



Behavioral Science in the Global Arena: Addressing Timely Issues at the United Nations and Beyond

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Behavioral scientists are increasingly involved in international work through cross cultural research, conference presentations, and faculty exchanges. Psychology and social work NGOs work at the United Nations, both on providing professional consultation on timely issues, as well as advocating to promote human rights and sustainable development. Although this work at the United Nations is an important arena for behavioral scientists, this has been barely covered in the academic literature.

"What are growing roles of psychology and the behavioral sciences at the United Nations today?" This first-ever volume brings together over 20 authors--both key experts and student interns--to answer this question. As the United Nations pursues its 17 Sustainable Development Goals (SDGs) for the year 2030, behavioral scientists now occupy increasingly diverse roles to pursue evidence-based answers for these 17 timely SDGs.

This panoramic yet concise 230-page volume is designed for students and professionals in the behavioral sciences, psychology and social work to provide state-of-the-art information on how behavioral scientists are addressing diverse global issues today. Each chapter offers a concise overview of a topic, including a glossary of current concepts, and citations to current research.

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This important volume posits fresh ideas for psychology's role and future impact in the only global body that brings all governments together to tackle the social, economic, political and security factors that are essential for peace and collective human development in our fragile world.

--Saths Cooper, PhD

Past-President, International Union of Psychological Scientists (IUPsyS)

I am delighted to recommend this volume, which uncovers two important truths to the success of the UN.

1. The critical role of civil society that makes the UN more humane. 2. The important role of behavioral sciences in shaping UN policies to produce successful outcomes. Because of the UN, we've not had a third world war, yet. Human Rights have expanded beyond belief of anyone who founded the UN 75 years ago.

--Bruce Knotts

U.S. diplomat, author, and Chair of the U.N. DPI NGO Executive Committee

I am very excited to see the publication of a much-needed book on the contribution of the behavioral sciences at the UN which highlights the role of social work. The editors have successfully illuminated how social workers have been increasingly involved in addressing international issues. Well done!

--Kathryn Conley Wehrmann, PhD

LCSW, President, National Association of Social Workers (NASW)

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CHAPTER 14

DISASTER AND TRAUMA INTERVENTION

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Amna Khan**

Natural or human-made disasters can have severe negative impacts on life, property and livelihood. These impacts are highly disruptive and can result in permanent changes. Disaster preparedness becomes much more imperative as the frequency of disasters and their effects are increasing yearly (Eshghi & Larson, 2008). Gaps in preparation and intervention to withstand the detrimental impacts of disasters due to a failure of systems can further the negative impact. In this chapter, we will discuss the types of disasters; the stages of disaster management; the example of Hurricane Sandy; and interventions that promote well-being such as the 7-step Integrative Healing Model (Kalayjian & Diakonova-Curtis, 2019).

TYPES OF DISASTERS

Unlike an *emergency*, which refers to an event or situation that requires a rapid response and can be addressed within existing community resources, disasters are of greater magnitude.

TABLE 14.1 Types of Disasters, as Defined by Eshghi & Larson (2008)

Type of Disaster	Name of Disaster
1. Biological disaster	Epidemic/infestation
2. Geological disaster	Earthquake Landslide Mudslide Volcanic eruption Tsunami
3. Meteorological disaster	Avalanche Drought Famine Flood Snowstorm/storm surge Heat/cold weather Hurricane/typhoon/tornado Wild fire
4. Human conflict	Genocide Terrorism Mass casualty War
5. Technological disaster	Industrial/hazardous chemicals accident Transportation accident

The term *disaster* refers to an event or situation that can cause disruptions to services, requiring the need for people outside of the affected community to respond (Gebbie & Qureshi, 2012). The event or situation is unforeseen and can have serious and immediate threats to public health (Gebbie & Qureshi, 2012). There are several types of disasters (see Table 14.1). The World Health Organization (WHO) defines natural disasters as an ecological disruption or threat that exceeds the adjustment capacity of the affected community. Human-made disasters are a result of situations caused by humans, such as war, genocide, incest or armed conflict (Guha-Sapir, 2000).

STAGES OF DISASTER MANAGEMENT

Disaster management usually consists of two phases, pre-disaster and post-disaster (Asghar, Alahakoon & Churilov, 2006). Pre-disaster risk-reduction consists of prevention, mitigation and preparedness whereas post-disaster recovery consists of response, recovery and rehabilitation (Asghar et al., 2006).

