

## **Disaster Preparedness and Resilience of Peer Helpers in a State University**

Jeanette J. Simpas

*West Visayas State University, La Paz, Iloilo City, Philippines*

### **ABSTRACT**

This mixed-method research ascertained the disaster preparedness and level of resiliency among peer helpers in West Visayas State University main and external campuses, for Academic Year 2018-2019. Seventy-six (n=76) participants were selected through stratified sampling. Eighteen (n=18) peer helpers were selected through convenience sampling who served as participants for the focus group discussions (FGD). A validated researcher-made assessment on disaster preparedness and resiliency were used. Descriptive statistics (frequency count, percentage, mean and standard deviation) and inferential statistics (Pearson's *r*, .05 alpha) were utilized. Results show that peer helpers had moderate levels of disaster preparedness and resiliency. Female peer helpers are found to be more prepared than males. Furthermore, there is a significant relationship in peer helpers' disaster preparedness and resiliency. This means that the higher the disaster preparedness of peer helpers the more resilient they become. However, the results of the FGD reveal that participants realize their inadequacy in terms of disaster preparedness and coping skills. There is an expressed need for skills training on these areas specifically, in relation to providing psychological support to disaster survivors as part of their role as peer helpers. As students are honed to be prepared in times of disaster, they must also be trained to learn the skills to be resilient.

**Keywords:** *disaster preparedness, resiliency, mixed method, Iloilo, Central Philippines*

### **INTRODUCTION**

The 20th Century has seen an increase in disaster losses in terms of lives, properties, and natural resources. This upward trend has affected most countries across the globe (Ejeta, 2015). The Philippines is a disaster-prone country where natural disasters frequently occur. It lies along a major fault line and is situated within the Pacific Ring of Fire. It is also struck by an average of 10-20 typhoons a year (Conde, 2004). On November 8, 2013, Super Typhoon Haiyan (Yolanda) hit the country with a wind gust of 350 kph, the strongest tropical cyclone ever recorded. These resulted in related disasters like massive flooding and landslide. The said disaster killed roughly 6300 people, affected over 16 million Filipinos, and resulted in the displacement of 4,095, 280 children, and adults (NDRRMC, 2014). The Philippines' fault zone is approximately 1200 kilometers long and is considered as one of the longest in the world. It is the potential source of earthquakes (Versoza, 2011). In 2013, a magnitude 7.2 earthquake struck the provinces of Bohol and Cebu (Flores, 2013). More so, the 36,389 kilometers coastline makes the country vulnerable to tidal waves and tsunamis (Laverinto, 2010) as reported in the Philippine Journal of Psychology (2015, 48,2). In fact, the Philippines ranks fourth among countries hit by the most number of disasters as cited by the United Nations International Strategy for Disaster Reduction (UNISDR, 2015).

Disasters strain the national budget and hamper programs and services that should have been used to improve the living conditions of the people (Mainstreaming Disaster Risk Reduction in Subnational Development and Land Use/Physical Planning in the Philippines NEDA, UNDP, ECHO, 2008). Between 1970 and 2009, for instance, the annual average direct damage from disasters ranged from 5 to 15 billion pesos (Laverinto, 2010 in the Philippine Journal of Psychology, 2015).

Disasters also cause more damage in communities which lack preparedness and improper information dissemination. Through appropriate measures, (i.e., preparedness, appropriate information dissemination practices, etc.), damage can be minimized. It is thus the primary role of governments to initiate disaster risk reduction efforts (i.e., disaster preparedness, regulation, and preparations).

Likewise, the responsibility should be shared by both the public and private sectors in the society (Sendai Framework, 2015). In the Philippines, Republic Act No. 10121 or the “Philippine Disaster Risk Reduction and Management Act of 2010,” mandates that disaster management shall be at the individual, organizational, and institutional levels.

