



# CROWD CONTROL

In emergencies, people don't panic. In fact, they show a remarkable ability to organize themselves and support one another

By John Drury and Stephen D. Reicher

September 11, 2001. In the Twin Towers of New York City's World Trade Center, intense fires are burning in and above the impact zones struck by hijacked airliners. People evacuating from the 110-story towers realize they are in danger, but they are not in a blind panic. They are not screaming and trampling one another. As they descend the densely packed stairwells, they are waiting in line, taking turns and assisting those who need help. A few office workers hold doors open and direct traffic. Thanks to the orderly evacuation and unofficial rescue efforts, the vast majority of people below the impact zones get out of the buildings alive.

Not everyone was an angel on 9/11. But accounts of the Twin Towers evacuation show that there was none of the "mass panic" that many emergency planners expect to see in a disaster. In fact, when researchers look closely at almost any major disaster, they find little to support the assumption that ordinary people lose their heads in these extraordinary situations. Instead they find that individuals not only behave sensibly in emergencies but also display a solidarity that can be a valuable asset.

These results have important implications for emergency planning. They suggest that ordinary people should be

viewed as "first responders" and given practical information about their situation so that they can make rational choices. Instead of seeking to herd people as if they were frightened sheep, emergency managers should facilitate the remarkable self-organizing capabilities of crowds.

### The Myth of Mass Panic

The image of the panicked crowd is deeply ingrained in the popular imagination. Hardly any self-respecting Hollywood disaster movie would be complete

Thousands of people used stairwells to exit the World Trade Center's 110-story Twin Towers before the buildings collapsed on September 11, 2001. The evacuation included acts of quiet heroism and self-sacrifice.

without one scene of people running wildly in all directions and screaming hysterically. Television newscasters perpetuate this stereotype with reports that show shoppers competing for items in what is described as "panic buying" and traders gesticulating frantically as "panic" sweeps through the stock market.

The idea of mass panic shapes how we plan for, and respond to, emergency events. In Pennsylvania, for example, the very term is inscribed in safety regulations known as the state's Fire and Panic Code. Many public officials assume that ordinary people will become highly emotional in an emergency, especially in a crowded situation and that providing information about the true nature of the danger is likely to make individuals panic even more. Emergency management plans and policies often in-

#### FAST FACTS

### When Someone Yells Fire

- 1>> In disasters, people are more likely to be killed by compassion than competition. They often tarry to help friends or family members.
- 2>> When a crisis hits in a crowded place, people often undergo a shift, identifying themselves more as group members than individuals.
- 3>> Emergency planners can help ordinary people act as "first responders" by giving them practical information as the situation unfolds.

## Event marshals may be instructed to report a fire using code words, to prevent people from overhearing.

tentionally conceal information: for example, event marshals may be instructed to inform one another of a fire using code words, to prevent people from overhearing the news—and overreacting.

Mathematicians and engineers who model “crowd dynamics” often rely on similar assumptions describing behaviors such as “herding,” “flocking” and, of course, “panic.” As the late Jonathan Sime (an environmental psychologist formerly at the University of Surrey in England) pointed out, efforts to “design out disaster” have typically treated people as unthinking or instinctive rather than as rational, social beings. Therefore, more emphasis is placed on the width of doorways than on communication technologies that might help people make informed decisions about their own safety.

These ideas about crowd behavior permeate the academic world, too. For many years influential psychology textbooks have illustrated mass panic by citing supposed examples such as the Iroquois Theater fire of 1903 in Chicago in which some 600 people perished and the Coconut Grove Theater fire of 1942 in Boston in which 492 people died. In the textbook explanations, theatergoers burned to death as a result of their foolish overreaction to danger. But Jerome M. Chertkoff and Russell H. Kushigian of Indiana University, the first social psychologists to analyze the Coconut Grove fire in depth, found that the nightclub managers had jeopardized public safety in ways that are shocking today. In a 1999 book on the psychology of emergency egress and ingress, Chertkoff and Kushigian concluded that physical obstructions, not mass panic, were responsible for the loss of life in the infamous fire [see box on page 63].