In a model proposed by Kimberly (2003), the four phases of disaster management are mitigation, preparation, response and recovery (Kimberly, 2003). With mitigation and preparation forming the base, the biggest and most visible phase is that of response. The model places recovery at the top as it is what remains after the response and takes the largest amount of time and costs.

An additional model, the proposed comprehensive model, links phases of hazard assessment, risk management and disaster management actions, which include mitigation, preparedness, response and recovery (Asghar et al., 2006). The aim of the model is to correct the limitations of pre-existing models by incorporating environmental conditions.

Five psychological phases are likely to occur after a disaster (American Red Cross Manual on Disaster Health Services, 2012). According to our research in over forty-seven disaster ridden countries around the world, and over 25 states in the USA, these phases vary in length and intensity depending upon history of disaster, vulnerability, Biopsychosocial and Eco-Spiritual development, kind of disaster, extent of physical damage, proximity to the disaster, and resources available (Kalayjian, 1995).

1. **Initial impact phase:** characterized by increased anxiety and fears.
2. **Heroic phase:** survivors helping one other in efforts to deal with the catastrophe.
3. **Honeymoon phase:** experiences of joy at having survived and feeling important and special for receiving aid from various private and governmental organizations.
4. **Disillusionment phase:** increased frustration and resentment at officials and agencies for failing to provide assistance in a timelier and systematic fashion.
5. **Reconstitution phase:** thoughts and plans for reconstruction and acceptance of the need to assume responsibility for personal problems.

BEHAVIORAL RESEARCH: EXPERIENCE OF HURRICANE SANDY

On October 22, 2012, an estimated 60 million people across 24 states experienced the impact of Hurricane Sandy, with more than 8 million residents suffering from power outages (Neria & Shultz, 2012). In New York City, the subway system and tunnels were flooded, major fires triggered by the storm destroyed homes, communications were disrupted, and shortages of food and gasoline (Neria & Shultz, 2012).

Prior to the storm's landing, there were mixed behaviors observed in the community. While the media was obsessively warning people about

the importance of getting ready for Hurricane Sandy, public preparation seemed low. This was going to be a category 4 hurricane, hitting a 300-mile zone starting from Virginia and stretching all the way to New England.

The lack of caution and preparation was evident in our own daily lives as well. Our non-profit international organization, Meaningfulworld, had scheduled an autumn foliage hot air balloon trip for Sunday morning, and rescheduled it to Saturday instead. We were able to fly and had a great time in spite of all the concerns, fears, and threats of inclement weather.

The Hurricane did hit as strong as they expected in the South Jersey area. In Northern New Jersey, we received a hard hit with high winds, but not as much rain as was predicted. We received mostly high winds, lots of trees fallen, electrical polls down, trash cans flying, as well as the foliage piled up all around. We were grateful for what we had, as we were not sure we would be able to cope with any catastrophes in our area. There seemed to be no community-wide evacuation plans in place as there had not been any emergency evacuation drills conducted prior to the storm.

People's reactions in the preparation phase of disaster management were incredibly varied, with there being three observable categories:

- A. Those who obsessively over bought everything they needed or did not. Such as a trunk full of batteries, even for sizes that they had no need like AAA. They bought groceries, including a lot of meat (not thinking what they will do without electricity?) blankets, and left shelves at the supermarket totally empty;
- B. Those who did absolutely nothing, reassuring themselves that in fact we had never had a category 4 hurricane, and that it would be a light storm and nothing to worry about. They reassured themselves that we have never had a hurricane except the previous year's Hurricane Irene, which was not bad at all, and we still had electricity in our area; and
- C. Those who put all their kids and pets in their vehicles and drove away, some to Florida, some to Arkansas, others to Catskills, or wherever they could run away and still have electricity and daily comfort.

Group B then began panicking after Monday night when in fact the hurricane hit so hard, from Cape May, Sandy Hook, all the way up north to Connecticut, flooding the area, ripping electrical posts as well as over 100 years old trees from their roots, killing some people in their own bedroom while they were watching TV, others washed out in the shore. Pieces of boardwalks were found ten blocks in land, and hospitals by the Hudson and East Rivers had to be evacuated both in New York and New Jersey. This group began on a search spree for a generator, gasoline, batteries, and

candles; now paying double prices for all. The lines for the generator were over hundreds of people, with fights erupting, the waiting lists were up to 500 people in the Paramus town's Home Depot, in New Jersey.