### **Theoretical Framework**

This study is anchored on the Social Cognitive Theory which brings together behaviorist and cognitive principles by focusing on human learning as a continuous interaction between the individual and the particular social environment in which one lives (Gaerlan, et. al., 2000). Social Cognitive Theory of Albert Bandura and Richard Walters (1999) emphasizes the idea that a person has the capacity to (a) be self-reflective, self-regulating, and proactive despite the changes that occur within the person’s milieu; (b) contemplate about his or her experiences from the previous disaster (cognitively); (c) observe the current event happening in one’s environment and what it may cause to him or her. With these capacities, one is more likely to choose and make positive changes both in his or her life and to the community. People become more proactive about what they could possibly contribute (behaviorally) to reduce disaster risks in the future. This leads us to the idea that people are not merely reactive beings in the environment but have the capacity to influence events by their actions. In a disaster, survivors often must renegotiate the means of acquiring loss and primary need such as food, clothing, and shelter (Ureta, 2015). Planning at hand can abate management difficulties, thus, planning, training on resilience, and disaster management is a necessity before actual disasters occur.

Bruneau et al. (2003), define disaster management as the ability of social units to mitigate hazards, contain the effects of disasters when they occur, carry out recovery activities that minimize social disruption, and mitigate the effects of the future. Students, therefore, must acquire adequate information, education, and proper training pertaining to disasters. These will provide them, and eventually, their families with the necessary information and skills to cope with disasters.

Moreover, proactivity in behavior can better lead to possible outcomes if coupled with or accompanied by resilient attitudes. Resilience is the ability to adapt well to adversity, trauma, tragedy, threats, or even significant sources of stress (APA, 2015).

It is the human capacity to face and overcome fearful events which can be strengthened by experiences of adversity (Jalandoni, Loyola, Robles, 2013). Hechanova et al. in the Philippine Journal of Psychology (2015), define resilience as the capacity to return to a stable state after a significant disruption. According to Ramra, Luthar, Cicehetti (2000), it is a dynamic process wherein individuals display positive adaptation despite the significant experiences of adversity or

trauma. Their focus is on the alleviation of risks, prevention of mental health problems, and positive outcomes in the presence of adversity rather than looking at maladjustment. In addition, the resilience framework proposes that an individual's capacity to adapt is dynamic and depends on the functioning of various interacting systems. They suggest that resilience needs to be understood from an ecological and systemic perspective, that is, recognizing the vulnerability factors (markers that may exacerbate the negative effects of a risk condition) and the protective factors (those that modify the risks in a positive direction) that can influence the response of individuals to adversity (Luthar and Cicchetti, 2000; Masten, 2014). Evidence supports the claim that resilience is required in response to different adversities, ranging from ongoing daily hassles to major life events (Fletcher & Sarkar, 2013).

The American Psychological Association (2018) advances the idea that resilience is not a trait that people have or do not have. Rather, it involves behaviors, thoughts, and actions that can be learned and developed by anyone, especially through education and training. Patton et al (2000) describe resilience as an active process of self-righting, learned resourcefulness, and growth. The concept relates to the ability to function at a higher level psychologically given an individual's capabilities and previous experience. Coutu (2002) states that a resilient individual possesses three common characteristics: acceptance of reality, a strong belief that life is meaningful, and the ability to improvise. Both studies are cited by Loughborough University (2011).

Hobfoll and colleagues describe Five Core Post-disaster Intervention Principles that facilitate positive adaptation after the experience of mass trauma: (a) promoting a sense of safety, (b) promoting calm, (c) promoting a sense of self and community efficacy, (d) promoting connectedness, and (e) instilling hope. These principles have been found to guide a variety of psychosocial interventions for disaster survivors.

### *The Role of Schools in Disaster Preparedness*

The development of resiliency in disaster preparedness of peer helpers must begin primarily at their academic milieu. However, it is also a responsibility that should be shared by both the public and private sectors that emphasize building integrated, proactive, and responsive disaster management, in which everybody, not only the peer helpers (ECHO, 2008).

The school as an organization through its curriculum and other resources has a significant role in providing opportunities for students to acquire information and skills necessary for them to cope in times of disasters. Schools have the responsibility to initiate mechanisms to address disaster concerns (i.e., preparedness, post-disaster protocols, etc.). Unfortunately, not all schools have put in place measures to provide their students with the necessary information on disaster preparedness, as well as post-disaster skills such as coping skills, life skills, etc. (Ureta, 2015). It is imperative that schools must have an effective disaster resilience education training program to equip students with the knowledge and skills necessary to cope with disasters and with other life stresses.

