

# Communicating COVID-19 Vaccine Information to Parents During Pandemic in Science City of Munoz, Philippines

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## ABSTRACT

Despite the existing communication strategies and health information available online during the COVID-19 outbreak, the general public has found that some parts of the world got the lowest COVID-19 vaccine acceptance rates. Looking at the developmental dimension of communicating vaccine information, this paper gauges the underlying context and factors of the vaccine hesitation. This is to further assist the health information communicator to effectively craft strategies for public health. Interviews were administered as instruments of the study while the respondents were chosen through Simple Random Sampling. Thereafter, the data were analyzed by utilizing the Individual Differences Theory. As far as communication strategies are concerned, the Department of Health have found a high level of acceptance (47.2%) from the parent-respondents despite the vaccine hesitancy deeply rooted on the negative exposure to vaccine related to the dengue vaccine, Dengvaxia. Further, a significant relationship was established in the correlation between the use of social media and the age of the respondents (0.040\*); poster and educational attainment (0.005\*\*); poster and employment (0.018\*); and seminar and educational attainment (0.011\*), in communicating COVID-19 information. Following the framework for analysis, the exposure to COVID-19 vaccine messages leads to an attitude shift that changes the parent-respondents action towards the vaccination of their children. This study concludes that the exposure of parent-respondents to communication strategies and materials have been proven to be statistically significant factors and played a significant influence in the spread of COVID-19 vaccine information. Consequently, the use of social media as a source of information in rural communities was statistically low. This study inferred that there is a barrier in communicating health information for respondents who didn't finish their studies and reside from rural areas whereas there is a lack of available communication materials with local context.

**Keywords:** COVID-19, Vaccine, Health Communication, SDG 3

## INTRODUCTION

### • Rationale of the Study

Health widely affects education and labor productivity that greatly has a huge impact, and a key factor in achieving the economic growth of developing countries [37]. In light of this, it is critical to foster health literacy to the public especially now in times of a pandemic.

Due to the COVID-19 pandemic, education and information dissemination have shifted to online platforms from in-person, health-related information is now more accessible and that is abundant on all online and social media platforms and has been utilized by the public on a daily basis [46]. As a matter of fact, in recent years, the popularity of webinars for the purpose of training has been increasing [6], [7], [28], [16], [17], [29]. Hence, eHealth literacy is being established. eHealth literacy pertains to the ability to identify, understand, and evaluate health information from online sources then utilize that information to resolve a health problem [32].

During the COVID-19 outbreak, although there are existing communication strategies and health information online, there are still remote communities where health-related information from electronic sources is not yet available and accessible [3]. In line with this, the failure in health education has had a huge impact and resulted in poor literacy of the people [46] where in fact the general public has found that some parts of the world got the lowest COVID-19 vaccine acceptance rates [39].

People at high risk for the virus and COVID-19 positive patients are more likely to self-report their agreement to receive the COVID-19 vaccine when it becomes available. On the other hand, medical staff who don't have exposure to COVID positive patients exhibited larger levels of vaccine hesitation [9].

In light of this, looking at the developmental dimension of communication COVID-19 vaccine information, it is crucial to take into account the underlying context and factors of the vaccine hesitation, not merely for a one-time onslaught of information or persuasion.

Taking all of this into account, this study can help the Department of Health – Science City of Munoz (DOH-SCM), Philippines, to effectively communicate health information among parents in the community.

### • Review of Related Literature and Studies

The world population continues to have a significant level of hesitancy to the COVID-19 vaccination. It is essential to persuade people who are skeptical to take the vaccination now that it is available to priority populations. Vaccination disinformation and public health communication regarding the vaccine are spread via a range of information sources. Misinformation is more frequently transmitted through some media sources. However, there are still communities where health services are limited. Other concerning factors of this are lack of government access, far-flung areas and language barriers. On the other hand, communities are also experiencing lack of access to timely and accurate COVID-19 information [18].