While some of them were waiting for generators, other family members were waiting for gas, as the generator could not run without gasoline. Gas stations were closed from Bergen County all the way down south in Hudson County, New Jersey. Any remaining gas at stations was put on hold for emergency services and police vehicles. Then they got an SMS that there was some gas in North Bergen, everyone rushed there, to find 50 people online and another 50 cars as well wrapped around four city blocks. While in this panic, Group B was driving recklessly, and cursing their luck, and wishing that they had paid attention and gotten ready before the hurricane.

Those few who were fortunate and still had electricity were diligently sending SMS messages and inviting their friends to come and have some hot showers, charge their phones and laptops, and drink hot tea. This invitation was so appreciated, as without communication it is difficult to know how your loved ones are doing, if they need help, etc. We were so happy when our friends texted us with an invitation and ran to Ridgefield to watch the news while charging our phones, and other phones of friends and neighbors. We saw eyewitnesses from Seaside crying while describing what they had witnessed and experienced. There was no longer a board walk, and there was extreme helplessness, despair and resignation in their expressions. "You build for years and then in 2 hours everything is gone, destroyed, transformed into a pile of debris and sand."

Though disasters vary in intensity, impact, and experience, our research finds these universal reactions to disasters (Kalayjian, 1995):

1. *Shock and disbelief*: In stage one, survivors are in shock, emotionally numb, and in some cases denial, because the pain is too severe for any human being to bear.
2. *Strong emotional response*: In the second stage, the survivor is emotionally aware of the problem and feels overwhelmed and unable to cope with it.

Common Reactions in Children: 1. Separation anxiety 2. Refusing to sleep or be left alone 3. Conduct disorder 4. Regressive behaviors: thumb-sucking, enuresis, or clinging behavior 5. Hyperactivity 6. Withdrawal 7. Somatic complaints: stomachache, headache, joint aches, etc. 8. Sleep disturbances.

Common Reactions in Adolescents: 1. Withdrawal, 2. Anger 3. Increased aggression 4. Regression 5. Sleep disturbances 6. Nightmares 7. Increased daydreaming 8. Inability to concentrate 9. Irritability.

Common Reactions in Adults: 1. Uncertainty and fear 2. Anger expressed toward builders and government officials 3. Feeling tense, edgy and jumpy 4. Loss of appetite 5. Sleep disturbances and nightmares 6. Withdrawal 7. Loss of concentration 8. Inability to make decisions 9. Aggression: domestic violence, increased alcohol/drug use, etc.

3. *Acceptance:* In this stage, the survivor begins to accept the magnitude of the disaster and makes an appropriate effort to address it. Survivors feel more hopeful and goal oriented. At this time, survivors may take more specific actions to help themselves and their families.
4. *Recovery:* Last but not least is the recovery stage, in which survivors feel they have returned to their pre-disaster level of functioning. A sense of adjustment and well-being is restored, and realistic memories of the traumatic experience are developed.

We began helping people in my neighborhood, providing gasoline, candles or batteries. While driving through the streets in Bergen and Hudson Counties in New Jersey, where traffic lights are not functioning, there were once again three types of drivers:

- a. Those who just drove through, as if they had the green light, without consideration to others;
- b. Those who stopped for a long time letting everyone else drive through while having frustrated motorists pile up behind them;
- c. And those who stopped, got out, helped direct the traffic, helped others as well as the elderly to cross the street safely.

We at home welcomed Hurricane Sandy with a potluck dinner and live music. Our friends, who live in proximity, gathered around, ate, played the guitar and the accordion, others sang and joined in with percussions. We remembered the Armenian song “I don’t care about palaces, caviar, and diamonds, my best friends are priceless jewels for me.” We created joy within and released it and expressed it to each other, multiplying the joy was amazing. It reminded us of our Meaningfulworld motto: “Shared sorrow is half sorrow, while shared joy is *double joy*.”

The following morning it was unbelievable to witness the extent of the damage. It reminded us of Hurricane Andrew in Southern Florida, where our organization went to help. There too, many people did not evacuate, thinking it would not be a strong hurricane and then were left devastated. We would not recommend complacency or disbelief as one never knows how strong and how long a hurricane would hit. We can never know with full certainty whether it’s going to rain, how hard it’s going to rain, how many inches of rain we will get, and which direction is the wind going to blow.

