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The Development and Initial Evaluation of *Katatagan*: A Resilience Intervention for Filipino Disaster Survivors

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This paper documents the development, pilot, and initial evaluation of *Katatagan,* a group-based resilience program designed to hone coping skills of Filipino disaster survivors. The paper describes vulnerabilities and protective factors of Filipino survivors based on previous research and key informant interviews. It also explains how Luthar and Cicchetti's (2000) resilience framework and guidelines for the development of interventions were incorporated in the objectives and the design of the resilience intervention. The intervention consists of six modules that aim to improve self-efficacy, adaptive coping skills, and well-being of Filipino survivors. The paper presents an initial evaluation of *Katatagan* among college students in Tacloban. Results revealed significant improvements in adaptive coping behaviors and a decrease in anxiety and depressive symptoms. Although more robust evaluations are necessary, the results provide encouraging evidence for the value of

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group-based and culturally-nuanced interventions. Moreover, the paper describes a collaborative and systematic process of designing a needs-based resilience interventions for Filipino disaster survivors.

Keywords: resilience, disaster, psychosocial interventions, Philippines, supertyphoon Haiyan, mindfulness

Super Typhoon Haiyan, recorded as the deadliest typhoon in history, hit the Philippines in November 2013 and killed over 6,000 people, affected 16 million others, and displaced four million Filipinos (National Disaster Risk Reduction and Management Council [NDRRMC], 2014). Six months after the disaster, two million survivors were still without adequate housing and 26,000 displaced people still lived in temporary shelters or transitional collective displacement sites (Internal Displacement Monitoring Center [IDMC], 2014).

A study of the psychosocial consequences of natural disasters revealed that the incidence of disaster-related posttraumatic stress disorder (PTSD) and general PTSD symptoms in Asia ranged from 8% to 37% (Udomratn, 2008). Given the devastation caused by super typhoon Haiyan, the World Health Organization (WHO) estimated that there are 80,000 survivors at-risk of mental health disorders in the Philippines and called for the urgent scaling up of mental health services (WHO, 2014).

Immediately after Super Typhoon Haiyan struck, the Psychological Association of the Philippines (PAP), in cooperation with various government and nongovernment agencies, actively assisted in providing a culturally-adapted and mindfulness-informed psychological first aid (PFA) for the survivors (Hechanova, Ramos, & Waelde, 2015). However, given the scale and impact of the disaster, there was a clamor for more psychosocial support interventions after the emergency phase. Unfortunately, there is a dearth of data and documentation on psychosocial support interventions in the Philippines (Tarroja, Catipon, Dey, & Garcia 2013). This formed the context and impetus to develop a psychosocial intervention to assist survivors in the postemergency phase. This paper documents how intervention models and principles were applied in the development of a resilience intervention for Filipino disaster survivors.

The Intervention Pyramid for Mental Health and Psychosocial Support for Emergencies

The Inter-Agency Standing Committee's (IASC; 2007) Intervention Pyramid for Mental Health and Psychosocial Support (MHPSS) during emergencies describes four levels of MHPSS interventions. Level one interventions are those that address basic survival needs. Second level interventions entail the provision of family and community support for those with reactions to disasters. At the third level are focused, nonspecialized psychosocial support interventions such as psychological first aid (PFA), and basic mental health care and emotional support for those with mild to moderate difficulties postdisaster. Finally, the fourth level of the pyramid includes specialized interventions such as psychotherapy or psychiatric services that are provided by mental health specialists for those with severe mental health disorders (i.e., psychologists, psychiatrists, psychiatric nurses) (IASC, 2010). The IASC (2007) also highlighted the need to provide culturally-sensitive interventions and utilize appropriate and evidence-based interventions.

The Resilience Framework in Intervention Programming

The past years have seen an increasing interest in focused, nonspecialized interventions such as those that build resilience among disaster survivors. Defined as the capacity to return to a stable state after a significant disruption (Bhamra, Dani, & Burnard, 2011), resilience has been traditionally viewed in the psychological literature in terms of individual characteristics (Coutu, 2002). However, current perspectives present resilience as a social competence (Masten, 2014). Luthar and Cicchetti (2000) defined it as a "dynamic process wherein individuals display positive adaptation despite the experiences of significant adversity or trauma" (p. 2). Rather than looking at maladjustment, their focus is on the alleviation of risks, the prevention of mental health problems, and the positive outcomes in the presence of adversity. Hobfoll and colleagues (2007) described five core postdisaster intervention principles that facilitate positive adaption following the experience of mass trauma: (a) promoting

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.