With this, information is seen as critical in achieving goal and increasingly recognized its significance in the development process especially on the target audience or recipient of a message [21], [38], [19], [1], [47]. People seeks for information for health, likewise, seeking for information is considered as fundamental human process that are mainly recognized and linked to the learning process and problem solving [14], [26], [27], [35], [49], [2].

In relation to the concept of health, persuasion among parent during COVID-19 and the process of information dissemination, [14], [5], [45] on their study, have found out that one of the major problem in development process is the lack of information which are being used for capacity building and empowering communities.

On the other hand, on the other existing study, the researchers reviewed and analyzed the information dissemination models used for Agriculture using Information and Communication Technologies (ICT) in China [10]. The study revealed the impact of agricultural information services, which highlighted in various areas, Agriculture services efficiency was improved [31], farmers' income was increased [8], [22]-[25], agriculture production was improved [22], [23], [25], and the digital divide between rural and urban regions was narrowed [31].

However, findings also indicated the communication barriers in relation to the use of ICT due to the constraints: not enough IT infrastructures [22], [23], [33], [4], [48], management and monitoring system that isn't entirely functional [31], [4], lack of technical support staffs [23], [4], and limited knowledge and information sources [24], [25], [31].

Furthermore, information dissemination informing in Thailand through ICT were also being studied [42].

He found out that among ICT tools used in the country, television is the most popular tool with 73.6%, followed by mobile phones having 52.4%, radio with 48.2% and community loudspeakers having 34.2%.

Moreover, for the purpose of learning in farming, farmers were also found to be eager to try the internet as a source of information considering that participants of the study did not even use computers and or the internet. When it comes to face-to-face communication, farmers are still receiving information, local councils, neighbors and extension workers are among the highest rank to be a source of information in the community. Participants ranked their trust in extension workers first, followed by local councils, government personnel, and neighbors when it came to the reliability of face-to-face information sources.

In light of the exposure of communities in social media, Gen Z individuals are described as being born and raised with technology, being digitally centered, and having technology as their identity [15]. Reference [36] found out that when it comes to the source of information, the main communication channels used by the local communities in South India were television and wall posters to disseminate public health information – whereas these materials are more accessible making it the source of information.

In contrast, health communication in the digital era reveals that updated information in social media is greatly used for health information with 68% of the respondents [40].

In connection with this, Reference [50] says that online media and digital-based media in urban communities can easily be accessed by its target audience where internet connection is more readily available.

Consequently, Reference [44] and [11], have found out that the overreporting of vaccination side effects by the mass media has largely contributed to the issue concerning the rising vaccine hesitancy.

In addition, the research of Reference [41] showed a concerning level of ignorance and little scientific understanding of the COVID-19 pandemic and its related vaccination effort. The study found that vaccination reluctance is not a barrier, but rather low vaccine availability and a lack of awareness campaigns may give people who choose not to be vaccinated negative ideas.

Moreso, the study of Reference [30] revealed that there is less vaccine hesitancy among parents and caregivers who thought that COVID-19 vaccine was effective against the virus.

On the other existing study, the most crucial method is still to empower and mobilize health professionals to play a proactive role in providing accurate and timely information on the advantages of vaccination and allaying community concerns and mistrust of [43].

### • Theoretical Framework

Individual Differences Theory suggests that people have different responses to media which depends on psychological needs, and they use the media to meet those needs. The notion emphasizes the significance of the various audiences. Based on the theory, a person's values, wants, beliefs, and attitudes have a big impact on how they use and respond to the media.

In addition, according to the individual difference theory, which is a critical theory based on a psychological approach to understanding the effects of mass media, different personality variables lead to different reactions to the same stimuli, meaning that a person's psychological make-up plays a significant role in how people will consume media.

Additionally, as a result, many individuals will respond in various ways to the same information or message. In other light, audience members' motivations, predispositions to accept or reject a particular message, past beliefs, values, prejudice, intellectual level, emotions, etc. will all affect how they react to media messages or material.

