.					

Knowledge

COVID-19 vaccination is not mandatory.

a. True

b. False

Aside from frontline health workers, senior citizens, and uniformed personnel, indigent population are included in the priority groups to be vaccinated.

a. True

b. False

At the moment, only the government is duly authorized to procure and administer vaccines.

a. True

b. False

The vaccine is free for priority groups.

a. True

b. False

Mandatory wearing of face mask and face shield of all public transport passengers is implemented.

a. True

b. False

Wearing of face mask with a valve is recommended as it provides two-way protection.

a. True

b. False

In this quarter, 50% seating capacity is allowed in the venue for mass gatherings.

a. True

b. False

Persons below 21 and 59 years old, and persons with health risks are required to remain in their residences during this quarter.

a. True

b. False

Anxiety

Last June 17 to September 16, when I read/watched COVID-19 information on social media, I felt the following:

No.	Items	Severely – it bothered me	Moderately – it wasn't pleasant at times	Mildly but it did not bother me much	Not at all
When I read/watch COVID-19 information in social media, I feel the following:		4	3	2	1
1	Numbness or tingling				
2	Feeling hot				
3	Wobbliness in legs				
4	Unable to relax				
5	Fear of worst happening				
6	Dizzy or lightheaded				
7	Heart pounding/racing				
8	Unsteady				
9	Terrified or afraid				
10	Nervous				
11	Feeling of choking				
12	Hands trembling				
13	Shaky/unsteady				
14	Fear of losing control				
15	Difficulty in breathing				
16	Fear of dying				

17	Scared				
18	Indigestion				
19	Faint/lightheaded				
20	Face flushed				
21	Hot/cold sweats				

Adherence to health protocols

June 17 to September 16 Practices:

	Always	Very Often	Sometimes	Rarely	Never
I avoided going out of my home					
I avoided unnecessary vacations					
I avoided consuming outdoor food					
I avoided handshaking, hugging, and kissing					
I avoided public transportations (tricycle, jeep, bus, plane,etc.)					
I avoided going to school					
I frequently washed my hands					
I paid more attention to my personal hygiene than usual					
I used disinfectant and solutions					
I used herbal products and traditional medicine					
I took vitamin supplements					
I used face mask only					
I used both face mask and face shield					
I removed my face mask when in public					
I practiced physical distancing when outside my home					

QUARTER 3

During this time, the first semester was ending. Classes were wrapping up and you were getting ready for the final examination; Christmas was fast approaching.

Modified General Community Quarantine was still in effect this quarter.

Level of Exposure

Last September 17 to December 16...

No.	Items	Everyday	Several times a week	Several times a month	Rarely	Only by chance
		5	4	3	2	1
1	I intently read/watched COVID-19 information on social media.					
2	I intentionally looked for COVID-19 information on social media.					
3	I really allotted time to read/watch COVID-19 information in social media.					
4	I felt like the day is not complete when I did not read/watch COVID-19 information in social media.					

Knowledge

Wearing of face mask and face shield is mandatory in all public and private areas during this quarter.

a. True
b. False

In which age group is the disease more dangerous?

a. Under 15 years old
b. 15 to 30 years old
c. 30 to 50 years old
d. Above 50 years old

Diarrhea or constipation is a symptom of COVID-19.

a. True
b. False

COVID-19 can be transmitted through the consumption of contaminated dairy and meat.

a. True
b. False

Practicing physical distancing for about 2 meters or 6 feet can decrease the spread of the virus.

a. True
b. False

Non-contact sports are allowed but with high public health standards.

a. True
b. False

Ilocos Norte did not accept entry of Locally Stranded Individuals from _____.

a. September 11 to September 16
b. September 12 to September 17
c. September 13 to September 18
d. September 14 to September 19

Mass gatherings are limited to three (3) hours with a maximum of _____ persons.

a. 5
b. 10
c. 15
d. 20

Anxiety

Last September 17 to December 16, when I read/watched COVID-19 information on social media, I felt the following:

No.	Items	Severely – it bothered me	Moderately – it wasn't pleasant at times	Mildly but it did not bother me much	Not at all
When I read/watch COVID-19 information in social media, I feel the following:		4	3	2	1
1	Numbness or tingling				
2	Feeling hot				
3	Wobbliness in legs				
4	Unable to relax				
5	Fear of worst happening				
6	Dizzy or lightheaded				
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11	Feeling of choking				
12	Hands trembling				
13	Shaky/unsteady				
14	Fear of losing control				
15	Difficulty in breathing				
16	Fear of dying				
17	Scared				
18	Indigestion				
19	Faint/lightheaded				
20	Face flushed				
21	Hot/cold sweats				

Adherence to health protocols

September 17 to December 16 Practices:

	Always	Very Often	Sometimes	Rarely	Never
I avoided going out of my home					
I avoided unnecessary vacations					
I avoided consuming outdoor food					
I avoided handshaking, hugging, and kissing					
I avoided public transportations (tricycle, jeep, bus, plane,etc.)					
I avoided going to school					
I frequently washed my hands					
I paid more attention to my personal hygiene than usual					
I used disinfectant and solutions					
I used herbal products and traditional medicine					
I took vitamin supplements					
I used face mask only					
I used both face mask and face shield					
I removed my face mask when in public					
I practiced physical distancing when outside my home					