As teachers and other key officials perform numerous tasks, it is quite difficult to reach out to many students, thus, it is imperative to train peer helpers to provide their fellow students with information, knowledge, and skills about disaster preparedness, development of resiliency skills, and basic psychological support. Working closely with the Guidance Office, Gender and Development Office, and other related organizations as volunteers in the Office of the University Disaster Risk Reduction and Management Council (UDRRMC), these peer counselors strive to deliver basic services of these like setting the direction, development, implementation, and

coordination of the university's disaster risk reduction and management plans within the main and external campuses.

In view of these concerns, the researcher recognizes the need to investigate the peer helpers' disaster preparedness, resiliency so as to better prepare them in their role as peer support in times of disasters.

Considering the theories, the present research has determined the disaster preparedness and resiliency of peer helpers at West Visayas State University and in external campuses during the First Semester of Academic Year 2018-2019. It also investigated what training programs can be developed to enhance the disaster preparedness and resilience of peer helpers.

The variables identified in this study are set into focus in Figure 1.

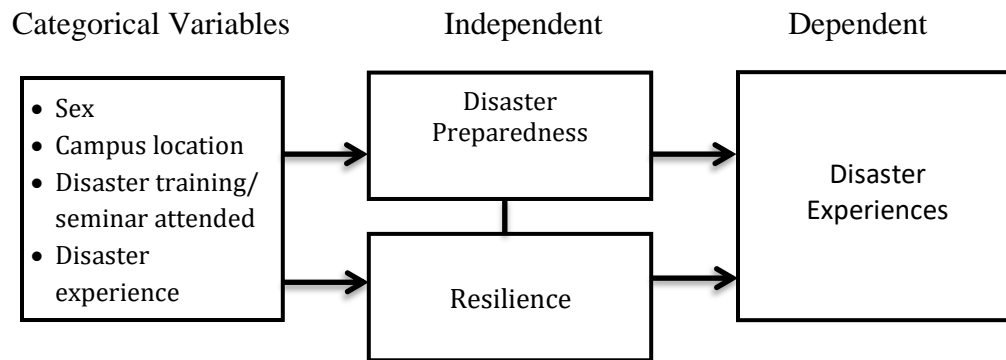


Figure 1. *Disaster preparedness of peer helpers and their level of resiliency*

Specifically, this study sought to answer the following questions:

1. What is the level of disaster preparedness of the peer helpers and when classified according to their (a) sex, (b) campus location, (c) disaster experienced, and (d) disaster training/seminar attended?
2. What is the level of resiliency of peer helpers and when classified according to their (a) sex, (b) campus location, (c) disaster experience, and (d) disaster training/seminar attended?
3. Is there a significant relationship between disaster preparedness and resiliency of the peer helpers?
4. In what way does preparedness and resiliency manifest in the lives of the peer helpers with disaster experience?

## METHODOLOGY

This study focused on determining the disaster preparedness and resilience of peer helpers at West Visayas State University main and its external campuses, Academic Year 2018-2019.

This is sequential, explanatory mixed-method research (Bowen, 2017). The investigator collected and analyzed quantitative and then qualitative data in two consecutive phases within one study which were completed in one year.

The quantitative part of the study involved seventy-six (n=76) peer helpers. These participants were first- and fourth-year students enrolled (Academic Year 2018-2019) at West Visayas State University-Main campus and its external campuses in Janiuay, Pototan, and Lambunao, Iloilo.

These participants were selected through proportionate stratified random sampling where at least 80% of the total population served as the sample. A stratified sample is a subgroup (strata) of a given population that were each adequately represented within the whole sample population of the research study (Creswell, 2007).

The sampling size consisted of the following: 29 participants out of 37 from the main campus, 17 participants out of 21 from the Janiuay campus, 18 participants out of 22 from Pototan campus, and 12 participants out of 15 from the Lambunao campus.

There were eighteen (n=18) participants selected through convenience sampling. They volunteered to participate in the two FGDs as indicated in their reply slips which were submitted to the researcher prior to the FGD.

## **Instruments**

### *Phase I-Quantitative Phase*

There were two validated instruments that were used to gather data. These instruments assessed the levels of disaster preparedness and level of resilience (40 items) of the peer helpers. There were 50 items in the Disaster Preparedness Assessment which consisted of 18 items on disaster information or knowledge, 15 items on disaster measures/plan, and 17 items on disaster response. On the other hand, the Resilient Assessment consisted of 10 items for each of the following attributes: optimism, sociability and friendliness, internal control, and creativity (40 items). Data were analyzed using descriptive statistics (frequency count, percentage, mean and standard deviation) and inferential statistics (Pearson's *r*) set at .05 alpha.