In accordance with this, the individual difference approach posits that each of us has distinctive features that cause us to respond to media messages in various ways. Each of us has unique psychological traits that impact how we respond to and are influenced. Our exposure to, perception of, and memory of media material contributes to these many consequences.

On the other hand, for the purpose of this study, COVID-19 vaccine messages from the communication strategies of Department of Health- Science City of Munoz was determined if this may lead to an attitude shift that changes people’s actions, including those of parents in the city and the public in general.

• **Conceptual Framework**

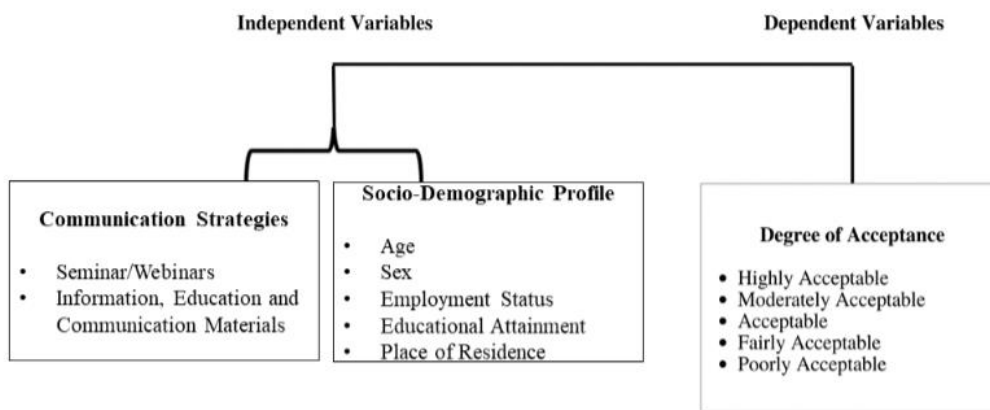


Fig. 1 Conceptual Paradigm of the Study

Fig. 1 shows the conceptual framework of this study. The study has two parts, the independent and dependent variables which are basically the primary basis of the analysis. The independent variables have two distinct portions – communication strategies and socio-demographics. In relation to communication strategies, there are two main processes considered – seminar/webinars and the information, education, and communication materials such as flyers and posters. Furthermore, in relation to the socio-demographics, it composed of age, sex, educational attainment, and language use.

On the other hand, the dependent variables are composed of the degree of acceptance, which is basically through the Likert scale, Highly Acceptable, Moderately Acceptable, Acceptable, Fairly Acceptable, Poorly Acceptable.

In this regard, the above-mentioned variables were analyzed the acceptability of the COVID-19 vaccine information to the respondents in order to understand how the socio-demographic characteristics and the communication strategies affects the parents and may lead to an attitude shift that changes people’s actions.

• **Statement of the Problem**

The approach used in the study starts with the premise that information dissemination is primarily a communication process. However, even though there is existing health-related information, it is still lacking and the level of acceptance to the information is low.

Specifically, the study answered the following research questions:

1. What are the socio-demographic characteristics of the parent- respondents?;
2. What are the existing communication strategies of DOH Science City of Munoz in communicating COVID-19 vaccine information to the community?;

3. What is the parents' acceptance level of the COVID-19 vaccine information?; and
4. Is there any significant relationship between the parents' acceptance level of the COVID-19 vaccine information, and the parents' socio-demographic characteristics and the communication strategies of DOH Science City of Munoz?

- **Hypothesis**

In line with identifying the relationship between the parents' acceptance level of the COVID-19 vaccine information, and the parents' socio-demographics characteristics and the communication strategies of DOH Science City of Munoz, here are the hypotheses to the given variables: There is a significant relationship between the degree of acceptance and socio-demographics. In addition, there is also a significant contribution to the degree of acceptance to COVID-19 vaccine information of parents who were exposed to the communication strategies of DOH-SCM.