Luthar and Cichetti's (2000) resilience framework proposes that individuals' 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. This means recognizing the vulnerability factors (i.e., markers that may exacerbate the negative effects of a risk condition) as well as protective factors (i.e., those that modify the risk in a positive direction) that can influence the response of individuals to adversity (Luthar & Cichetti, 2000; Masten, 2014).

Luthar and Cicchetti (2000) proposed that resilience interventions should: (a) be anchored on a sound theoretical framework that recognizes the interaction of the person and the context; (b) be based on theory and research conducted with the target group; (c) be directed to reduction of negative outcomes and promotion of positive adaptation or competence; (d) be designed to reduce vulnerability and capitalize on specific resources; (e) target vulnerability and protective factors that operate across multiple levels of influence; (f) be based on a strong developmental focus recognizing the capacities of target group; (g) include contextually relevant interventions; (h) be sustainable; (i) employ comparative studies; and (j) document effectiveness.

Resilience Interventions

Although the science of postdisaster psychosocial response is still emerging, there is growing literature on resilience interventions. Some postdisaster resilience programs that have reported evidence of effectiveness include PFA (Cain et al, 2010) and Inner Resources (IR) mindfulness, meditation, and mantra-based intervention (Waelde et al., 2008).

Other cognitive behavioral therapy (CBT)-based postdisaster interventions have been implemented in community settings with nonclinical populations. Skills for Psychosocial Recovery (Berkowitz et al., 2010) is an individual intervention focused on helping survivors

hone skills in information and prioritization, problem-solving, identifying positive activities, managing reactions, helpful thinking, and promoting healthy connections. My Disaster Recovery (MDR) (Steinmetz, Benight, Bishop, & James, 2012) is a self-help, online program that builds adaptive coping skills. Rønholt, Karsberg, and Elklit (2013) implemented a classroom CBT-based intervention to enhance the coping skills of children who survived a factory explosion. ERASE-STRESS is a 16-module classroom-based program designed to enhance resilience and reduce posttraumatic reactions among students exposed to community violence (Berger, Gelkopf, & Heineberg, 2012; Gelkopf & Berger, 2009). In addition, a study found that group-based CBT implemented by lay counselors and teachers without prior mental health training was effective in reducing symptoms of grief and posttraumatic stress among orphaned children in Tanzania (O'Donnell et al., 2014), in Palestinian schools (Barron, Abdallah, & Smith, 2013), and in postearthquake Athens (Giannopoulou, Dikaiakou, & Yule, 2006).

Vulnerabilities and Protective Factors of Super Typhoon Haiyan Survivors

One principle in intervention design is that it must be based on research on the target group and that interventions should target vulnerability and protective factors that operate across multiple levels of influence (Luthar & Cicchetti, 2000). A review of the literature on the broader context of disasters indicates that a particular vulnerability of the Philippines is its geography. The Philippines lies along a major fault line and is situated within the volcanic "Ring of Fire." It is also struck by an average of 10-20 typhoons in a year (Conde, 2004). In the year 2013 alone, a magnitude 7.2 earthquake struck the provinces of Bohol and Cebu and a total of 25 tropical cyclones entered the country, surpassing its annual average (Flores, 2013). In addition, man-made disasters have also wreaked havoc in some parts of the country, the most recent of which was the siege in Zamboanga City in September 2013 and the displacement of the indigenous Lumad in Mindanao in 2015.

The Filipinos' vulnerability during disasters is exacerbated by a

lack of mental health professionals and resources. Only 2% to 3% of the national budget is allocated for health care, which is far below what is recommended by the WHO for developing countries (Conde, 2004). Also, based on data by the Philippine Regulatory Commission (PRC; n.d.) as of October 2015, there are only 875 licensed psychologists, which means that given the country's current population, the ratio of licensed psychologists to Filipinos is about 1:100,000. Inequitable distribution is also a problem—the WHO (2006) reported that there are 3.21 times more psychiatrists and 4.31 times more nurses working in or near Manila than in the rest of the country. This disparity of access to health professionals further limits access to already scant mental health resources.

Although there are no epidemiological studies on PTSD in the Philippines, a study on Filipino typhoon survivors reported that PTSD symptoms and physical and somatic reactions were common among disaster survivors (Carandang, 1996). The study also reported negative coping behaviors such as withdrawal and suppression of feelings.