The reliability of the instrument was established with Cronbach's alpha at .78 which meant that the research instrument is reliable. The instrument was assessed and validated by a five-member panel composed of experts in the field of Science, Disaster education, and Psychology. This was pilot tested among 35 peer helpers from Iloilo Science and Technology University (ISAT-U) and 15 peer helpers at West Visayas State University (WVSU).

The investigator personally administered the questionnaires to the participants after which assessment tools were gathered, checked, scored statistically computed, analyzed, and interpreted.

### *Phase II- Qualitative Phase*

Focus group discussions (FGD) were conducted among the peer helpers who volunteered to participate in the study. The purpose was to obtain a deeper understanding of the peer helpers' disaster preparedness and resilience and substantiate the quantitative results of the assessment. Focus group discussion is frequently used as a qualitative approach to gain an in-depth understanding of social issues (Nyumba, Wilson, Derrick & Mukherjee, 2018).

All responses were transcribed verbatim. In the initial phase of analysis, each transcript was read multiple times to ensure familiarity with the data. Potential codes and themes were identified. Themes were then reviewed and refined to reflect participants' thoughts and ideas.

## **RESULTS AND DISCUSSION**

### *Peer helpers Level of Disaster Preparedness in terms of Sex, Campus Location, Disaster Training/Seminar Attended, and Disaster Experience*

Table 1 shows that the participants as a group have moderate disaster preparedness ( $M = 25.93$ ,  $SD = 7.07$ ). Moreover, although male and female participants have moderate disaster preparedness, it was found out that there was a slight difference in the mean of both sexes. The

female group got a higher mean ( $M = 28.43$ ,  $SD = 6.44$ ) than the male group ( $M = 22.10$ ,  $SD = 6.30$ ). This result seems to imply that women were more prepared than men in facing disaster challenges. The result is consistent with the findings of Vladimir (2018) that although men showed greater confidence in facing disasters, the women were the ones who displayed a deeper understanding of the events. Bories et al.

(2018) found that women's understanding of disasters was a vital reference to respond in disaster situations and with the wealth of knowledge that they have, it is easy for them to participate in disaster response, recovery, and development. He further believes that gender equality should be a norm rather than an option in disaster situations.

Likewise, those who attended disaster training/seminars had moderate levels of disaster preparedness ( $M = 26.26$ ,  $SD = 7.01$ ) than those who did not attend nor avail of disaster training/seminars ( $M = 25.17$ ,  $SD = 7.06$ ). This slight difference can be attributed to the fact that participation in training and seminars is useful in disaster preparedness, but there are also other means to get information on disaster preparedness such as social media, lessons learned in school, and personal experiences.

Participants who have experienced any kind of a disaster were also moderately prepared ( $M = 25.63$ ,  $SD = 7.26$ ) than those who had none ( $M = 28.50$ ,  $SD = 4.63$ ). This may be attributed to the fact that these participants were spared from the effects of disaster due to the reason that they take disaster warnings seriously.

Table 1. Peer helpers' level of disaster preparedness and when classified according to variables (Sex, Campus location, Disaster training/seminar attended, and disaster experience)

Category	M	Interpretation	SD
A. Entire Group	25.93	Moderately Prepared	7.07
B. Sex			
Male	22.10	Moderately Prepared	6.30
Female	28.43	Moderately Prepared	6.44
C. Campus Location			
Main	29.24	Moderately Prepared	4.94
Pototan	26.71	Moderately Prepared	7.32
Janiuay	22.94	Moderately Prepared	6.01
Lambunao	21.33	Moderately Prepared	8.79
D. Disaster Experience			
Yes	25.63	Moderately Prepared	7.27
No	28.50	Moderately Prepared	4.63
E. Disaster Training/Seminar Attended			
Yes	26.26	Moderately Prepared	7.01
No	25.17	Moderately Prepared	7.07

Note: Less Prepared 1.00 – 16.00; Moderately Prepared 16.01 - 33.00;  
Highly Prepared 33.01 – 50.00

*Peer helpers' level of resiliency in terms of sex, campus location, disaster training/seminars attended and disaster experience*

Table 2 showcases the participant's level of resiliency. As an entire group, they were moderately resilient ( $M = 2.91$ ,  $SD = .30$ ) and also moderately resilient when grouped according to sex, disaster experience, and disaster training/seminars attended.