## **MATERIALS AND METHOD**

- **Research Design**

The study used a descriptive research design which involved the gathering of quantitative and qualitative data tabulated in numerical form. Also, quantitative study explains trends by collecting numerical data that will be analyzed by utilizing mathematically-based methodologies, and in order to explain phenomena, specific questions appear to be well suited to be addressed using quantitative approaches.

- **Research Locale**

This study was conducted in selected barangay of Science City of Munoz, Nueva Ecija. Science City of Munoz is one of the cities in the region that have communication intervention in health information. Hence, this locale used since parents in the area have COVID-19 vaccine hesitancy and don't have enough access to health information online and are rarely exposed to offline information from the local leaders and health workers even if there is an existing communication intervention.

The results of the study benefit local health workers, academe, and communication practitioners, especially the parents in the community.

- **Sampling Method**

Prior to data gathering, this study employed the Simple Random Sampling (SRS) under Probability Sampling. In order to understand more about the complete population, a sample is a portion of that population that has had its properties investigated (Webster, 1985). In terms of dealing with individuals, it is described as survey respondents who were chosen from a broader group. Simple Random Sampling, on the other hand, consisted of simply selecting elementary units to ensure that each unit in the sample has a fair chance to be chosen as respondents in the research. In addition, SRS is free from sampling bias.

In this perspective, from 56,986 population size of parents in Science City of Munoz, Nueva Ecija, only 271 parents have served as the sample size with 90% Confidence Level and Margin of error of 5%. Out of three selected barangays in Science City of Munoz, Nueva Ecija, only 91 parents per barangay were selected to participate in the research. The said barangays were Barangay Cabisuculan, Labney, and San Felipe.

- **Scope and Delimitations**

The study works within the degree of acceptance of parents to COVID-19 vaccine health information being communicated to parents from DOH Science City of Munoz to determine the processes of decision making prior to the vaccination of the children in the family. In order to make the study possible, the concept of



Individual Differences Theory was employed. The respondent of the study was selected through simple random sampling design under probability sampling and come from barangays in Science City of Munoz, who have been interviewed. Only parents with minor children were interviewed.

- **Research Instrument**

Survey questionnaires and interviews were used as instruments of the study answered by 271 respondents through one-on-one interviews.

The survey explored the existing communication channels and strategies of DOH Science City of Munoz on health information and cognitive processing used by the parents in the decision making.

Correspondingly, the part I of the survey questionnaire was the socio-demographic profile of the respondents, part II examines the degree of acceptance of parents, it consists of Likert scale, was utilized to acquire the other information needed in the study. The results were tallied and arranged into tables and were presented in statistical measures such as percentage, frequency, mean, and correlation, with this, the researcher got the significant pieces of information in order to achieve the objectives of the study.

- **Data Gathering Procedure**

Survey questionnaire and interview were used and done to gather the needed information for the study. Considering that this study was still done during a pandemic, in-person interview was conducted in gathering data as some community members in Science City of Munoz don't have capability to answer it in an online platform and some don't have access to the internet, it is most convenient way for the researcher to gather the information required to achieve the study's objectives.

Further, the data submitted by the respondents was kept confidentially secured by the researcher. Following Republic Act No. 10173 or the Data Protection Law of the Philippines, the researchers also sought the respondents' permission and consent to use the obtained data for the confidential collection, processing, and disclosure of their responses only to the researcher to achieve the purpose of the study.

- **Data Analysis**

The gathered data was organized, tabulated and analyzed as follows: For the descriptive analysis, frequency, percentages, mean, and variance was used. On the other hand, for correlation analysis, Cramer's V was utilized in consultation with the statistician, as statistical tools for the test of relationship of identified independent and dependent variables.

