

Attitude as determinants of disaster preparedness

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Abstract

Introduction: Survival mainly relies on mental skills since it controls the body, its actions, and its reasoning. If the person thinks that he/she will not survive, the individual will not try to survive. In the same way, disasters come when least expected. Filipinos know that they are at risk but they are not making disaster preparedness a priority until they experience a disaster

Objective: To assess attitude towards disaster preparedness among the Filipino students.

Methods: A descriptive correlation design was used to determine the relationship between attitude with disaster preparedness of grades nine and ten public high schools students. Nine hundred thirty-three students were selected through purposive sampling from disaster-prone areas of the Philippines.

Results: The findings reveal that attitude was significantly related to planning and response but not significantly related to mitigation. The respondents have positive attitudes towards disaster preparedness. There was a significant difference in disaster preparedness between males and females but there was no significant difference in disaster preparedness when the type of housing was considered.

Conclusion: The respondent had positive attitude towards disaster preparedness in terms of planning, mitigation and response.

Keywords: Attitude, type of housing, disaster preparedness, Typhoon, Philippines

Introduction

A disaster is an event that occurs beyond the control or response mechanism of either the individual or the community. It most likely leads to injury, death, and damage of property (Beach 2010). The prevalence of natural disasters has increased through the years and one main factor for such is climate change. Asia, being the leading continent largely affected by natural disasters that occur frequently in many extreme cases, the persons affected by these is not able to prepare or even survive (AccWeather 2014). However, personal preparedness for food, water, first aid kits and medicine, sanitation and environmental needs and materials for entertainment for at least three days is basic (Denny 2016).

Typhoon is the most common natural disasters in the Philippines. Typhoon Haiyan known as Typhoon Yolanda locally was one of the strongest typhoons that were ever recorded. It killed more than 7,300 people and 1.2 million people were evacuated in 2013 (Ramzy 2014). Children and young people are seen as among the most vulnerable during disasters (Blue Water Media 2013).

Attitude is a state of mind in which the individual view the thing or situation and behave, feel, and think of it (American Heritage 2011). The mind is a powerful

source of survive in emergency situations since it controls the body, its actions, and its reasoning. If the person thinks that he/she will not survive, the individual will not try to survive. So a positive attitude is an attitude that is needed in order to survive (Conway 2015). Disaster preparedness helps people to know what to expect and what to do in the scenario. When minutes count, it's important to know how to handle an emergency situation (Denny 2016). Disasters come when least expected. Filipinos know that they are at risk but they are not making disaster preparedness a priority until they experience disaster (Symantec, 2012). Based on this scenario, the researcher is interested to know attitude towards disaster preparedness among the Filipino students.

Materials and Methods

Source: The study was conducted in selected grade 9 and 10 public high school students from Luzon, Visayas, and Mindanao in the Philippines. The program aimed to enhance the typhoon preparedness of the students.

Study design: This study used the descriptive correlational design to describe attitude and demographic profiles (gender & type of house) in correlation with disaster preparedness (planning, mitigation & response) among the students.

Study Population: The study utilized purposive sampling from Luzon, Visayas, and Mindanao. International Institute of Rural Reconstruction (IIRR) Program Manager of Disaster Risk Reduction predicted typhoon prone areas of the Philippines. The researcher listed all public high schools in the specific areas. To choose the specific public schools, the random sample technique was utilized to select two schools from Cavite (Noveleta & Rosario), two schools from Tacloban (Tacloban city & Sagkahan) and one school from Davao (Catulanan Grande). A self-constructed questionnaire based on literature and related studies were used. Data were collected from 933 respondents during October 19, 2015 to November 27, 2015. The inclusion criteria are as follows: high school students (grades 9 & 10), Filipino living with his/her family, currently enrolled at the chosen public high school and residing in the area for at least six months. Anyone who fulfills the criteria was recruited.

Data processing and analysis: The data gathered were encoded using Microsoft Excel and exported for analysis using the Statistical Package for Social Science (SPSS) version 22. Descriptive statistics such as frequency distribution, mean, and standard deviation analyzed the demographic profile, and attitude on the disaster preparedness of the respondents. To know the significant relationships between attitudes on disaster preparedness, the Pearson's product-moment correlation coefficient analysis of variance (r) were used. The t-test was used to find out if there is a significant difference in disaster preparedness between demographic profiles such as gender and type of housing.