In these difficult days, we were pleasantly surprised receiving calls of concern from friends, colleagues, and family from around the world: Armenia, California, Pakistan, Syria, Germany, England, Virginia and all around the world. It was refreshing to feel that people cared not only nationally but internationally.

While we had no electricity, it was so enlightening to feel the serenity after 7 PM when everything was dark, no electricity, no computers nor any appliances running. The darkness silenced people, as they began whispering, slowing down, staying indoors, even changing our circadian rhythm, our inner biological clocks. We noticed people slept earlier and woke up earlier with the sunrise. Our desktops, laptops, or other electronic devices were just useless without electricity, Wi-Fi, or connection. Instead we had time to heal and use our inner skills to entertain ourselves. We planned events with one another, such as walks, and while walking we helped people in need in our neighborhood, doing yoga with friends, gathering around candle lights and telling jokes, and stories.

Kids and teenagers were not functioning well without their electrical and internet gadgets. They could not fathom life without electricity. We sat a few of them down and had generational story telling nights, telling them how people in the past lived without electricity, with no refrigerator, nor computer. We also told them how in Africa, and other parts of developing countries, people live without the comforts that we are spoiled with. The youth had lost the ability to talk and tell stories, they were depressed with what had happened around them.

This was an incredible learning experience for us all, individually, family wide, community wide, as well as on state and government levels. Despite the numerous articles that are written indicating that New York City is not ready for any natural disasters, no one, including government officials, had incorporated disaster preparedness as a priority. Planning does not start 4 days before the hurricane, it starts today, and it continues until there is a disaster.

MULTILEVEL INTERVENTIONS: UNITED NATIONS

Disaster risk management can be used to refer to both risk reduction (prevention, preparedness and mitigation) and humanitarian action (response, relief and reconstruction) (Schipper & Pelling, 2006). Despite the increasing frequency of disasters over the past few years, disaster risk reduction is treated as a lower priority in comparison to emergency relief, debilitating the response of non-governmental organizations (Eshghi & Larson, 2008; Schipper & Pelling, 2006). The work of non-governmental organizations, and the United Nations (UN), is to complement government efforts in bringing rapid relief to those affected (O'Brien, O'Keefe, Rose & Wisner,

2006). The United Nations Office for Disaster Risk Reduction (UNDRR) works towards reducing disaster risk and losses, and as a result, support a sustainable future (United Nations, Disaster Risk Reduction, 2013).

The UNDRR works at different levels of disaster response, including the International Telecommunication Union (ITU), the Bureau for Crisis Prevention and Recovery, and the UNDRR. The ITU aids governments in information and communication technologies, with its goal centered on strengthening emergency communications for disaster prevention and mitigation (United Nations, Disaster Risk Reduction, 2013). The Bureau for Crisis Prevention and Recovery works to enhance conflict prevention and disaster risk management, ensure improved government functions post crisis, and restore foundations for local development (United Nations, Disaster Risk Reduction, 2013).

The UNDRR, established in 1999, has been mandated to serve as the system disaster reduction in the United Nations, and to ensure cooperation and coordination among the United Nations System and regional organization (United Nations, Disaster Risk Reduction, 2013). Its mission is producing evidence for disaster risk reduction, mobilize decision makers, and support the resilience of nations and communications in the face of disasters (United Nations, Disaster Risk Reduction, 2013).

Hurricane Sandy not only impacted the east coastline of the United States, it also had detrimental effects in the Caribbean, Haiti, Cuba, Jamaica, the Dominican Republic and the Bahamas. Immediately after the storm, the United Nations Central Emergency Response Fund (CERF) allocated \$5 million to Cuba and \$4 million to Haiti for response and reconstruction (CERF, 2012).

7-STEP HEALING MODEL FOR RECOVERY

Hurricane Sandy served as a grave reminder that a disaster can come without warning and therefore, our mitigation and preparation must always be ready in order to strengthen our response. The storm resulted in an excess of \$50 billion in damages, with thousands displaced from their homes (Abramson & Redlener, 2012). The response efforts indicated quite clearly the gaps that remain in our disaster preparedness. The storm impacted at both macro and micro levels, disrupting fuel distribution which then resulted in severe gas shortages, affecting medical and public health forces (Abramson & Redlener, 2012).

With the gaps that existed and hampered the disaster preparedness that should have been ready in time for the storm, the brunt of responsibility falls on post-disaster recovery. The impact of the storm was massive, resulting in 97 deaths in the New York City area (Abramson & Redlener, 2012).