- **Ethical Consideration**

Prior to data gathering, participants were informed of the objectives of the study. The respondents have the right to voluntarily participate and decline to be interviewed with no need to explain. Further, the data submitted by the respondents were kept confidentially secured by the researcher. Following Republic Act No. 10173 or the Data Protection Law, the researcher will also seek the respondents' permission and consent to use the obtained data for the confidential collection, processing, and disclosure of their responses only to the researcher to achieve the purpose of the study.

## **RESULTS AND DISCUSSIONS**

- **Profile of the Respondents**

In terms of socio-demographic profile of the respondents, 145 (53.50%) have finished their studies in high

school, 51 (18.80%) completed their primary level while 30 (11.10%) of the respondents have completed their higher education degree. It can be implied that this was a heterogeneous group that provided a decent representation of the sample of the study. On the other hand, since the ages of the respondents differ significantly, it can be assumed that their exposure to social media was different considering that they belong to a different generation (Table I).

In light of this, the age or generation gap of the respondents affects its exposure to social media, as a matter of fact according to [15], Gen Z individuals are described as being born and raised with technology, being digitally centered, and having technology as their identity. With that, the respondents' exposure to social media differs significantly.

Additionally, table I shows that almost all 234 (86.30%) of the respondents came from rural areas and the rest 37 (13.70%) were from urban areas of Science City of Munoz. It can also be assumed that most of the respondents in rural areas have less exposure to communication materials and strategies and the availability of these materials in an online platform.

Table I. Profile of Respondents

| Variables          | Category         | Frequency<br>(n=271) | Percentage<br>(%) |
|--------------------|------------------|----------------------|-------------------|
| Age                | 20-30            | 36                   | 13.28             |
|                    | 31-40            | 138                  | 50.92             |
|                    | 41-50            | 74                   | 27.31             |
|                    | 51-60            | 23                   | 8.49              |
| Sex                | Male             | 130                  | 48.00             |
|                    | Female           | 141                  | 52.00             |
| Employment Status  | Employed         | 87                   | 32.10             |
|                    | Unemployed       | 184                  | 67.90             |
| Education          | Elementary       | 51                   | 18.80             |
|                    | High School      | 145                  | 53.50             |
|                    | Vocational       | 43                   | 15.90             |
|                    | College          | 30                   | 11.10             |
|                    | Master and above | 2                    | 0.70              |
| Place of Residence | Urban            | 37                   | 13.70             |
|                    | Rural            | 234                  | 86.30             |

Moreover, 141 (52%) of the respondents were female while 130 (48%) were male. When it comes to one of the socio-economic factors, table 1 shows that 184 (67.90%) of the total number of respondents were unemployed while 87 or 32.10% were employed. While when it comes to the civil status of the respondents, 247 (91.10%) were married and 18 (6.60%) were single parents.

**• Communication Strategies of DOH Science City of Munoz in Communicating COVID-19 Vaccine Information**

Table II shows the communication strategies identified by the respondent and being used by the DOH Science City of Munoz when communicating information related to COVID-19 vaccine and the pandemic in general.

Table II. Communication Strategies Used by Doh Science City of Munoz

| Communication Materials             | Frequency<br>(n=538) | Percentage<br>(%) |
|-------------------------------------|----------------------|-------------------|
| <b>Print</b>                        |                      |                   |
| Leaflets                            | 24                   | 8.90              |
| Brochure                            | 56                   | 20.70             |
| Posters                             | 128                  | 47.20             |
| Newspaper                           | 3                    | 1.10              |
| Flyers                              | 45                   | 16.60             |
| <b>Broadcast</b>                    |                      |                   |
| Audio/Radio Programs/Advertisements | 51                   | 18.80             |
| Video/TV Programs/Advertisements    | 79                   | 29.20             |
| Seminars/Webinar                    | 109                  | 40.20             |
| Audio-Visual Presentations          | 11                   | 4.10              |
| <b>Others</b>                       |                      |                   |
| Social Media                        | 30                   | 11.10             |
| Online (Other than SocMed)          | 2                    | 0.70              |

\*Multiple response

Posters 128 (47.2%) and Seminar/Webinar 109 (40.2%) were the two main strategies identified by the respondents and mainly the source of information on the updates regarding COVID-19 vaccines. This means that the respondents have high exposure on COVID-19 information on attending seminars and availability of posters both in online and offline. This indicates the respondents' preference for seminars and posters is due to its accessibility and ease of use.