Ethical Clearance: Endorsement letters were secured from the Assistant Vice President for Academics-Graduate Studies to seek permission to gather data from the selected schools. The said letters were personally delivered to the respective division superintendents. The division superintendents then wrote a letter of endorsement to the principals of the selected schools. The researcher explained the purpose of the study, the nature of the questionnaire, the ethical issues involved and the inclusion criteria of the respondents to the respective principals, the coordinators of the schools and the classroom teachers. The purpose of the study was clearly explained to the participants. They were informed that

participation was voluntary and they have the free will either to participate or not. The researcher also ensured the confidentiality and anonymity of each of the respondents by letting them answer the questionnaires without writing their names and was assured that only the researcher has access to the questionnaires.

Results

The profiles of the respondents were presented in terms of gender, and housing condition. Of the 933 respondents, 486 (52%) were females. Males represented 421 (45%) of them. The remaining 26 (3%) failed to indicate their gender thus were considered missing.

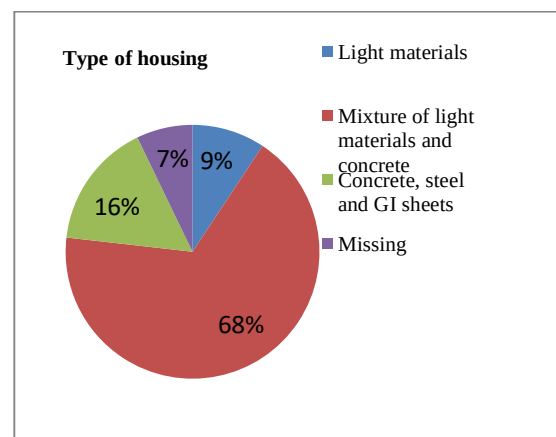


Figure 1: Type of housing for respondents in the Philippines, November 2015

Figure 1 shows that majority 629 (68%) at the time of this study are living in houses made of mixture of light materials and concrete, 150 (16%) housing were made of concrete, steel and GI sheets and 87 (9%) were living in houses made of light materials such as wood, bamboo, tarpaulin, straw and GI sheet. Table 1 shows, the respondents have positive attitude with a grand mean of 2.76 towards disaster preparedness in terms of planning, mitigation and response. The grand mean of 3.16 which can be indicate that the respondents agreed that they were planning for the coming typhoon. The respondents have basic necessities at hand in preparation to the coming typhoon, as seen in the grand mean 2.89. Similarly, the grand mean of 3.17, where the respondents agreed that they will respond to the coming typhoon.

Table 1: Attitude of the Respondents towards disaster preparedness in terms of planning, mitigation and response in the Philippines, November 2015

No	Items	M	SD	SR	VI
1	Planning	3.1597	.49215	Agree	High
2	Mitigation	2.89	.793	Agree	High
3	Response	3.1710	.45346	Agree	High

Scale: 1 – 1.49 (SD) = Very low, 1.50 – 2.49 (D) = Low, 2.50 – 3.49 (A) = High, 3.50 – 4 (SA) = Very high

Table 2 shows that there was a significant relationship between attitude and planning as evidenced by an $r = .074$ and a p -value of $.027$. The coefficient of determination is $.005476$, which means that 0.54% of the variance in planning is accounted for by attitude. But, there was no significant relationship between attitude and mitigation, with an $r = -.042$ and a p -value

of $.203$. The coefficient of determination is $.001764$ means that 0.17% of the variance in mitigation is accounted for by attitude. On contrary, attitude has a significant positive relationship of $r = .107$ and a p -value of $.001$ with response. The coefficient of determination is $.011449$, which means that 1.14% of the variance in response is accounted for by attitude.

Table 2: Relationship between Attitude and Disaster preparedness in terms of planning, mitigation and response among the respondents in the Philippines, November 2015

	Pearson-r	r^2	Significance	Interpretation
Planning	0.074	0.005476	0.027	Significant
Mitigation	-0.042*	0.001764	0.203	Not significant
Response	0.107*	0.011449	0.001	Significant

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

The disaster preparedness of the males has a mean of 3.0182 and a standard deviation of $.42952$ while the female has a mean of 3.1748 and a standard deviation

of $.40472$. The t value is -5.556 with sig value of $.000$ (table 3).