Both male and female groups have moderate levels of resiliency. Moreover, the female peer helpers ( $M = 2.94$ ,  $SD = .32$ ) were slightly higher than the male peer helpers in their level of resiliency ( $M = 2.88$ ,  $SD = .27$ ).

The above findings are not consistent with the studies of Carrion et al., (2010); Furr et al., (2010); Gibbs et al., (2015); Masten & Narayan, (2012); Sapienza & Masten, (2011). These studies indicate that important work on children and youth identified a range of interacting vulnerabilities like gender, disaster experience, and protective or promotive factors for recovery (i.e., education or training), and resilience was at the personal, relational, environmental, and cultural levels. This means that resiliency or the ability of the youth to tolerate and cope with disruption and loss are affected by variables such as gender and education (Cox, Scannell, Heykoop, Tobin-Gurley, & Peek, 2017). Moreover, resilience is learned through training (Fletcher & Sarkar, 2013).

In terms of campus location, the peer helpers from the Pototan campus had high levels of resiliency ( $M = 3.01$ ,  $SD = .32$ ) while the other campuses have moderate levels of resiliency. This can be attributed to the fact that peer helpers in the Pototan campus are beneficiaries of many disaster management and resiliency training as reported by the participants during the FGDs.

Table 2. Peer helpers' level of resiliency in terms of sex, campus location, disaster training/seminar attended and disaster experience.

Category	Mean	Interpretation	SD
A. Entire Group	2.91	Moderate	.30
B. Sex			
Male	2.88	Moderate	.27
Female	2.94	Moderate	.32
C. Campus Location			
Main	2.97	Moderate	.26
Pototan	3.01	High	.32
Janiuay	2.77	Moderate	.34
Lambunao	2.84	Moderate	.27
D. Disaster Experienced			
Yes	2.92	Moderate	.32
No	2.83	Moderate	.17
E. Disaster Training/Seminar Attended			
Yes	2.91	Moderate	.26
No	2.92	Moderate	.39

Note: 1.00 - 2.00 Less resilient; 2.01 - 3.00 Moderately Resilient; 3.01 - 4.00 Highly resilient

#### *Relationship between disaster preparedness and resiliency of peer helpers*

Table 3 reveals that there is a significant relationship in peer helper's disaster preparedness and resiliency ( $r^2 = .129$ ,  $p = .001$ ). Hence, the higher the disaster preparedness, the more resilient they become. The result confirmed studies that say preparedness is a component of resilience (Bollettino, Alcayna, Enriquez, and Vinck, 2018). Thus, when one has a higher level of disaster preparedness, that person is assumed to have higher resilience as well.

There was substantial evidence that resilience is required in response to different adversities, ranging from ongoing daily hassles to major life events like disaster and trauma

(Fletcher & Sarkar, 2013). Resilience is the ability to prepare and plan for, absorb, recover from, and more successfully adapt to adverse events (National Research Council, 2012).

Thus, as educators hone students to be prepared in times of disaster, they must also be taught and trained to be resilient. After all, resilience is not a trait that people either have or do not have. It can be learned and developed in anyone through their personal experiences or provided by different social institutions including the school and community (American Psychological Association, 2018).

Table 3. Relationship of peer helpers' disaster preparedness and resiliency (Pearson-r).

Level of Disaster Preparedness	n	r	Sig.
Level of Resiliency	76	.359	.001*

\* $p \leq .001$ -significant

### Manifestations of Disaster Preparedness and Resiliency among the Participants

Results revealed that most FGD participants (n=18) clearly remembered their different disaster experiences. Among these experiences were landslides (*nag usmod ang lupa, kag naghimo gawang*), fire (*sunog*), terrorist attack; typhoons (*bagyo*), and floods (*nabahaan kami*) brought by Typhoon Frank in 2008 and Typhoon Yolanda in 2013.