A more recent example tells a similar story. Kathleen Tierney and her co-workers at the University of Colorado at Boulder investigated accusations of panicking, criminality, brutality and may-

**Audiences expect disaster flicks to have at least one scene of terror-stricken victims fleeing with mouths agape. The film 2012 was no exception. But reality differs from the movies.**

hem in the aftermath of Hurricane Katrina. They concluded that these tales were “disaster myths.” What was branded as “looting” was actually collective survival behavior: people took food for their families and neighbors when store payment systems were not working and rescue services were nowhere in sight. In fact, the population showed a surprising ability to self-organize in the absence of authorities, according to Tierney and her colleagues.

Such work builds on earlier research by two innovative sociologists in the 1950s. Enrico Quarantelli—who founded the Disaster Research Center at Ohio State University in 1985 and later moved with it to the University of Delaware—examined many instances of emergency evacuations and concluded that people often flee from dangerous events such as fires and bombings, because usually that is the sensible thing to do. A fleeing crowd is not necessarily a panicked, irrational crowd.

The second pioneering sociologist, Charles Fritz, was influenced by his experiences as a soldier in the U.K. during the World War II bombings known as

the Blitz. “The Blitz spirit” has become a cliché for communities pulling together in times of adversity. In the 1950s, as a researcher at the University of Chicago, Fritz made a comprehensive inventory of 144 peacetime disaster studies that confirmed the truth of the cliché. He concluded that rather than descending into disorder and a helpless state, human beings in disasters come together and give one another strength. Our research suggests that if there is such a thing as panic, it probably better describes the fear and helplessness of lone individuals than the responses of a crowd in the midst of an emergency.

### From “Me” to “We”

In our recent work, which includes both virtual-reality simulations and research into real disasters, we have found that people in a crowd develop a shared social identity based on their common experience during an emergency. This shared identity promotes solidarity, which results in coordinated and beneficial actions—or what we call “collective resilience.” We have gathered two types of evidence that support this model.

## Subway bomb survivors described feeling “unity,” “affinity,” “didn’t matter what color or nationality.”

When Hurricane Katrina devastated the Gulf Coast region in 2005, thousands were stranded without food, water or critical supplies. What was portrayed as looting was often a sensible and lifesaving response.

First we used computer game technology to conduct virtual-reality simulations of a fire at a rail station in the London Underground. Participants in the interactive simulations had the opportunity to push others out of the way to exit more quickly. They also had the opportunity to help others affected by the fumes, but at the cost of getting out more slowly. In some of the simulations, the participants were members of a common group (for example, fans of the same soccer team), whereas in other cases they were not (for example, shoppers bargain-hunting at sales). As expected, those who had shared identities before disaster struck had more solidarity: pushing less, helping more.

In a case of real life imitating virtual reality, we were conducting these experiments on July 7, 2005, at the Royal Society Science Exhibition in

London, just as a real emergency unfolded in the train stations beneath us. In a coordinated terrorist attack, four bomb blasts hit London’s public transport system during the morning rush hour. The explosions on three subway trains and a bus killed 56 people (including the four bombers) and injured more than 700.

In a virtual-reality simulation of a fire at a London tube station, people were more likely to help the man seen seated at the left when they were fans of the same soccer team.

Those in the bombed trains were literally left in the dark, among the dead and dying, with few announcements and no way of knowing when they would be rescued.

We gathered accounts from more than 140 people who were present during the bombings, including 90 survivors who had been onboard the trains. We coded these accounts to determine the prevalence of helpful behaviors—help given, received or observed in others—as well as personally selfish behaviors experienced or observed. “Helping” included acts such as sharing water, tying tourniquets and giving emotional support; selfish behaviors included elbowing other people out of the way and ignoring requests for help.

Just as being fans of the same soccer team united people, so, too, did the bombings. Most of our interviewees described a sense of togetherness among survivors that day. They used a rich vocabulary that highlighted positive feelings: “unity,” “similarity,” “affinity,” “part of a group,” “didn’t matter what color or nationality,” “you thought these people knew each other,” “warmness,” “empathy.” They contrasted this sense of togetherness with the unpleasant feelings they typically experienced on busy subways.

The London bombings became one of many events we studied retrospectively for patterns of social identity. We also interviewed survivors of an earlier terrorist bomb attack in London (1983), a hotel fire (1971), a train accident (2003), the Hillsborough soccer stadium crush (1989), two

# Blaming the Victims

**F**aulty exits, not stampeding patrons, caused an infamous tragedy at a Boston nightclub.

Textbooks often cite the Coconut Grove Theater fire of 1942 as a classic case of “mass panic.” A nightclub with a dining room, dance floor and several bars, it was filled to more than twice its official capacity when a fire broke out on November 28, 1942. Few people knew where the exits were located. An emergency exit door was locked, and a large plate-glass window was boarded up.