This finding was supported by the study of [36], where they found out that the main communication channels used by the local communities were television and wall posters to disseminate public health information – whereas these materials are more accessible making it the source of information.

Results also showed that communicating health information in an online platform specifically on social media garnered only 11.8%, this can be considered as manifestation of the age gap of the respondents and the sample representation came from a heterogeneous group.

In contrast, the study of [40] assesses health communication in the digital era, it reveals that updated information in social media is greatly used for health information with 68% of the respondents.

In connection this, [50] says that online media and digital-based media in urban communities can easily be accessed by its target audience where internet connection is more readily available.

Other communication strategies were used by the local health department such as brochures 56 (20.7%), audio/radio programs 51 (18.8%), flyers 45 (16.6%), and video/television programs 79 (29.2%). While audio-visual presentations 11 (4.1%) and newspaper 3 (1.1%) were seen to be the least used strategies in communicating vaccine information in the community (Table II).

• **Parents' Acceptance Level of the COVID-19 Vaccine Information**

Communication strategies of the Department of Health in Science City of Munoz, Nueva Ecija have found a



high level of acceptance from the parent-respondents despite the vaccine hesitancy deeply rooted on the negative exposure to vaccine related to the dengue vaccine, Dengvaxia. This is a clear manifestation of how these strategies played a significant role in influencing the decision of the respondents. From these statistics of level of acceptance to COVID-19 information, it can also be assumed that most of the children of the parent-respondents have been inoculated by vaccine against the virus.

Table III. Level Of Acceptance of The Covid-19 Vaccine Information Among Respondents

| Statement                            | Strongly Disagree | Disagree     | Neutral      | Agree          | Strongly Agree |
|--------------------------------------|-------------------|--------------|--------------|----------------|----------------|
| a. Usefulness                        | 0<br>(0.0%)       | 9<br>(3.3%)  | 14<br>(5.2%) | 180<br>(66.4%) | 68<br>(25.1%)  |
| b. Social Influence and Adaptability | 2<br>(0.7%)       | 10<br>(3.7%) | 15<br>(5.5%) | 191<br>(70.5%) | 53<br>(19.6%)  |
| c. Trust                             | 2<br>(0.7%)       | 3<br>(1.1%)  | 24<br>(8.9%) | 191<br>(70.5%) | 51<br>(18.8%)  |
| d. Attractiveness                    | 3<br>(1.1%)       | 11<br>(4.1%) | 22<br>(8.1%) | 179<br>(66.1%) | 56<br>(20.7%)  |

Conversely, the findings of this study which has a high level of acceptance to COVID-19 vaccine information, the study of Tran and Nguyen, et. al. (2018), and Dubé, et. al. (2014), have found out that the overreporting of vaccination side effects by the mass media has largely contributed to the issue concerning the rising vaccine hesitancy.

Additionally, Sovan, et. al. (2022) showed a concerning level of ignorance and little scientific understanding of the COVID-19 pandemic and its related vaccination effort. The study found that vaccination reluctance is not a barrier, but rather low vaccine availability and a lack of awareness campaigns may give people who choose not to be vaccinated negative ideas. In light of this, it can be assumed that there is also a lack of effort in communicating health-related information to the public.

**• Correlation Between the Parents’ Acceptance Level of the COVID-19 Vaccine Information, and the Parents’ Socio-Demographic Characteristics**

A significant relationship was established in the correlation between the use of social media and the age of the respondents (0.05 level); poster and educational attainment (0.01 level); poster and employment (0.05 level); and seminar and educational attainment (0.05 level), in communicating COVID-19 information. With this, it can be said that the said variables were related: as the age of respondent is younger, the exposure to information online through social media increases.

