

## **Disaster Psychology: Dispelling the Myths of Panic**

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### **Introduction**

The role of a safety professional within an organization is to protect employees from workplace hazards in all situations and minimize risks in all scenarios. In that capacity, much of the time of a safety professional is spent on hazard and risk assessment for employees' normal work functions. Psychological concepts have even been brought to bear on the complex question of how to influence human behavior to minimize accidents. Behavior-based safety and similar psychologically based programs are implemented throughout the country and around the globe in an effort to understand and manipulate employee behavior. The underlying concept in many of these programs is that safety programs based on an employee's natural tendencies will be more likely to succeed.

In contrast, not much time or effort is expended on identifying and understanding employee behavior in emergency and disaster scenarios. Most safety plans run the spectrum from doing the bare minimum (or less) required by OSHA and other regulatory bodies, to programs that tend to mimic professional response organizations and agencies. However, little consideration is given the natural tendencies of human response in emergency and disaster scenarios. The implication is that human behavior is expected to conform to the organization's emergency action and response plans. One can easily see the inherent flaw in such a system.

Recent research and thinking, particularly as it relates to disaster scenarios, highlights the first disaster myth to be discussed – the myth of the “natural” disaster. Certainly the specific occurrence of a natural disaster, such as a tornado or an earthquake cannot be predicted, and therefore an element of natural randomness is inherent. However, as Park and Miller note, the effects of natural disasters cannot be easily separated from consequences of human choice and action (Park & Miller 10). In the simplest of terms, the act of living in an area prone to natural disasters (e.g. tornadoes in the Mid West, earthquakes in California, hurricanes in the Gulf Coast)

puts one at a higher risk than average. As Gantt notes, risk exists when a hazard is mixed with an exposure (i.e. human presence) (Gantt 53).

Therefore, to minimize the risk to employees in disaster scenarios, safety professionals and emergency managers should design emergency action and response plans that are as realistic and effective as possible. As Auf der Heide notes “it is more effective to learn what people tend to do naturally in disasters and plan around that rather than design your plan and then expect people to conform to it” (Auf der Heide 365)

## **Perceived Human Behavior in Disaster Scenarios**

### The Myth of Panic

One of the most enduring concepts regarding human behavior in disaster scenarios is the concept of panic and other anti-social behaviors. The general conception of most emergency planners, Hollywood film and television writers, and the public is that community and social structures break down in a disaster, and that the average person will respond with self-interested survival behaviors at the expense of all others. The expected behavior of an individual in a disaster situation is commonly referred to as “panic”, although other anti-social behaviors are also mentioned as separate potential behaviors, such as “the disaster syndrome” and criminal behavior, such as looting (Quarantelli 876). Pro-social and rational behaviors, in contrast, are seen as the exception to the panic rule.

One of the underlying problems in studying the concept of panic is the lack of an agreed-upon definition. Behaviors described as panic include lynch mobs, suicidal epidemics, individual and collective anxieties, plundering troops, spy hysterias, military retreats and surrenders, social unrest, war, psychotic behavior, mass hysteria, animal stampedes, confused voting behavior, orgiastic feasts, the activities of war refugees, and group tensions (Quarantelli 876). Even researchers have difficulty finding a clear definition. Definitions range from “uncontrolled flight” to cognitive states or inappropriate perceptions leading to irrational behaviors (Clarke & Chess 996). For the purposes of this discussion, the definition found in the Oxford English Dictionary will be used: “excessive feeling of alarm or fear...leading to extravagant or injudicious efforts to secure safety” (quoted in Clarke 21).

Consistent empirical research from social scientists and disaster researchers has shown that the concept of “panic”, and the belief that individuals naturally engage in other anti-social behaviors during disaster scenarios, is, at best, over-exaggerated. Some social scientists even advocate the removal of the concept of panic altogether, believing that other psychological and sociological concepts account for “panic” behaviors more thoroughly (Quarantelli 880).

### Case Study: The Beverly Hills Supper Club

In 1977 a fire at the Beverly Hills Supper Club in Southgate, Kentucky, was responsible for 164 deaths. Newspapers at the time carried headlines such as “Panic Kills 300,” “Panic and 300 Stampede to Death,” and “A Killer Called Panic” (Auf der Heide 344). Interviews with some of the survivors also referred to “panicky behavior” in those in the club. However, an investigation

by the National Fire Protection Association found that widespread panic did not occur during the fire and was likely not the cause of the 164 fatalities (Keating 1982).