Some patrons found an alternative exit and burst through it, carried along by a tide of people. But in the dining room on the main floor, hundreds tried in vain to get out through a jammed revolving door. “Those outside could do nothing to save them,” according to social psychologists Jerome M. Chertkoff and Russell H. Kushigian of Indiana University, who analyzed the catastrophe in their book *Don't Panic: The Psychology of Emergency Egress and Ingress* (Praeger, 1999). In all, 492 people died from crushing or smoke inhalation.

Chertkoff, Kushigian and others who have studied the fire conclude the deaths were caused by blocked exits and poor building design, such as doors that opened inward. The club's owner was found guilty of involuntary manslaughter, and the fire led to new safety regulations. But decades later the myth of the panic-stricken crowd persists. —J.D. and S.D.R.

skyscraper evacuations (2001 and 2002), the Bradford City soccer stadium fire (1985), a beach-concert party crush in Brighton (2002), the Ghana soccer stadium “stampede” (2001), and two sinking ships (*Jupiter* in 1988 and *Oceanos* in 1991). We asked independent judges to code the interviews, identifying the extent to which survivors described a feeling of common fate or threat; the degree to which people felt a sense of shared identity; and the prevalence of active helping, more mundane solidarity (acts of courtesy and routine civility), and selfish or competitive behaviors.

A clear pattern was demonstrated across the various events. Those who reported a feeling of common fate were more likely to report a strong sense of shared identity. They were also more likely to report cases of mutual helping. A similar relation was noted between a strong shared identity and more mundane acts, such as waiting in line. All the crowds seemed to display some unity after the onset of the emergency, even

when they began as fragmented groups.

These accounts are consistent with social identity theory, first formulated by social psychologists Henri Tajfel and John C. Turner of Bristol University in the late 1970s. Social identity theory holds that group behavior cannot be explained simply by the psychology of individuals. As Tajfel and Turner pointed out, a person's sense of identity depends on the groups to which he or she belongs, and in times of crisis group identity can supersede individual identity.

The idea that a common fate can create a particular group identity comes from “self-categorization” theory, an articulation of social identity theory that

Turner subsequently formulated. He found that people not only experience group identity but can shift among many different group and individual identities depending on the context in which they find themselves.

We have applied and extended these theories to help explain crowd behavior. On an average workday, for example, a subway rider might categorize himself or herself primarily as an individual, whereas his fellow commuters are “others.” But in a crisis seen to affect everyone, the rider's identity may change from “me” to “us,” which in turn leads to behavioral expressions of solidarity. Once people define themselves as group mem-

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bers, the fate of the group and of fellow members becomes important to them. And because of this sense of collective identity there are greater expectations of support, so members of the group feel less helpless than they would if they were facing the situation alone.

### Ordinary Heroes

We know the stories of the heroic firefighters who lost their lives on 9/11

Certainly there were some who just looked after themselves and ignored others in distress, but sometimes there are good reasons for such behavior. Sociologist Benjamin Cornwell of Ohio State University, who studied the 1994 sinking of the *M/V Estonia* passenger ship, concluded that some people were simply unable to help others during that disaster. It was physically difficult to get to the exits because of the extreme list-

groups, going at the pace of the slowest—a pace that was too slow for survival in some cases. Sime argues that people die together in emergencies not because they are competing but because they care for one another.

But the notion of affiliation cannot be the whole story. In emergencies such as the London terrorist bombings, people were among strangers but were nonetheless orderly, cooperative and even

## Panic is rare because the presence of loved ones in a disaster counteracts our “fight or flight” instincts.

helping others to safety, but few people are aware of the essential role played by the evacuees themselves. As fire researcher Guylène Proulx of Canada’s National Research Council, Ed Galea of the Fire Safety Engineering Group at the University of Greenwich in England and others have shown, the death toll was minimized because people in the crowd maintained or even increased “everyday” forms of civility during their mass exodus from the Twin Towers.

On the 88th and 89th floors of the North Tower, for example, an architect and a construction inspector used tools to clear rubble and break down doors. Their volunteer efforts enabled at least 50 people to escape from the building. The two men stayed behind to assist others and did not make it out alive.

ing of the ship. Most did not have the strength to get there themselves, let alone assist others.