When it comes to the variables between the use of poster and the employment status, and variables seminar and educational attainment of the respondents, it can be said that when the person was employed/or higher education attain, exposure to poster increases and knowledge increases, and when a person was unemployed, the level of exposure drops and knowledge does not increase significantly (Table IV).

Table IV. Correlation Between Communication Strategies of Science City of Munoz, And the Parents' Socio-Demographic Characteristics

| Communication Materials                | Age               | Sex                | Employment Status  | Education          | Place of Residence |
|--|-------------------|--------------------|--------------------|--------------------|--------------------|
| Leaflets                               | 0.117<br>(0.444)  | 0.0127<br>(0.835)  | 0.00821<br>(0.892) | 0.0899<br>(0.701)  | 0.0105<br>(0.863)  |
| Brochure                               | 0.104<br>(0.574)  | 0.0207<br>(0.733)  | 0.0395<br>(0.516)  | 0.0636<br>(0.895)  | 0.0968<br>(0.111)  |
| Posters                                | 0.156<br>(0.160)  | 0.0947<br>(0.119)  | 0.144<br>(0.018*)  | 0.235<br>(0.005**) | 0.0759<br>(0.212)  |
| Audio/Radio Programs/<br>Advertisement | 0.134<br>(0.298)  | 0.0857<br>(0.158)  | 0.0278<br>(0.648)  | 0.118<br>(0.434)   | 0.111<br>(0.068)   |
| Video/ TV Programs/<br>Advertisement   | 0.122<br>(0.398)  | 0.00168<br>(0.978) | 0.0759<br>(0.212)  | 0.165<br>(0.117)   | 0.0997<br>(0.101)  |
| Seminars/Webinar                       | 0.0678<br>(0.870) | 0.125<br>(0.040)   | 0.113<br>(0.063)   | 0.219<br>(0.011*)  | 0.0851<br>(0.161)  |
| Audio-Visual Presentations             | 0.117<br>(0.445)  | 0.0478<br>(0.431)  | 0.0188<br>(0.757)  | 0.149<br>(0.196)   | 0.0273<br>(0.653)  |
| Flyers                                 | 0.0792<br>(0.790) | 0.00820<br>(0.893) | 0.00948<br>(0.876) | 0.0834<br>(0.757)  | 0.0330<br>(0.587)  |
| Social Media                           | 0.125<br>(0.040*) | 0.00921<br>(0.880) | 0.0849<br>(0.162)  | 0.113<br>(0.482)   | 0.00329<br>(0.957) |
| Online                                 | 0.171<br>(0.094)  | 0.00350<br>(0.954) | 0.0331<br>(0.586)  | 0.0881<br>(0.717)  | 0.0343<br>(0.572)  |
| Newspaper                              | 0.0930<br>(0.673) | 0.0396<br>(0.515)  | 0.0728<br>(0.231)  | 0.0986<br>(0.620)  | 0.0606<br>(0.318)  |

Legend:

\* – Correlation is significant at the 0.05 level

\*\* – Correlation is significant at the 0.01 level

\*\*\* – Correlation is significant at the 0.001 level

With all the indicators for the parent’s acceptance level to the COVID-19 information, the study found out that there is a significant relationship between the indicator’s usefulness (0.009\*\*), social influence and adaptability (<0.001\*\*), trust (<0.001\*\*), and attractiveness (0.001\*\*), and educational attainment of the respondents.

In addition, there is also a significant relationship between social influence and adaptability and the place of residence of the respondents. It is then assumed that the level of acceptance of the respondents about COVID-19 vaccine information greatly depends on the educational attainment as it also serves as a factor contributing to their decision making of parent-respondents to inoculate their children with the vaccine.