On the other hand, some protective factors that have been identified in the literature include the Filipino's strong faith. Studies suggest that spiritual coping is the most common coping mechanism of Filipino survivors (Carandang, 1996; Ladrido-Ignacio, 2011). Another protective factor is the Filipino's collectivist orientation and strong sense of family. Research suggests that during natural disasters, family and friends readily reached out to help each other (Adviento & De Guzman, 2010; Verzosa, 2011). Other protective factors are the Filipino's sense of humor (Ladrido-Ignacio, 2011), optimism and innate hopefulness (Carandang, 1996), and resourcefulness and ability to adapt (Adviento & De Guzman, 2010).

Although disaster science in the Philippines is in its infancy, there is a rich history of psychosocial response to disasters. Postdisaster interventions that have been commonly used in the Philippines are individual counseling, group-based counseling and psychosocial processing (Carandang, 1996; Ladrido-Ignacio, 2011), and most recently, psychological first aid (Hechanova, Ramos, & Waelde, 2015). Unfortunately, there is a lack of documentation of methods and a general lack of evidence on the effectiveness of psychosocial support interventions in the Philippines (Tarroja et al., 2013). This paper seeks

to fill this gap by describing the creation and evaluation of a portable and flexible set of resilience modules that can be administered by paraprofessionals in postdisaster and conflict areas.

PROGRAM DEVELOPMENT METHOD

This project had two phases: the first phase was the needs analysis and design process, and the second phase was the pilot implementation and evaluation.

Phase One: Needs Analysis and Intervention Design

In this phase, key informants were tapped to elicit the needs, vulnerabilities, and protective factors for survivors of Super Typhoon Haiyan and collaboratively develop the modules.

Program Design Team. An invitation was sent to about 50 psychologists to attend an intervention design workshop. The selection criteria was involvement in psychosocial support of disasters in the previous year (e.g., the Zamboanga Siege in September 2013, the Bohol earthquake that occurred in October 2013 and Super Typhoon Haiyan in November 2013). A total of 30 psychologists from various locations in the Philippines (13 came from Metro Manila, five from Tacloban, four from Davao, three from Cebu, two from Iloilo, and one from Palawan) responded to the invitation to participate in the design workshop and serve as key informants. A majority (90%) of key informants were faculty members while others were community psychologists or counselors. They were from various backgrounds (15 in clinical/counseling psychology, five in developmental psychology, two in social psychology, three in organizational psychology, five had either undergraduate degrees or general master's degrees in psychology). All of them had first-hand experience in providing psychosocial support to survivors including providing psychological first aid, counseling, and psychosocial processing.

Procedures. The 2-day design workshop consisted of the following parts: (a) presentation of materials by domain experts, (b) specification of needs and profiles of survivors, (c) articulation of assumptions and philosophies, (d) definition of objectives and

framework (e) module design, and (f) planning for implementation and evaluation. In the first 2 hours of Day 1 of the design workshop, the project leader presented information on the IASC Guidelines for Mental Health and Psychosocial Support (MHPSS) during emergencies, data on impact of disasters, literature on vulnerabilities and protective factors. A clinical psychologist from Palo Alto University and with experience in disaster interventions provided input on intervention design, evaluation, and existing resilience interventions.

In the afternoon of the first day, key informants were divided into small groups and asked to discuss their responses to the following questions: (a) What are the needs of survivors? and (b) What are their current conditions? Each group shared their responses in a plenary discussion and a facilitator summarized and categorized the responses.

The next part of the process was to articulate the assumptions and philosophies in designing the intervention. Small group discussion were conducted with each group assigned one of the following questions: (a) Who are the target participants for recovery groups? (b) What are our assumptions and philosophy in designing and facilitating this program? (c) What are the aims of the intervention? (d) Who could facilitate this program and competencies would they need to have?

A plenary discussion followed where the group discussed an overall program design and identified possible key elements of the intervention. Based on both the psychosocial needs of Filipino survivors as well as the literature on resilience, the group identified eight key elements to focus on in the intervention: self-efficacy, managing physical reactions, managing emotions, managing cognitions, problem-solving, social support, and planning for the future.

On Day 2, participants volunteered to work on the various elements/modules identified. Each group had five to seven members who worked on creating a module that focused on element of resilience. The small groups identified the objectives and possible activities to achieve these objectives. In the afternoon, the outputs were presented for group discussion and critique. The last portion of the workshop was a discussion on implementation and evaluation. Questions during the discussion included: (a) How do we recruit and train facilitators? (b) How do we ensure quality assurance and manual adherence in implementation? (c) How do we evaluate the success of this program?

At the end of the workshop, individuals were assigned to revise and finalize the modules. The group decided to merge the module on emotions and cognitions and the modules on problem-solving and social support. Names for the intervention and modules were suggested and discussed. Revised modules were put together and a manual was drafted. The manual was reviewed independently by a group of five psychologists before it was finalized. A Filipino language professor was tapped to translate the manual, which was then reviewed and finalized by the same group of psychologists.