Table 3: T-Test of Disaster Preparedness in terms of planning, mitigation and response, and Gender among the respondents in the Philippines, November 2015

	Gender	N	Mean	Std Deviation	t	Sig.	Verbal Interpretation
Planning	Male	405	3.0621	.50426	-5.376	.000	Significant
	Female	482	3.2394	.47107			
Mitigation	Male	403	2.9199	.48175	-3.520	.000	significant
	Female	478	3.0364	.49862			
Response	Male	404	3.0862	.46819	-4.912	.000	Significant
	Female	479	3.2359	.42949			
Disaster Preparedness	Male	406	3.0182	.42952	-5.556	.000	significant
	Female	482	3.1748	.40472			

Table 4 show disaster preparedness and type of houses where the respondents were living. The type of housing between light materials and concrete

materials turned out to be not significant with all the dimensions of disaster preparedness.

Table 4: T-Test of Disaster Preparedness in terms of planning, mitigation and response, and Type of Housing among the respondents in the Philippines, November 2015

	Type of Housing	N	Mean	Std Deviation	t	Sig.	Verbal Interpretation
Planning	Light	84	3.0924	.48004	-1.250	0.213	Not Significant
	Concrete	145	3.1825	.55003			
Mitigation	Light	83	2.8991	.49941	-1.087	0.278	Not significant
	Concrete	146	2.9778	.54190			
Response	Light	83	3.1610	.45844	-.042	0.967	Not Significant
	Concrete	146	3.1637	.49198			
Disaster Preparedness	Light	84	3.0585	.43501	-5.556	0.427	Not significant
	Concrete	146	3.1070	.45122			

Discussions

Majority of the study respondents were female, and majority of the respondents were living in houses made of mixture of light materials and concrete. Some of the respondents were considered vulnerable to typhoon damage since they are living in houses made of light materials such as wood, bamboo, tarpaulin, straw and GI sheet. The respondents have positive attitude towards disaster preparedness in terms of planning, mitigation and response. This implies that majority of the respondents agreed that it is not a waste of time to prepare for the coming typhoon since disaster might happen anytime in their community. Likewise, they are optimistic that even if typhoon would cause damages to their properties and they may

be displaced from their homes, they can still cope up. Similarly, the respondents go on with their routine life after a strong typhoon. The result of the study are in line with the study of Hor (2014) which reveals that those people from Tacloban chose to go on with their routine life after typhoon Yolanda. The Filipino's positive attitude helps them to cope up with the crisis of typhoon. Similarly, Symantec, (2012), stated that Filipinos prepare for the coming typhoon since they are resigned to the fact that disasters come when least expected.

The respondents have high levels of planning in preparation for typhoon. This implies the respondent's readiness in charging their phones, buying extra loads and by helping the family checking for such needs.

The respondents help their family by checking if there is enough food and water and check if the doors and windows are tightly closed. In addition, the students save portions of their allowance, receiving information and updates, and preparing entertainment materials in preparation for the coming typhoon. This result goes in line with Thomas, et al. (2015) states that individuals with advanced knowledge of disaster preparedness more likely will assemble an emergency kit, develop a written household disaster plan, and receive county emergency alert notifications. Exposure to a greater number of preparedness information sources is positively associated with having a household plan. As well, the respondents' level of mitigation is high. This implies that the respondents have at hand the following items: flashlight, extra batteries, medical supplies and battery-powered radio. They also have 72-hour minimum disaster supplies on hand, including enough stored food and water. This result supports the belief that as disasters are often unpredictable, its harm can be mitigated through the preparation of food or the storage of water or electricity for some time (Center for Disease Control and Prevention 2014). Tasarra (2015), stated there was typhoon risk management in the barangay. The barangay prepared first aid kits, megaphone, generator, flash light, fire extinguisher, two way radio, de clogging materials and food items. In the same way, the respondents had high levels of response in terms of preparation for the coming typhoon. This implies that the respondents mobilize force during and immediately after typhoon to save life and property. If there is no electricity due to the typhoon damages, they will use the flash light that they bought for such a day. Similarly, if there is a need to evacuate, they will pick up their go bag (emergency bag) and evacuate immediately. Furthermore, if the typhoon happens while they are in school or at home, they will go to higher grounds to avoid flood waters. They will also help their families to clean up the house after the typhoon or flood. The Filipinos heed the warning information because of the lesson learned from the damages caused by the previous typhoons. Typhoon Hagupit had less than 30 casualties. Zero casualties is not an impossibility if government plans, prepares and engages respective communities in the process of preparation as was seen in Albay (Salazar 2015).