A review of the behaviors that did occur during the fire shows a strikingly different picture than one of panic. Upon discovering the fire, Supper Club staff attempted to put out the fire with extinguishers, despite not receiving any fire emergency training (Auf der Heide 344). Staff members, especially waiters and waitresses, returned to their posts and tables and assisted in the evacuation of patrons that they had previously served (Keating 1982). The majority of the deaths occurred in the Cabaret Room, where even after the fire was announced, the comedian onstage continued to perform. Patrons did not realize the seriousness of the fire until it was too late. There was no evidence to suggest that any of the deaths were due to trampling underfoot.

Numerous examples of disaster and emergency scenarios yield similar results. In the aftermath of the famous 1906 earthquake in San Francisco, Jack London noted “there was no hysteria, no disorder...I saw not one woman who wept, not one man who was excited, not one person was in the slightest degree panic-stricken” (quoted in Auf der Heide 345). After an air crash in Sioux City, Iowa in 1989 the fire chief noted the lack of chaos and confusion and pointed to how important survivors were in assisting the rescuers in saving others’ lives. When the first floor of the Mental Health Building of the Los Angeles County Olive View/UCLA Medical Center collapsed, some of the more psychotic patients became more rational during the rescue efforts and assisted other patients. After some time passed they relapsed back to their baseline levels of psychosis. Even the famous example of panic during the radio broadcast of “War of the Worlds” that supposedly induced panic-stricken citizens to literally run for the hills was calmly listened to by 85% or more of listeners who simply heard the broadcast as a radio show (Quarantelli 878).

### Why We Believe In Panic

One fundamental concept in psychology, particularly as it relates to social interactions, is you see what you believe. We respond to reality not as it is, but as we construe it to be (Myers 76). In the process of human cognition there is a key stage between the objective sensing of a stimulus and the rational appraisal of cues – perception. Research consistently shows that perceptions dramatically influence beliefs. In one interesting study, a researcher showed the same photograph of an old man to college students separated into two groups. To one group of students he described the man as a Gestapo leader responsible for barbaric medical experiments during World War II. That group of students described the man’s expression as cruel. To the other group of students the man was described as a leader of an anti-Nazi movement responsible for saving thousands of Jews during World War II. That group of students described the man’s expression as warm and kind (Myer 78).

The change of perception changed the students’ cognitive appraisal of that individual, having them see exactly what they expected to see. In the same way, consistently in disaster scenarios human responses are described as panic, simply because that is what is expected to be seen. People are looking for it, so they find it, even if that involves mislabeling other behaviors as “panic”. Often flight behaviors are most often described as “panic”. However, during an emergency or disaster scenario what could be more rational than putting distance between oneself and immediate danger? One could argue that a more disturbing behavior pattern would be to remain the presence of danger despite the ability to escape.

Additionally, one must consider that frequently the label “panic” is attached to a behavior from an armchair position. Humans rarely ever have the luxury of being able to acquire all relevant information before acting. Even more so in emergency situations, when one must make a decision quickly, actions are often based upon incomplete and sometimes inaccurate information. Naturally this will lead to behaviors that, given all relevant information, will be less than optimal. That doesn’t mean that the behavior was irrational given the situation and information available, though. Frequently, behaviors attributable to irrational panic are the behaviors of individuals acting in what they believe is the most rational way given the information present and the perceived resources at their disposal (Perry & Lindell 52).

## **Real Human Behavior in Disaster Scenarios**

Clearly panic-based behaviors are not the norm in a disaster scenario. This begs the question – how do people behave in emergencies and disasters?

### When We Do Panic

Based on a review of the data, panic is clearly not the norm in emergency and disaster scenarios. Rather, pro-social and rational behaviors are the rule. However, in some rare cases panic behavior is observed in individuals or groups. Although there is some disagreement on the exact conditions that evoke panic, researchers have identified key environmental and situational cues that generate and facilitate panic behavior. These include (1) perception of an immediate great threat to self and/or significant others; (2) belief that escape from the threat is possible, but routes are rapidly closing; and (3) a feeling of helplessness in otherwise dealing with the threat and particular others are not seen as being able to help (Quarantelli 879; Auf der Heide 342). It must be noted first of all that, again, panic depends on perception. If one perceives that escape routes are closing then he or she is more likely to panic, whether or not escape is actually impeded. You see what you believe.