The need to address the emotional recovery post-disaster becomes incredibly critical, especially when response efforts pre-disaster were unsuccessful. Our organization's 7-Step Healing Model is a tool through which traumatic experiences are assessed, identified, explored, described, processed and reintegrated (Kalayjian & Diakonova-Curtis, 2019). The model builds from the integration of multiple theories including psychodynamic (Freud, 1910), interpersonal (Sullivan, 1953), existential and humanistic (Frankl, 1962) (Kalayjian & Diakonova-Curtis, 2019), Electromagnetic Field Balancing (Dubro and Lapierre, 2002), adult learning theories, Flower Remedies (FesFlowers.com), mindfulness, and meditation.

The seven steps of the model include: 1) assessing levels of distress, disagreement or conflict; 2) encouraging expression of feelings; 3) providing empathy and validation; 4) encouraging discovery and expression of meaning; 5) providing information; 6) nurturing Mother Earth; and 7) learning deep breathing, movement-centered healing, mindfulness, and meditation. The aim of the model is to aid the individual in meaning-making and forgiveness following trauma. One of the central components in healing from a disaster is the ability to find meaning in a traumatic event and to cultivate a sense of purpose in one's life (Frankl 1962; Kalayjian & Eugene, 2010). Meaning-making has been linked to better adjustment following stressful life events and lower severity of post-traumatic symptoms (Collie & Long, 2005; Skaggs & Baron, 2006; Kalayjian, Shigemoto & Patel, 2010)

GLOSSARY

Disaster. A serious disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of exposure, vulnerability and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.

Disaster Management. The organization, planning and application of measures preparing for, responding to and recovering from disasters.

Disaster Risk. The potential loss of life, injury, or destroyed or damaged assets which could occur to a system, society or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, vulnerability and capacity.

Disaster Risk Assessment. A qualitative or quantitative approach to determine the nature and extent of disaster risk by analyzing potential hazards and evaluating existing conditions of exposure and vulnerability that together could harm people, property, services, livelihoods and the environment on which they depend.

Disaster Risk Reduction. preventing new and reducing existing disaster risk and managing residual risk, all of which contribute to strengthening resilience and therefore to the achievement of sustainable development.

Emergency. used interchangeably with the term disaster, as, for example, in the context of biological and technological hazards or health emergencies, which, however, can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society.

Mitigation. The lessening or minimizing of the adverse impacts of a hazardous event.

Preparedness. The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.

Prevention. Activities and measures to avoid existing and new disaster risks.

Response. Actions taken directly before, during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

STUDY QUESTIONS

1. Identify a possible explanation for the gaps that exist in weather warnings and subsequent public response.
2. Describe a strategy that promotes disaster preparedness, evaluate its effectiveness and identifying the ways in which it aligns with public response.

SOME DISASTER RESOURCES

American Psychological Association:

- <https://www.yourmindyourbody.org>
- <https://www.apa.org/helpcenter/hurricane-preparation>
- <https://www.apa.org/helpcenter/road-resilience>

American Red Cross:

- <https://www.redcross.org/get-help/how-to-prepare-for-emergencies/types-of-emergencies.html>
- <https://www.governor.ny.gov>

FEMA:

- https://www.fema.gov/media-library-data/1494007144395-b0e215ae1ba6ac1b556f084e190e5862/FEMA_2017_Hurricane_HTP_FINAL.pdf

CDC:

- <https://www.cdc.gov/disasters/hurricanes/index.html>

National Weather Service:

- <https://www.nhc.noaa.gov>
- <https://www.weather.gov/wrn/hurricane-preparedness>

ADDITIONAL RESOURCES

- Be Red Cross Ready: Hurricane Safety Checklist. Red Cross. Accessible at www.redcross.org/www-files/Documents/pdf/Preparedness/checklists/Hurricane.pdf
- Managing Traumatic Stress: After the Hurricanes. (2011). Psychology Help Center. American Psychological Association. Accessible at www.apa.org/helpcenter/hurricane-stress.aspx
- Managing Traumatic Stress: Dealing with the Hurricanes from Afar. (2011). Psychology Help Center. American Psychological Association. Accessible at www.apa.org/helpcenter/hurricane-afar.aspx
- Emergency Preparedness and Response: Hurricanes, Cyclones, Typhoons, and other Tropical Storms. Centers for Disease Control. Accessible at <http://emergency.cdc.gov/disasters/hurricanes/>

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