Phase Two: Pilot and Initial Evaluation

The program was piloted among college students in Tacloban City. In addition, feedback from facilitators who were involved in the pilot implementation was obtained. These data were used to revise the intervention design and manual.

RESULTS

Profile of Filipino Disaster Survivors

Content analysis of the responses to the question posed to key informants, "What are the needs of survivors?", revealed that the psychosocial impact of the disaster can be clustered into five categories: somatic (body pains, headache, palpitations), emotional (anxiety, fearfulness, irritability), cognitive (guilt, inability to concentrate, hopelessness), behavioral (inability to sleep, maladaptive behavior such as alcohol and drug use), and spiritual (questioning God, believing that the disaster was a punishment from God).

To the question "What are the survivors' current conditions?", key informants shared that even in the hardest hit areas, the basic survival needs of survivors were still not fully addressed three months after super typhoon Haiyan struck. They noted that a major hindrance was the lack of resources to address the extensive damages caused by super typhoon Haiyan. They also reported the slow delivery of services and a general lack of information among survivors on how to access relevant services. They also reported a lack of coordination among agencies

and communities, and politics and "turf wars" among government institutions.

Despite the aforementioned vulnerabilities, psychologists also shared what they observed as the protective factors and strengths of survivors, primarily spiritual coping, humor, and family support. A common protective factor cited was survivors' strong faith in God. Participants also noted the generally positive disposition of Filipinos survivors who could still joke about their situation and maintain their sense of humor amidst adversity.

Another protective factor commonly cited was the presence of family support. Key informants reported that survivors expressed relying on the support of their family members, and that the family was often cited as a source of strength. They also noted that for Filipinos, the notion of family extended beyond the nuclear family and included relatives and other kin. Other than extended family members, survivors also relied on and supported members of their community. Key informants mentioned that bayanihan or a spirit of community service was very much evident post-Haiyan.

Intervention Objectives and Framework

Luthar and Cicchetti's (2000) resilience framework was used in developing the intervention program. Given the identified needs, vulnerabilities, and protective factors for Filipino survivors, the articulated goals of the resilience intervention were for participants to be able to: (a) identify and cultivate their strengths, (b) identify their current concerns and seek solutions and support, (c) manage their physical reactions, (d) manage unhelpful thoughts and emotions, (e) identify regular and positive activities, and (f) identify goals and develop action plans to achieve these goals (PAP, 2015).

Based on the aforementioned objectives, a framework was developed by the group and was named *Katatagan*, a Filipino concept that closely approximates the construct of resilience. The *Katatagan* intervention consists of six modules: *Kalakasan* (Finding and Cultivating Strengths), *Katawan* (Managing Physical Reactions), *Kalooban* (Managing Thoughts and Emotions), *Kinagawiang Gawain* (Engaging in Regular Activities), *Kalutasan at Kaagapay* (Seeking

Solutions and Social Support), and *Kinabukasan* (Moving Forward) (PAP, 2015).

Target Participants and Design Approaches

Key informants decided that the intervention is intended for those with mild to moderate difficulties (a focused but nonspecialized intervention) and not intended for those with severe mental health problems. The intervention was designed for adult survivors because they are the decision-makers and responsible for minors. It was also agreed that the intervention would utilize adult learning principles: modules build on survivors' experiences, activities are relevant to survivors' daily lives and meaningful to their future, varied methodologies would be utilized, and skills learned could be applied to survivors' current reality. The designers also concurred that it should reflect Filipino culture—the use of groups, the recognition of the protective factors (spirituality and social support), use of local language, and the use of Filipino symbols (PAP, 2015).

The six modules are designed to be delivered in small groups of five to eight participants and run from 1-1.5 hours. The modules can be run separately in staggered manner (i.e., weekly, over a number of days) to allow participants sufficient time to absorb and reflect each element. Intended as a focused, nonspecialized (Level 3) intervention, the intervention was designed so it can be delivered by trained paraprofessionals.

Module Design

A core principle in facilitating positive adaption following the experience of mass trauma is promoting a sense of self-efficacy (Hobfoll et al, 2007). An analysis of the profile of Filipino survivors revealed a number of protective factors (i.e., spirituality, sense of humor, community, family support). The aim of the first module, *Kalakasan* (Finding and Cultivating Strengths), is for survivors to focus on, identify, and cultivate their strengths and personal resources. It begins by asking survivors to identify the strengths they have discovered in themselves from the time the disaster happened to the present. This

exercise uses the symbol of a *vinta* (a traditional sailboat typically used in Southern Philippines). Participants are given a piece of paper with a drawing of a vinta. They are asked to identify in each stripe of the sail of the vinta their sources of internal or external strength. Participants share their sources of strength and are asked to reflect on how they might continue harnessing these strengths as they recover from the disaster.

