

Social support as determinants of disaster preparedness

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Abstract

Introduction: A social support is a performance of emotional and physical comfort of expressing an individual loved, cared for, and valued in the community. Parent prior education about disaster preparedness enhances their children's cognitive, emotional, and behavioral coping skills. Every individual has to know the school plan of action during emergencies. Filipinos know that they are at risk but they are not making disaster preparedness a priority until they experience disaster. Social support from peer, family, and school is a preventive factor during and after a disaster.

Objective: To assess social support in terms of family, peers, and school support towards disaster preparedness among Filipino students.

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

Result: Social support in terms of family, peer, and school support was also high. Social support was significantly related to disaster preparedness.

Conclusion: The higher the social support from parent, peer, and school, the more the students found to engage in disaster preparedness.

Keywords: Social support, disaster preparedness (planning, mitigation and response), Typhoon, Philippines

Introduction

A disaster is an event that occurs beyond the control or response mechanism of either the individual or the community. It could be natural or man-made, internal or external and accidental or intentional factors will most likely lead to injury, death, and damage of property (Beach 2010). In the last decades the top five countries frequently hit by natural disasters were China, the United States, the Philippines, India, and Indonesia (Center for Research on the Epidemiology of Disaster 2013). Philippines is a country largely attacked by natural disasters, off which typhoon is the most common (Center for Environmental Geomatics - Manila Observatory 2005).

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). In line with this, 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). Social support is the performance of friends, co-workers, family, peers, or others. It refers to the emotional and physical comfort of expressing an individual loved,

cared for, and valued in the community (Mental Health 2015).

In this study it refers to family, peer, and school support. Parent prior education about disaster preparedness enhances their children's cognitive, emotional, and behavioral coping skills (Millor, et al. 2012). Peers are the individuals who the same experience or sharing similarities. The school can provide emergency and warning information. The families have to know how to communicate with the school employees and the children during a disaster, which includes whether the school has shelter and to request the school stores to have adequate food, water, and other basic supplies (Federal Emergency Management Agency 2012). The study shown in Zimbabwe revealed that disasters result in disruptions in school children's learning, high rates of absenteeism, loss of contact hours, and loss of qualified personnel affecting the quality of education (Mudavanhu 2014). Filipinos know that they are at risk but are not making disaster preparedness a priority until they experience disaster (Symantec 2012). Social support from peers, family, and school is a preventive factor during and after a disaster (Moabi 2008). Based on this scenario, the researcher is interested to know if this is also true specifically among Filipino students, thus this study.

Materials and Methods

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. This study used the descriptive correlational design to describe the social support (family, peer, and school) factors in correlation with disaster preparedness (planning, mitigation & response) among the students.

Purposive sampling technique was used 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 specific areas. To choose the specific public schools, the random sample technique was utilized to select two schools from Cavite (Noveleta and Rosario), two schools from Tacloban (Tacloban city and 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 from October 19, 2015, to November 27, 2015. Being a high school student (grades 9 and 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 were the inclusion criteria used to recruit the study participants.

After the gathered data were cleaned and 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 social support factors on the disaster

preparedness of the respondents. To know the significant relationships between social support factors on disaster preparedness, Pearson's product-moment correlation coefficient analysis of variance (r) was used.

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. The researcher emphasized to all respondents the importance of filling out all items of the questionnaire.

Results

Table 1 shows that the grand mean of 3.07 indicates that, the public high school students of the different disaster-prone areas receive high family support to prepare for the coming typhoon. Besides, the respondents agreed that they would get support from their peer groups.

Table 1: Social Support in terms of family, peer and school of the respondents towards typhoon preparedness in the Philippines, November 2015

No	Items	M	SD	SR	VI
1	Family Support	3.0701	.50334	Agree	High
2	Peer Support	2.8499	.54482	Agree	High
3	School Support	3.02	.743	Agree	High

A grand mean of 2.85, shows that the respondents are receiving high peer support in preparation for the coming typhoon. Similarly, the grand mean of 3.02 shows that the respondents receive school support during the coming typhoon. In this study, a grand mean of 3.16 which indicates that the respondents agreed

that they were planning for the coming typhoon. Also, they have necessities at hand in preparation to the coming typhoon, as seen in the grand mean 2.89. As well, the grand mean of 3.17, where the respondents agreed that they will respond to the coming typhoon (Table 2).

Table 2: Disaster preparedness of the respondents 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

The result presented in Table 3 shows the relationship between the three dimensions of social support and the planning of the respondents. Family support has a positive significant relationship with the planning of the respondents, with $r = .577$ and p -value of .000. The coefficient of determination is .332929, which means that 33.29% of the variance in planning is accounted for by family support. Concerning peer support, the peer has a significant positive relationship of $r = 0.480$

and a p -value of 0.000 with planning. The coefficient of determination is 0.2304, which means that 23.04% of the variance in planning is accounted for by peer support. School support has a significant positive relationship of $r = .623$ and a p -value of 0.000 with planning. The coefficient of determination is 0.388129, which means that 38.81% of the variance in planning is accounted for by school support.