### Case Study: The Titanic and The Lusitania

On April 14, 1912 the RMS Titanic collided with an iceberg, sinking within two hours and 40 minutes, killing 1,501 in the process. On May 7, 1915 the Lusitania sank after a torpedo attack from a German U-boat. The ship sank in only 18 minutes, killing 1,313. A recent study comparing the statistics (sex, age, social status, and economic status) of the passengers to the survivors yields some very interesting findings. Although both ships carried passengers of similar make-up in terms of age, sex, and socioeconomic status, the survivor statistics are strikingly different. On the Lusitania, where the threat was imminent, those in their prime age (16-50) had the greatest chance of survival, regardless of other factors (although men were slightly more likely than women to survive). On the Titanic, where the threat was much less imminent, women were over three times more likely to survive than men, especially women travelling with children. Furthermore, those travelling in first class, presumably those in the higher socioeconomic class had a 50% more likely chance of surviving than those travelling in second class and over double the chance of third class passengers of surviving (Frey, Savage, & Torgler 218). Although more research is needed to extrapolate firm conclusions, it seems that

social norms ruled the day in the sinking of the Titanic while the sinking of the Lusitania was marked by what might be deemed more of a panic-stricken scenario.

### Typical Disaster Behaviors

Numerous empirical studies of human responses in emergency and disaster scenarios present a consistent picture of typical human behavior in these situations. Despite media reports and perceptions to the contrary, human behavior in disaster scenarios can only frequently be described as “pro-social”. Not only do people frequently not panic in emergencies, but in fact, they do the opposite. Frequent examples of people helping others, starting with family and friends and extending to the greater community are seen. Volunteers and donations pour into affected areas, whether they are asked for or not. Not everyone acts in this way, but, as Clarke notes, “people die the same way they live, with friends, loved ones and colleagues – in communities. When danger arises, the rule – as in normal situations – is for people to help those next to them before they help themselves” (Clarke 24).

A careful review of the examples cited above (the sinking of the Lusitania being the exception) hints at this behavior. In the majority of major disasters, the first search and rescue efforts are performed by disaster survivors within the community (Perry & Lindell 53). After a tornado in Wichita Falls, Texas in 1979 only 13% of the more than 5,000 victims indicated that they had been rescued by someone they recognized being associated with an emergency organization. 59% of all uninjured victims interviewed rendered aid to someone else shortly after the tornado passed. Following an earthquake in Mexico City in 1985 more than 2.8 million adults volunteered in the response. Injured people were carried to hospitals in personal vehicles or whatever other means are available (all examples quote from Auf der Heide 350-354).

In fact, rather than emergency response agencies reporting shortages of resources in disasters, frequently spontaneous outpourings of volunteerism and charity are witnessed (although organizational and inter- and intra-agency issues may hinder the resources from getting to the needed areas). This outpouring typically leads to an overloading of response agencies’ and organizations’ abilities’ to deal with the influx of volunteers and resources (Auf der Heide 358). Emergency managers need to not only manage the resources to handle the response but also must handle the physical and personnel resources that are over and above what is needed.

Furthermore, as discussed above, it should be noted that rational and pro-social behavior individuals wishing to volunteer will act in the way perceived to be best, given the information and resources they have at the moment. This frequently leads to inefficient response efforts as volunteers work in areas where they believe they can do the most good, even if those volunteers are needed elsewhere. This is fueled often times by media reports of great needs in areas affected by the disaster. Many times these reports are based upon the perception of the reporters in the news outlets, or other sources of unofficial information (Auf der Heide 354).

## **Behavioral-Based Disaster Response Planning**

As stated, emergency action and response plans must be based on expected human responses for them to be effective. Clearly the situation is much better than what is believed by many, but the

pro-social behavior of individuals in disaster scenarios still presents challenges for safety professionals and emergency planners. Using the research of social scientists and disaster researchers, what key points of disaster psychology can be implemented into emergency programs?