Key informant discussions revealed that survivors reported a number of somatic complaints (e.g., body pains and headaches). In order to help survivors from reactions such as these and in keeping with principle of promoting a sense of calm (Hobfoll et al., 2007), the goal of the second module, *Katawan* (Managing Physical Reactions), is for participants to understand and manage their own physical reactions to the disaster. Participants are educated about stress responses as they are felt and manifested in the body. They are then asked to identify physical sensations by shading parts of a diagram of a person's body. After participants share their diagram to the group, the facilitator leads a discussion on personal strategies for managing stress. Three key strategies for managing physical reactions are taught to participants: the use of bioenergetic exercises, progressive muscle relaxation, and mindfulness. Bioenergetic exercises consist of stretching exercises. The progressive muscle relaxation exercise leads participants through the experience of tensing and releasing their muscles. Mindfulness meditation exercises drawn from the empirically supported Inner Resources for Stress program (Waelde, 2015) were included to promote better stress symptom management. Exercises include mindful awareness of breath and body, and the tension release exercise that uses breath-focused attention to visualize tension flowing from the chest area, down the arms, and out of the body. Participants were taught that these mindfulness techniques can be used during periods of dedicated sitting practice and in daily life. Other mindfulness practice periods are included in all the subsequent modules of the manual to promote calm and focus during the intervention modules and to support ongoing practice of the techniques.

Key informants reported that the disaster affected survivors' emotions (anxiety, fearfulness), cognitions (guilt, inability to concentrate), and spiritual beliefs (questioning God, attribution that

the disaster was a punishment from God). To address this and promote self-efficacy and calm, the module on *Kalooban* (Managing Thoughts and Emotions) aims to help survivors develop emotion management skills through cognitive reframing methods. The key strategies applied in this module are based in part on CBT principles and was guided by the module on Promoting Helpful Thinking in Skills for Psychosocial Recovery (Berkowitz et al., 2010). Based on the assumption that posttraumatic stress is partly mediated by unhelpful or maladaptive thoughts and beliefs, the participants are given information on the connection between thoughts, emotions, and behaviors, and are taught strategies to modify their thinking. Using an emotive exercise, participants are asked to share their emotions, thoughts and behaviors postdisaster. This exercise is followed by a discussion and exercise linking thoughts, emotions, and behaviors. Participants are then asked to distinguish their helpful and unhelpful thoughts, using as examples the common sentiments expressed by survivors to key informants in the field ("I could have saved them", "We are being punished by God", and "I am lucky to be alive"). To illustrate the practice of cognitive reframing, facilitators show ambiguous pictures and clarify how these pictures can be perceived in different ways. This exercise is used to clarify how events in one's life can be likewise be interpreted in different ways that may result to different emotional reactions. Facilitators then provide input on cognitive reframing and thought substitution, and ask participants to apply these to their own experiences. The module ends with a brief mindfulness exercise as another strategy in alleviating unhelpful thoughts and negative emotional reactions.

To address survivors' reported behavioral symptoms of distress (inability to sleep, maladaptive behavior such as alcohol and drug use), and promote a sense of calm and self-efficacy, the module *Kinagawiang Gawain* (Engaging in Regular Activities) aims to help participants identify regular and positive activities that will facilitate their recovery. Participants are helped to distinguish between activities they do in their daily routines that may be considered either productive or unproductive. Afterwards, they are asked to identify certain positive actions they can do to keep from engaging in unproductive activities and to help themselves do more of the positive activities.

Key informants reported that the basic survival needs of

many survivors were still not fully addressed three months after Typhoon Haiyan struck. They noted the general lack of information among survivors on how to access relevant services. In keeping with the principles of promoting self- and community efficacy and connectedness, the module *Kalutasan at Kaagapay* (Seeking Solutions and Support) promotes effective and systematic problem solving and seeking social support among survivors. The problem-solving strategy that is introduced involves: (a) listing the most pressing concerns or problems, (b) classifying concerns that are within the participants' control and those not within their control, (c) prioritizing the problems within their control, (d) identifying possible solutions, (e) reflecting on and analyzing the pros and cons of each solution, and (f) identifying the preferred solution. This part was guided by the module on Building Problem Solving Skills in the Skills for Psychosocial Recovery (Berkowitz et al., 2010). However, in keeping with the importance of mobilizing protective factors that operate across multiple levels of influence (Luthar & Cicchetti, 2000), a social mapping exercise is conducted wherein participants identify their sources of support, including, but not limited to the following: family, community, government, or other organizations. They are then asked to identify which of these sources of support could be tapped to help them address their problem.