Table 3: Relationship between Social Support in terms of family, peer, and school of the respondents and planning of typhoon preparedness in the Philippines, November 2015

	Pearson-r	r^2	Significance	Interpretation
Family Support	.577**	.332929	.000	Significant
Peer Support	.480**	.2304	.000	Significant
School Support	.623**	.388129	.000	Significant

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

The relationship between the three dimensions of social support and the mitigation of the respondents indicated a positive significant relationship. Family support has a positive significant relationship with the mitigation of the respondents, with $r = .522$ and a p -value of .000. The coefficient of determination is .272484, which means that 27.24% of the variance in mitigation is accounted for by family support. Peer support also showed a significant positive relationship

of $r = .523$ and a p -value of .000 with mitigation. The coefficient of determination is .273529, which means that 27.35% of the variance in mitigation is accounted for by peer support. Similarly, school support has a significant positive relationship of $r = .488$ and a p -value of .000 with mitigation. The coefficient of determination is .238144, which means that 23.81% of the variance in mitigation is accounted for by school support (Table 4).

Table 4: Relationship between Social Support in terms of family, peer and school of the respondents and Mitigation of typhoon preparedness in the Philippines, November 2015

	Pearson-r	r^2	Significance	Interpretation
Family Support	.522**	.272484	.000	Significant
Peer Support	.523**	.273529	.000	Significant
School Support	.488**	.238144	.000	Significant

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

The result presented in Table 5 shows the relationship between the three dimensions of social support and the response of the respondents. Family support has a positive significant relationship with the response of the respondents with $r = .456$ and p -value of .000. The coefficient of determination is .207636, which means that 20.76% of the variance in response is accounted for by family support. Likewise, peer support has a significant positive relationship of $r = .421$ and p -value

of .000 with the response. The coefficient of determination is .177241, which means that 17.72% of the variance in response is accounted for by peer support. Moreover, school support has a significant positive relationship of $r = .581$ and a p -value of .000 with the response. The coefficient of determination is .337561, which means that 33.75% of the variance in response is accounted for by school support.

Table 5: Relationship between Social Support in terms of family, peer and school of the respondents and Response of typhoon preparedness in the Philippines, November 2015

	Pearson-r	r^2	Significance	Interpretation
Family Support	.456**	.207636	.000	Significant
Peer Support	.421**	.177241	.000	Significant
School Support	.581**	.337561	.000	Significant

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

Discussions

This study finding revealed that, the respondents from public high school students have high family, peer and, school supports. This implies that the family supports their children by providing adequate information, cellphones, financial aid, emotional support and picks from school during typhoon incident. According to Millor, et al. (2012), the parent provides age-appropriate levels of information to support their children about disaster events and outcomes. The use of rapid communication information helps the victims of the disaster to get immediate medical and other help (Noji and Lee 2005). Similarly, the family provides emotional support such as emotional comfort, physical affection like hugs, and reassurance about their safety and well-being. In the same way, most of the respondents' friends and classmates discuss the issue of typhoon. The respondents' friends also sent text messages one to another regarding typhoon. They would even share their food, water, and medicine and plan together on how to respond to the coming typhoon. Furthermore, the result of the study shows that the school gives the students' basic emergency kits to prepare them for the coming typhoon. The school also provides information regarding class suspensions. As well, the school encourages students to follow the instruction of authorities and teaches them coping mechanisms in preparation for the coming typhoon. The Department of Education urges school authorities to restate disaster preparedness measures and to announce early class suspensions from the government to minimize dangers that could be encountered by the students during typhoons (DepED 2011).

The result of this study revealed that there is a high level of disaster preparedness in terms of planning, mitigation, and response among grade nine and ten public students. This means that 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, water, and check if the doors and windows are tightly closed. Besides, the students save portions of their allowance, receiving information and updates, and preparing entertainment materials in preparation for the coming typhoon. 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 (Thomas, et al. 2015). When there is a need to evacuate, there is a need to have a go-bag. The go-bag has to include the following: water, food, cloth, medicine, medical supplies, flashlight, radio, and other

sources of information and communication materials (Asia Institute of Management 2014).

In the same way, the respondents' level of mitigation is high. This implies that the respondents have at hand the following items: flashlight, extra batteries, medical supplies, and a 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). Likewise, 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 the typhoon to save life and property. If there is no electricity due to the typhoon damages, they will use the flashlight 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 floodwaters. They will also help their families to clean up the house after the typhoon or flood. This result is in line with Wilson, Temple, Milliron, Vazquez, Packard, and Rudy's study (2010) that the personal level response can be either home confinement or evacuation. People evacuate immediately whenever they get alarming information. The Filipinos heed the warning information because of the lesson learned from the damages caused by the previous typhoons (Salazar 2015).