### Avoid Panic: Controlling Perceptions

Panic, although rare, can be devastating when manifested. Therefore, safety professionals and emergency managers must decrease the probability of panic reactions by understanding the conditions in which panic occurs. Whenever possible, workspaces must be designed not only with adequate emergency exiting, but also with exiting clearly identified. If exits are clearly marked and kept free of obstructions, employees will be less likely to perceive an inability to exit and therefore are less likely to panic.

Employees should also be trained in disaster scenarios, with, at a minimum, regular disaster drills performed. Emergency plans and programs should be designed so that immediate access to outside resources (i.e. local fire department, EMS, etc.) is allowed and that backup plans are in place that allow for adequate internal responses in the event of a major regional disaster where public agencies may be unable to respond immediately to requests. Furthermore, all of these efforts are useless at avoiding panic unless employees are adequately aware of them. Employees should be trained on organizational capabilities for emergency and disaster responses and their role in those scenarios.

### Communication Without Expecting Panic

A study of disaster responses is replete with cases where authorities, organizations, and officials withheld information from the public in an effort to avoid panic. Rather than helping the situation, this approach to disaster communication frequently leads to significant negatives. Withholding information from the public may delegitimize the authority figure, making future communication efforts futile. This communication failure is thought to be at least partly responsible for the numerous members of public that ignore evacuation orders in disaster scenarios (Auf der Heide 347).

However, given that panic is a rare behavior in emergencies and disasters, emergency plans and programs should be designed so that clear and accurate information is given to employees regarding emergencies and disasters that may affect the organization. Given the relevant research discussed above, employees given this information can be expected to not only behave without panic, but in pro-social and rational ways. Conversely, without clear and accurate information from the organization, employees can still be expected to act pro-socially and rationally, but only rationally given the information they have at the time. The more information provided, the better the responses that can be expected.

### Expect Volunteers

Disaster research frequently notes examples of average citizens spontaneously volunteering to help in response efforts following a disaster. Given that such behavior appears to be innate, emergency plans should be designed to expect and account for such behavior. Placing fire extinguishers throughout a facility per OSHA and fire code requirements and not expecting

employees to use fire extinguishers in an emergency seems naïve despite the rationale that is behind the requirement. Similarly, it should be expected that employees will engage in search and rescue behaviors following a disaster regardless of their level of training. For this reason, employees should be thoroughly trained in emergency and disaster procedures. Even if emergency plans require employees to simply evacuate in emergencies or disasters, employees must understand the reasons for and importance of this policy. A basic understanding of emergency and disaster response safety concepts, delivered using a common sense approach, can go a long way. These training classes build employees' individual sense of self-efficacy, which is associated with numerous positive personal and organizational benefits. Further, having supervisory or emergency response personnel trained to manage volunteers seems to be a prudent component to emergency planning.

### Who's In Control?

Emergency action and response plans must be designed so that clear lines of authority are established. Emergency managers must be thoroughly trained in emergency response strategy and tactics, as well as disaster psychology. Additionally, trained managers must be onsite whenever the organization is in operation, given that emergencies rarely happen when it is convenient. Furthermore, plans and programs should have backup managers should primary managers be unavailable for whatever reason. All employees within the organization should be notified and trained on the command structure within an organization so that clear lines of authority are understood. Drills involving as many members of the organization as possible should be conducted so that intra-organizational communication and command issues can be identified. Whenever possible, inter-agency drills should also be performed with pertinent local and regional agencies to increase cooperation. The use of a standardized emergency management system such as the Incident Command System (ICS) should be considered given its broad use in public safety and the OSHA requirement that it be used in certain situations.

## **Conclusion**

Actual human responses in disaster scenarios are rarely consistent with expected responses in the public and media. Unfortunately these perceptions have infected emergency action and response planning in safety professionals and emergency response planners. A careful review of social science and disaster research yields a different picture. Rather than responding in irrational and/or self-interested ways, people typically response in rational and pro-social ways. Panic behaviors do occur, but research suggests only when the perception of immediate threats, closing exit routes, and a lack of help or resources are present. Safety professionals and emergency planners must design emergency programs to account for normal human behaviors, which, although better than panic behaviors, present their own set of unique challenges for safety professionals and emergency planners. Emergency response and action plans that are designed with natural human responses to disasters in mind are the most likely to be effective in minimizing risks to employees.

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