Perhaps the most obvious explanation for why we help others in emergencies is that we know them. So-called affiliation theorists such as Anthony Mawson, a professor of public health at Jackson State University, say that panic is rare because we are typically in the company of friends or family when disaster strikes. The presence of familiar others soothes us and counteracts our “fight or flight” instincts.

Jonathan Sime’s study of the 1973 fire at the Summerland leisure center on the Isle of Man provides poignant support for this view. He showed that many people might have escaped but for the fact that they chose to stay in family

self-sacrificing. Sociologists who study disasters have shown that in an emergency, individuals remain committed to the same rules of conduct that govern everyday behavior.

A case in point is the lethal fire at the Beverly Hills Supper Club near Cincinnati in 1977. As fire spread through the building, the opportunities for exit became more and more restricted. In the end, 165 people lost their lives, but there was no mass panic. The 630 witness statements given to police provide rich insight into how people behaved. Certainly there was evidence of affiliation. People moved in family or friendship groups, and if one died the others were likely to die as well. But as a number of researchers—particularly sociologist Norris Johnson of the University of Cin-

Real-time information delivered via public address systems or electronic signs—such as this one in Sydney, Australia (*left*)—can help people decide when and where to evacuate during emergencies. The surveillance cameras that officials use to monitor the vast annual pilgrimage to Mecca by Muslims (*right*) are meant to provide early warning signs of potentially dangerous overcrowding.

TIM WIMBORNE Reuters/Corbis (*left*); KAZUYOSHI NOMACHI Corbis (*right*)

cinnati—have shown, social norms were observed. The staff continued to look after customers, with waiters attending to the safety of those at their assigned tables. The customers observed normal courtesies, such as allowing the elderly to go first. As the seriousness of the situation became more evident, there was an increase in competitive behaviors. But Johnson reports that even at the most urgent stages of the evacuation, social bonds remained largely intact; people picked one another up when they fell, for example.

The conclusion: continuity exists between everyday behavior and emergencies. Regardless of whether people think of themselves as individuals or as part of a community, they observe social norms. Human beings do not forget themselves, their values or their obligations to others both close and distant. They do not turn into savages desperate to escape. Disasters bring out the best—not the *beast*—in people.

### Free Flow of Information

If models of crowd behavior are to be more psychologically accurate and hence more useful at predicting how people will behave in an emergency, they must include dynamic “group membership” variables. The shared social identity of any group can be the basis for an efficient and orderly evacuation, rather than a source of pathological “panic.”

For example, the social solidarity of 33 Chilean miners recently trapped nearly half a mile underground has played an essential role in maintaining their physical and mental health as they await rescue. (As of August, they were facing a four-month wait.) The miners organized their own chapel services and a “buddy system” of three-person teams, and they began eating each meal only after rations for everyone had been painstakingly low-

**Chilean miners trapped half a mile or so underground used a tiny camera to take pictures of themselves earlier this year. The group of 33 workers has impressed rescuers with their organization and unity.**

ered through a hole. A miner who had taken a nursing course monitored the group’s health and administered tests and vaccinations. The miners aided rescue efforts by preparing a map of their surroundings and clearing rocks.

Evidence suggests that the single biggest killer in emergencies is lack of information—for example, when people do not evacuate promptly because they do not realize the danger. Live public ad-

dress systems are more effective than sirens and alarms for providing credible information about the nature and location of the danger. In places where there is a danger of overcrowding, video monitoring can provide early warning signals.

Emergency planners should encourage collectivity, not fear it. Disasters tend to bring people together, but other social forces often divide people. Even the language that is used to address groups in public spaces may make a difference. Addressing people as “customers,” for instance, emphasizes an individual financial relationship and has been shown to encourage competitive behavior. Addressing people instead as members of a group—“passengers” or “citizens,” for example—may help prevent them from competing with one another in a rush for the exits.

Emergency planners need to consider ordinary people their best asset rather than their worst nightmare. Instead of undermining people’s natural tendency to organize and help one another, authorities can facilitate it by providing practical information—such as exit routes that are clearly marked with arrows and reflective paint. When ordinary people are asked to take increased responsibility for their own survival and well-being, they can do extraordinary things. **M**

### (Further Reading)

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- ◆ **Everyone for Themselves? A Comparative Study of Crowd Solidarity among Emergency Survivors.** J. Drury, C. Cocking and S. Reicher in *British Journal of Social Psychology*, Vol. 48, pages 487–506; 2009.
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