The relationship between the three dimensions of social support and the planning of the respondents found to be a positive significant relationship. This indicates that the more the provision of information, finance, and emotional support of parents towards typhoon, the higher the chance of the students to prepare for the coming typhoon. In the same way, the benefits of peer support can be applied to a range of goals across vastly different settings to eliminate difficulties in the future (Money, et al. 2011). This study result implies that the more the peers share the information and take action as a team before, during, and after the typhoon, the higher the students think and organize the activities to achieve a desired goal in preparation for the coming typhoon. As well, the school plan shows that the more the school plans in providing information, education, materials, and skill development for typhoon preparedness, the higher the students think and organize the activities to achieve the desired goal in preparation for the coming typhoon.

According to Federal Emergency Management Agency, (2012), all students have to know the school's plan of action during emergencies. This includes emergency and warning information and how to communicate with family members during emergency situations. Moreover, the family has to check whether the school has shelter and stores which contain adequate food, water, and other basic supplies.

The relationship between social support in terms of family, peer, and school, and the mitigation of the respondents indicated a positive significant relationship. This indicates that the more the provision of information, finance, and emotional support of parents towards typhoon preparedness, the higher the student's preparation and taking action to minimize the impact of the typhoon. In the same way, the children develop positive emotional and psychological adaptation when they are informed before the actual evacuation to different evacuation environments like hotels or homes of relatives (Millor, et al. 2012). On top of this, the more the peers share information and take action as a team before, during, and after the typhoon, the higher the students' preparation and action to minimize the impact of typhoons. As Money, et al. 2011, peer support is an intervention that influences shared experience to raise trust, decrease stigma, create help-seeking behavior from each other, share information about support resources and develop more positive coping strategies.

Furthermore, the more the school plans to provide information, education, materials, and skill development, the higher the students' preparation and their taking action to minimize the impact of typhoons. Similarly, the school has to provide emergency and warning information. Preparation includes the means of communication during disaster and the answer to the question as to whether the school has basic supplies like shelter, food and water (Federal Emergency Management Agency 2012). The schools should require warning systems for weather disturbances, their signs and effect, and conduct regular disaster response training (DepED 2011).

The three dimensions of social support and the response of the respondents were found a positive significant relationship. This indicates that the greater the provision of information, financial, and emotional support of parents towards typhoon preparedness, the better the students' mobilization of force during and immediately after the disaster to save life and property. During the typhoon Yolanda, most of the families received from other family members who share willingly, since the majority of the family lost everything (British School Manila 2013). The family pre-typhoon financial status and preparation determine

their response and their children's ways of responding to a typhoon (Brown, et al. 2013). In the same way, the more the peer share the information and take action as a team before, during, and after typhoon, the higher the student's mobilization of force during and immediately after disaster to save life and property. The peer support services are effective because it gives more meaningful life through fulfilling the potential goals of the individual (Davidson 2015). Furthermore, the more the school plans to provide information, education, materials, and skill development for typhoon preparedness, the more the students' mobilization of force during and immediately after a disaster to save life and property. Similarly after typhoon Yolanda, the British School Manila staff provided support to the disaster-affected individuals to ensure that their emergency needs were met (British School Manila 2013).

Conclusion

Based on the findings it was concluded that the respondent received high support from family, peers, and school on how to prepare for typhoons. Furthermore, the respondents are highly prepared in terms of planning, mitigation, and response. The higher the social support, the more they engage in disaster preparedness.

Recommendations

Although the study result shows a good result of the respondents in terms of typhoon preparedness, there is still room to improve their social support. Health educators must continue disseminating information regarding disaster preparedness to strengthen the skills thus enabling the parents and the community members enough time to plan, mitigate, and respond to disasters. The school officials must continue to work with government officials to equip both the parents and the students with the skills they need before and after a disaster occurs. Integrate disaster preparedness not only in terms of typhoon but fire, earthquake, and epidemics as well, in the curriculum. Since the school contributes to disaster preparedness, all community health workers need to collaborate with the school to strengthen the typhoon preparedness of the students. This study can use as a foundation to other researchers and will give an insight into the possible gaps that they will address. The researcher recommends another study to be conducted to assess the typhoon preparedness of the nurse, doctors, and other public health personnels as well as the disabled and homeless individuals.