The key informants also revealed that survivors reported feelings of hopelessness, a fundamental risk factor associated with depression. Another principle in facilitating positive adaption following trauma is instilling hope (Hobfoll et al., 2007). This is highlighted in the last module, *Kinabukasan* (Moving Forward), which aims to assist survivors in identifying goals and develop action plans to achieve these goals. Through a visioning exercise, participants express their aspirations for the future. They are then asked to articulate their goals to craft specific action plans. The module ends with a reflection on their journey to recovery.

Although there is no module that specifically focuses on spirituality, participants are given the option in each of the modules to begin and end the session with a prayer. Music, being a large part of the Philippine culture, is incorporated in the closing module, where participants are asked to select a song that expresses their experience

and journey to recovery, which the group sings together.

Pilot Implementation and Evaluations

In keeping with the principle of careful documentation and evaluation of the intervention, a facilitators' manual was developed and went through several reviews before it was finalized and translated into Filipino. The Filipino version likewise went through a review process. A core group of clinical, developmental, social, and organizational psychologists carefully appraised the modules' theoretical basis and design. They also assessed the accessibility and comprehensibility of the language and the activities to increase the likelihood that the program will be acceptable and appealing to the target community participants.

The intervention was pilot tested and evaluated among college students in Tacloban. In keeping with ethical guidelines, participation to the program was voluntary and informed consent was obtained from participants. Participants were assured confidentiality and privacy of information. Finally, feedback from the facilitators who were involved in the pilot implementation were obtained to guide review and revision of the design.

Pilot among college students. Flores and colleagues (2014) pilot-tested the intervention among student survivors (1st year to 4th year) in a university in Tacloban. The outcomes included pre- and posttest assessment of depression using the Beck Depression Inventory (Beck, Steer, & Brown, 1996), anxiety measured using the Self-Anxiety Rating Scale (Zung, 1971), posttraumatic stress symptoms using the Posttraumatic Stress Disorder Checklist (Weathers et al., 1993), and positive coping skills via the Brief Cope measure (Carver, 1997). The evaluation utilized a quasi-experimental design with 45 volunteer survivors compared to 31 nonparticipants survivors. Pre- and posttest analyses utilizing *t* tests revealed that, after the 6-week program, participants reported significant decreases in posttraumatic stress symptoms, anxiety, and depressive symptoms. Participants' posttest scores on adaptive coping behaviors were also significantly higher than pretest levels. Moreover, change scores of participants likewise significantly differed from the change scores of nonparticipants (Flores

et al., 2014).

Facilitator evaluations. In line with the principle of evaluating intervention and considering the developmental capacities of target group, feedback was obtained from the facilitators of the pilot program (Luthar & Cicchetti, 2000). Facilitators reported that in the first module, many participants cited sources of strength that were external rather than internal to them such as faith in God, family, and friends. Facilitators suggested adding alternative imagery such as a kite instead of a vinta in areas where participants have no experience of a vinta. The image of a kite may be used to elicit both internal and external strengths, such as when participants are asked to indicate internal strengths on the inside of the kite and external strengths on the tail of the kite. These modifications were incorporated in the revised manual.

In the module on managing thoughts and emotions, facilitators suggested that the ambiguous picture (duck/hare) used to illustrate the concept of cognitive reframing was unfamiliar to some participants so this was removed from the manual. Another facilitator reported that participants experienced difficulties in understanding the concepts related to parsing thoughts and emotions and reframing. The suggestion to incorporate a simplified visual diagram showing the relation between thoughts, emotions, and behaviors was likewise incorporated in the manual.

Facilitators reported that participants seemed to enjoy the module on managing physical reactions the most, particularly the mindfulness techniques. They also reported that some participants struggled with the module on problem solving because of its highly cognitive nature. It was suggested that the order of these modules be interchanged with managing physical reactions being implemented first. In this way, easier modules come before more complex ones. The change in order of the modules also facilitates use of the mindfulness exercises earlier in the program. In keeping with suggestions from facilitators, the module on Managing Thoughts was also simplified. Finally, the facilitators also suggested the label of the module on positive activities be changed to *Kapakipakinabang Gawain* (Positive Activities) because the original title implied a returning to their previous life, which was not the case for many survivors. The final module order and titles are seen in Figure 1.