There were significant relationships between attitude with planning and response, but not with mitigation of disaster preparedness. The respondent's attitude towards typhoon is associated with the thought of planning. Thus, the better the attitude towards disaster preparedness, the more the respondents will plan for the coming typhoon. This result agrees with Paton's

study (2003) which states, if people do not have good awareness about natural hazards, they may not be motivated to prepare. Similarly, the FEMA report in 2012 among U.S. residents shows attitude as correlated with knowledge might influence their behavior (Thomas, et al. 2015). However, students' attitudes are not associated with their mitigation of typhoon. It implies that whether the respondents had positive or negative attitude towards preparing for typhoon, they still took action in any preparation to minimize the impact of typhoon. This result goes with the study of Jiang, et al. (2015) and Moabi (2008), which shows that the awareness and attitude levels of the personnel who have experienced a destructive natural disaster before and received disaster training at an institution do not differ significantly from the others. On the other hand, there is no correlation between the awareness and attitude levels of the personnel (Gerdan 2014). The more positive the attitude the respondents have towards preparing for typhoon, the more mobilization of force during and immediately after a disaster to save life and property. A positive attitude is a powerful source that helps one to survive in emergency situations. If there is no positive mental attitude, it will not be possible to use physical skills. If the person think as he/she will not survive, the individual will not try to survive (Conway 2015). Likewise, the positive attitude of the Filipinos helped them to cope up rapidly after the onslaught of typhoon Yolanda. Although the process of rebuilding took years, they started rebuilding with Non-Governmental Organization's assistance (Hor 2014). Thus, historically- wiped cities are rebuilt. Currently, the "streets are full of traffic, the children are back in school, and tradesmen are hard at work patching up damaged buildings and infrastructure" (Robson 2014).

Gender shows significant difference in disaster preparedness in terms of planning, mitigation and response. The results show that females have higher levels of degree of preparedness which more indicated in the mean than the males in all dimension of disaster preparedness. This result indicates that females plan, mitigate, and respond more to the disaster brought by typhoon than males. The neuroscientists after studying patients with brain injuries are aware of the location in the brain of long-term planning. It is possible that women's brain architecture contributes to their tendency to do long-term planning. Women may have evolved the propensity to do long term to planning. Women are more organized, gather details differently, and have a wider array of possible solutions to a problem than men. They also think in webs of factors, not in straight lines since they are multitasking (Davis 2011; Fisher 1999).

The respondents live in the house made of either light material or concrete material or the mixture of light and concrete material as it was seen in Figure 2. However, the researcher did not include the mixture of materials to see the comparison of light and concrete material since it is the combination of the two. As shown in table 4, the type of housing between light materials and concrete materials turned out to be not significant with all the dimensions of disaster preparedness. This result indicates that typhoon preparedness like plan; mitigation, and response were not significantly different considering the types of housing of the respondents. In line with this, Typhoon Yolanda is the strongest typhoon which ever exist. It hit the entire place and destroyed houses whether made of wood or concrete (Romilla, 2013).

Conclusions

Based on the findings it was concluded that the respondent had positive attitude towards disaster preparedness in terms of planning, mitigation and response. The more positive the respondents' attitude, the more they engage in disaster preparedness in terms of planning, mitigation and response. Females are more involved in disaster preparedness.

Recommendations

Disseminate the result of the present study to community health educators, nurses, and public health professionals, because it will give them an insight on the possible gaps that they will address. Other researchers can use the study as foundation, parameter, and model for further studies. Further, it will be a challenge to replicate the study and include the parents and the teachers and school officials to cross check the disaster preparedness of the students. Another study may be done to assess the typhoon preparedness of the nurse, doctors and other public health personnel as well as the disabled and homeless individuals. The researcher recommends another study to be conducted in places which are not occasionally visited by typhoon and consider utilizing people of different walks of life as respondents.

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