References

Asia Institute of Management (2014). Cheers` Sandy Montano on disaster preparedness. Retrieved from

- <http://cdm.aim.edu/blog/2013/06/48-cheers-sandy-montano-on-disaster-preparedness>.
- Beach M (2010). Disaster preparedness and management. Nursing: Jonne Patzek Docunha. Available at: <https://study.com/academy/lesson/disaster-management-response-for-nurses.html>.
- Blue Water Media (2013). School damage caused by typhoon haiyan. Retrieved August 7, 2015, from association for child education international: <http://acei.org/acei-news/school-damage-caused-by-typhoon-haiyan>
- British School Manila (2013). *Update on Typhoon Yolanda response fund activity*. Retrieved December 15, 2015, from BSM response to Typhoon Yolanda (Haiyan): http://www.britishschoolmanila.org/news_updates/bsm-response-typhoon-yolanda-haiyan
- Brown R, Trapp S, Berenz E, Bigdeli T, Acierno R, Tran T, et al. (2013). Pre-Typhoon socioeconomic status factors predict post-typhoon psychiatric symptoms in a Vietnamese sample. *Soc Psychiatry Psychiatr Epidemiol*, 48(11):1721–1727.
- Center for Environmental Geomatics - Manila Observatory (2005). *Risk to typhoons*. Retrieved August 6, 2015, from mapping Philippine Vulnerability to environmental disasters: http://vm.observatory.ph/cw_maps.html
- Center for Disease Control and Prevention (2014). *Emergency preparedness and you*. CDC 24/7. Retrieved July 01, 2015, from Emergency Preparedness and Response: <http://emergency.cdc.gov/preparedness/>
- Center for Research on the Epidemiology of Disaster (2013). Annual disaster statistical review 2012: The numbers and trends. Brussels: CRED; 2013. Retrieved from <http://reliefweb.int/report/world/annual-disaster-statistical-review-2012-numbers-and-trends>
- Davidson L (2015). *Can peer support services improve outcomes?* Retrieved December 12, 2015, from Care for your mind: <http://careforyourmind.org/can-peer-support-services-improve-outcomes/>
- DepED (2011). DepEd reiterates call for school disaster preparedness. Retrieved from <http://www.deped.gov.ph/index.php/news-updates/updates/educators-updates/426-deped-reiterates-call-for-school-disaster-preparedness>
- Denny M (2016). Emergency kits and disaster preparedness. Retrieved from <https://www.emergencyfirstresponse.com/emergency-kits-and-disaster-preparedness-what-every-household-needs/>
- Federal Emergency Management Agency (2012). Community resilience through civic responsibility and Self-reliance. *Citizen corps personal behavior change model for disaster preparedness*, 1(4):1-13.
- Mental Health (2015). Mental health, wellness module 3: *Social Support*. Retrieved June 1, 2015, from Here to help: <http://www.heretohelp.bc.ca/wellness-module/wellness-module3socialsupport>
- Millor P, Roberts N, Zamora A, Weber D, Bursleson M, Robles E, et al. (2012). Families coping with natural disasters: Lessons from wildfires and Tornados. *Qualitative Research in Psychology*, 9(4):314–336
- Moabi R (2008). Knowledge, attitudes and practices of health care workers regarding disaster preparedness at Johannesburg Hospital In Gauteng Province, South Africa. A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg. In partial fulfilment of the requirements for the degree of Master of Public Health. Johannesburg, South Africa.
- Money N, Moore M, Brown D, Kasper K, Roeder J, Bartone P, et al. (2011). *Best Practices Identified for Peer Support Programs*. Retrieved December 12, 2015, from Deence Center of Excellence: http://www.dcoe.mil/content/Navigation/Documents/Best_Practices_Identified_for_Peer_Support_Programs_Jan_2011.pdf
- Mudavanhu C (2014). The impact of flood disasters on child education in Muzarabani District, Zimbabwe. *Journal of Disaster Risk Studies*. 6(1):138-144. Retrieved from <http://www.jamba.org.za/index.php/jamba/article/view/138/285>.
- Ramzy A (2014). *Death Toll From Typhoon Hagupit Rises in Philippines*. The New York Times. Retrieved May 14, 2015, from http://www.nytimes.com/2014/12/09/world/asia/philippines-typhoon-hagupit-deaths.html?_r=0
- Salazar L (2015). Typhoon Yolanda The Politics of Disaster Response and Management. *Southeast Asian Affairs*, 2015:277 - 301.
- Symantec. (2012). Disaster Preparedness Survey. *Global Findings*, 1-14.
- Thomas T, Griffith M, Harp V & Cioffi J (2015). Influences of preparedness knowledge and beliefs on household disaster preparedness. *Morbidity and Mortality Weekly Report (MMWR)*, 64(35):965-971.
- Wilson S, Temple B, Milliron M, Vazquez C, Packard, M, & Rudy B (2007). The lack of disaster preparedness by the public and it's affect on communities. *The Internet Journal of Rescue and Disaster Medicine*, 7 (2):965-971.