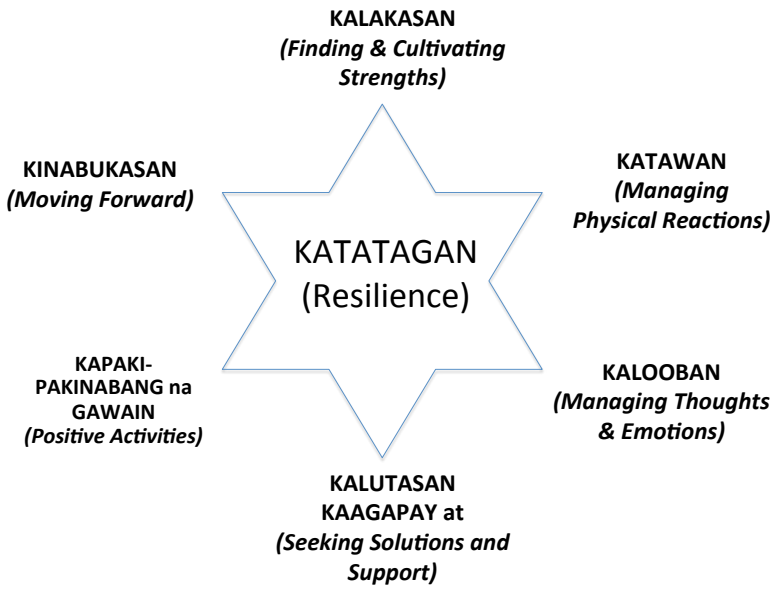

Figure 1. Katatagan Intervention Framework

DISCUSSION

This paper addresses a gap in the literature on intervention and disaster science in the Philippines by documenting the development of a needs-based resilience intervention for Filipino survivors based on literature and the psychosocial needs of Filipino survivors. Data from key informants revealed that trauma was commonly manifested in terms of physical reactions. The tendency towards somatization is a key expression of psychological symptoms among Asians, who are less likely to verbally express mental health difficulties because of cultural and language barriers (Leong & Lau, 2001). Other psychosocial needs such as hopelessness, inability to think, and worrying about basic needs were caused by a myriad of vulnerabilities such as limited financial resources, insecure house and land tenure, living in a high risk location, and lack of organization. As suggested by Porio (2014), the impact of

natural calamities is compounded by environmental degradation and deficits in environmental and fiscal reform, inadequate infrastructure, and poor delivery of social services to survivors of disasters.

Key informant discussions from the psychologists' workshop highlighted that protective factors of survivors included a sense of humor and a cheerful disposition, faith in God, and strong family and community relationships. This finding is consistent with studies that suggest that spiritual coping is the most common coping mechanism of Filipino survivors (Carandang, 1996; Ladrido-Ignacio, 2011). The results also validate previous literature on the critical role of social support from family, friends and neighbors in recovering from disasters (Adviento & De Guzman, 2010; Verzosa, 2011).

Beyond information on the needs, vulnerabilities, and protective factors, however, the most significant contribution of this paper is that it documents a collaborative and systematic process in designing a psychosocial intervention. In addition, it shows the value of adopting culturally-nuanced interventions. As suggested by Litz (2008), providers of psychosocial support during disasters should recognize, maintain, and strengthen the customs, traditions, rituals, structures, roles and bonds that facilitate survivors' coping. In the case of *Katatagan,* the use of local language, indigenous metaphors, and prayer and songs were some ways Filipino culture was emphasized. The format of our intervention development and evaluation process can be adapted by disaster workers in other areas who wish to be responsive to calls to develop and adapt culturally-responsive resilience-building postdisaster interventions (Luthar & Cicchetti, 2000).

The results of the initial evaluations are promising and validate previous studies that show the value of psychosocial interventions for building resilience and coping skills (Renholt, Karsberg, & Elklit, 2013; Steinmetz, Benight, Bishop, & James, 2012; Yoder, Tuerk, & Axsom, 2012). Further, it affirms the value of groups in providing psychosocial support. As suggested by Johnstone (2007), psychosocial interventions can be done in groups because sharing experiences, normalizing reactions, and helping others provide mutual support. The acceptability and usefulness of mindfulness in *Katatagan* modules is consistent with reports of the widespread utilization of mindfulness in response to trauma and other problems of living (Waelde & Thompson,

in press).