Most of the participants claimed to have minimal preparations in their past disaster experiences. They have not: (a) monitored news over the radio and television, (b) stacked sandbags in front and at the back of their houses to prevent flood water, (c) went home to stay with their families, and (d) prepared psychologically like prayer, assurance from their parents that they will not be harmed by the typhoon as long as they are together. They admitted that they already knew about the upcoming typhoon from the news, but they did not take those warnings seriously. Some even laughed and got excited after hearing the news about the upcoming Super Typhoon Yolanda (*nagkadlaw kami kay sadto sang ginabalita ang Bagyo Yolanda mga bata pa kami sang mga utod ko kag ang maabot super typhoon gid kuno, ti excited kami maexperience ang Super Typhoon*).

After the unpleasant experience with disasters, the participants shared that : (a) they were more watchful and alert about incoming typhoon signals through monitoring the news (*importante magbantay gid sang balita*) in radio, televisions, and social media sites; (b) becoming aware of fake news (*imagine may nagbalita pa nga tapos ni Yolanda, mabalik naman daw liwat ang bagyo!*), (c) help in disseminating accurate information to others (*sakto lang ang isugid*); (d) to stock food, water, medicines, flashlight, gasoline, secure important documents inside a plastic bag, and (e) to strengthen the support of their houses especially, if it is made of light materials.

As to the participants' resilience, it was the support of family members and strong faith in God (*dako gid ang ginbulig sa amon pamilya ang pagpati sa Ginuo*) which greatly helped and influenced in coping and surviving the disasters. Aside from their family who served as their primary support system, they were also helped emotionally by their friends, teachers, pastor, church mates, classmates, older people in the community and relatives. Nonetheless, almost all of them believed that it was their faith in God and their persistent prayers (*sige sige nga pangamuyo*) which greatly helped them overcome the physical, emotional, and psychological damage and trauma brought about by disasters. They became more resilient, more resourceful, and hopeful that despite all the adversities that they have experienced in life, they became stronger and felt more capable to face more challenges in the future and to look at life's difficulties with optimism.



Furthermore, the participants believed that helping people in need and building a well-coordinated relationship among neighbors was important in times of disaster, especially, that they benefited from the assistance of other people. They valued the idea of giving and receiving help from volunteers and social workers who were respectful, friendly, and trustworthy, among other qualities. They, too, are willing to give support to other disaster survivors if they are equipped with skills through training and education required to be effective human helpers.

## **SUMMARY**

The Philippines with its geographical location and landscapes is more likely to experience more disasters in the coming years. However, it is only in recent years that disaster preparedness and resilience is given strong emphasis by the Philippine government, and social institutions (i.e., communities, schools, church, etc.)

Disaster preparedness is mandated under the Republic Act of 10121. Yet, it appears that there are only a few institutions that deliberately and conditionally prepare and equip its people with the necessary skills to respond and cope with the consequences of disasters (Ureta, 2015). This seeming lack of knowledge and skills will result in an endless cycle of damage and rebuilding which is more expensive and exhausting for the government and the people as well.

Peer helpers who are themselves disaster survivors have moderate disaster preparedness. There was a slight difference in the disaster preparedness of the female group when compared to the male group, the former being more prepared than the latter. Generally, women by their role as primary caregivers of their homes and that of their children, and other members of the family, were more prepared to respond to disasters than men. Women by nature are protectors of their young and their homes seem to be more enduring in meeting life challenges than the males in many circumstances and life events. It is important, however, that both sexes should be well equipped with skills to cope with disasters; It is therefore a challenge on the part of educational institutions and educators to provide opportunities for training on disaster preparedness and resilience to both sexes.

## **CONCLUSIONS**

The availability of training and seminars including significant information on disasters provided by the school and the community helped enhance the disaster preparedness of the peer helpers. More opportunities for better access to information and education contribute to better preparedness and resilience of the peer helpers in the Main Campus. Generally, urban centers provide more access to information and education opportunities but those who are from rural areas should also exert more efforts preparing and honing their disaster preparedness and resilience as well. Moreover, variables like sex/gender, campus location, disaster training, disaster experiences as well as resiliency were important factors in the disaster preparedness, thus, it may be looked upon as important considerations in designing a responsive and effective disaster education and resilience program for the school and the community.

Disasters happen anytime and though everyone does not welcome it - it is everyone's responsibility to be prepared. Being alert, cautious, discerning, and thorough planning, by availing educational opportunities so everyone will become stronger, positive, and resilient in times of disasters. Finally, appropriate preparations and training will not only save lives and property but most importantly, will help others survive.

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