Moreover, it may be assumed that if the parent-respondent has enough educational background, the more they understand the information, while others hesitate to make decisions due to not enough knowledge on the matter (Table V).

Table V. Correlation Between Parent’s Level Of Acceptance To Covid-19 Vaccine Information, And Socio-Demographic Profile Of The Respondents

| Indicators                        | Age               | Sex               | Employment Status | Education           | Place of Residence |
|-----------------------------------|-------------------|-------------------|-------------------|---------------------|--------------------|
| Usefulness                        | 0.109<br>(0.642)  | 0.0999<br>(0.440) | 0.0858<br>(0.573) | 0.181<br>(0.009**)  | 0.0878<br>(0.554)  |
| Social Influence and Adaptability | 0.108<br>(0.698)  | 0.143<br>(0.236)  | 0.104<br>(0.567)  | 0.192<br>(<0.001**) | 0.225<br>(0.008**) |
| Trust                             | 0.0965<br>(0.862) | 0.0987<br>(0.620) | 0.106<br>(0.551)  | 0.208<br>(<0.001**) | 0.0562<br>(0.931)  |
| Attractiveness                    | 0.0822<br>(0.966) | 0.116<br>(0.457)  | 0.0944<br>(0.660) | 0.190<br>(0.001**)  | 0.118<br>(0.437)   |

Legend:

\* – Correlation is significant at the 0.05 level

\*\* – Correlation is significant at the 0.01 level

\*\*\* – Correlation is significant at the 0.001 level

Following the framework for analysis for this study, the exposure to COVID-19 vaccine messages from the communication strategies of Department of Health- Science City of Munoz, leads to an attitude shift that changes the parent-respondents action towards the vaccination of their children. Where this study found a high level of acceptance of the COVID-19 vaccine information among respondents (Table III).

Consequently, a particular message affects how the parent-respondents react to it. Results of this study, as shown in Table 4, respondents agreed on the indicators under the social influence and adaptability. With this, it is clear that respondents are more likely to decide to inoculate their children with COVID-19 vaccine when prompted with government policies and as to how existing information provides significant and relevant information.

However, issues arose regarding the mass vaccination for dengue in 2017 in the Philippines [13], and now there are respondents who were still hesitant on vaccine intake [20].

## CONCLUSIONS

This study concludes that the exposure of parent-respondents to communication strategies and materials have been proven to be statistically significant factors and played a significant influence in the spread of COVID-19 vaccine information, and in the decision-making process on vaccination of their minor children. This is after the study found a high level of acceptance of parent-respondents on the COVID-19 vaccine information available from the Department of Health of the local government unit of Science City of Munoz, Philippines.

It is also inferred that even though online platforms have become common in the digital age, the use of social media as a source of information in rural communities was statistically low. This is in connection to the poster and webinar/seminar which have been found to be the major source of COVID-19 vaccine information by the parent-respondents prior to the vaccination of their minor children.

The study also concludes that there are barriers in communicating health information for respondents who didn't finish their studies and reside from rural areas whereas there is a lack of available communication materials with local context. Whereas, correlations carried out between the parents' acceptance level, and socio-demographic profile (specifically place of residence, and education level attained by the respondents) and communication strategies of DOH Science City of Munoz, point to a significant relationship.

## RECOMMENDATIONS

Based on the findings of this study, these would be the recommended ideas for future communication strategies and further studies.

It should be noted that social media is a powerful and simple method for communicating health-related information, especially given that practically all transactions take place online, however, lack of access to the internet or social media hinders the process of learning of those people living in rural communities in most convenient and can easily access by the audience. For this reason, local government units should consider giving free internet access to rural communities and should conduct surveys on the communication strategies preferences of the community in communicating health-related information.

While educational attainment and place of residence of the respondents hinders the process of understanding on the subject matter, it is recommended to consider the factors concerning local dialect as well as culture of the targeted audience in developing communication strategies for health information most especially in communities in rural areas. Specifically, information must be translated into local dialect.

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