In summary, the resilience intervention met majority of the principles suggested by Luthar and Cicchetti (2000) in designing resilience interventions. It was anchored on a sound theoretical framework that recognizes the interaction of the person and the context. *Katatagan* was based on theory and research conducted among Filipino survivors. In keeping with the principle of recognizing both positive and negative outcomes, it targeted the reduction of negative outcomes and promotion of positive adaptation. The intervention likewise considered both vulnerability and protective factors that operate across multiple levels of influence. It was contextually relevant, had a developmental focus and was sensitive to the capacities of the target group. Finally, it was documented and evaluated.

Limitations and Implications for Future Research

There were a number of limitations in developing and evaluating *Katatagan*. Luthar and Cicchetti (2000) suggested that when possible, evaluations of intervention programs should employ designs that are comparative (i.e., experimental or quasi-experimental). During the pilot implementation, we were not able to implement a true experimental design that would have allowed us to make more robust conclusions on the effectiveness of the intervention. The decision not to have randomized control groups was primarily a function of need (we felt a moral imperative to help survivors who appeared to need the intervention most) as well as limited resources. At the time of pilot-testing, there were no funds available for rigorous research as most resources were being used to provide survivors' basic needs. Future studies utilizing an experimental design would be able to provide more rigorous conclusions on the effectiveness of the program.

This pilot implementation and initial evaluation also focused on a few specific learning and psychological outcomes (anxiety, posttraumatic stress symptoms, depression, adaptive coping). Because of the urgency of the need, we did not have the time and resources to develop indigenous instruments and had to use translated Western scales. Although the scales used had acceptable reliabilities, future researchers should try to use or develop local scales and conduct more

rigorous analysis of the psychometric properties of the instruments.

The quantitative measures were administered right after the delivery of the interventions. However, longitudinal studies with repeated measures would provide more information on the extent to which the outcomes were sustained. Because resilience is a dynamic, complex process that develops over a number of weeks, booster sessions may be necessary to reinforce competencies with the accompanying follow-up assessments to evaluate the sustainability of effects.

Implications for Practice and Opportunities for Adaptation

Despite its limitations, the pilot implementation provides encouraging results of a possible postemergency intervention that can be delivered to adult disaster survivors during the recovery phase of a disaster. However, during implementation, the facilitators received queries on available interventions for younger populations. The team also received inquiries on whether the intervention can be revised for use with persons with disabilities. Other psychologists may wish to adapt the intervention and test its effectiveness for different populations (i.e., adolescents, children, and those with special needs).

It must be emphasized, however, that because *Katatagan* was developed as a focused and nonspecialized intervention, it is not intended to address the more serious mental health needs of survivors who experience significant difficulties in daily functioning. This implies the need for facilitators to be aware of referral mechanisms so they may refer survivors who need more specialized services to mental health professionals.

Although *Katatagan* is designed to hone individual coping skills, resilience needs to be viewed from an ecological perspective and across multiple systems of influence (Luthar & Cichetti, 2000). In keeping with the IASC (2007) guidelines for MHPSS in emergency settings, the implementation of a psychosocial intervention needs to be part of an integrated effort to support survivors. Family programs may be important when disasters affect multiple family and community members. Community interventions may be necessary especially in displaced or resettled communities. Linkages with community leaders and government and nonprofit organizations are important especially

in areas where recovery is slow and survivors still grapple with meeting basic needs. Finally, resilience interventions also need to be viewed in the context of disaster risk reduction and management systems.

Luthar and Cicchetti (2000) suggested that interventions must capitalize on specific resources and efforts should ensure the sustainability of intervention. In a statement on the role of psychologists in international emergencies, the American Psychological Association (2008) affirmed IASC guidelines that psychologists from outside a disaster site should provide support to programs on a general level, including the transfer of skills so that interventions and supports are implemented by local staff (IASC, 2007). Although *Katatagan* was delivered by psychologists during the pilot, the intent is for it to be eventually delivered by trained community facilitators. One implication is the need to train community helpers such as teachers, clergy, health professionals, and emergency personnel because they are who community members go to for support (Yoder, Tuerk, & Axsom, 2012). However, this new role as trainer and coach requires a different set of skills and competencies that may not be embedded in the current training and education of Filipino psychologists. In addition, studies evaluating the efficacy of *Katatagan* delivered by nonpsychologists would be important to address the issues of scale and access.

In conclusion, this paper describes the development, pilot, and initial evaluation of a focused, nonspecialized (Level 3) psychosocial intervention to assist Filipino disaster survivors in their recovery. *Katatagan* is the first resilience intervention documented in the Philippines. Although more robust evaluations are necessary, the initial results provide encouraging information on the value of group-based and culturally-nuanced interventions in enabling resilience for Filipino disaster survivors. Moreover, the paper provides a process model for how to collaboratively and systematically design a culturally-nuanced resilience intervention.

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