

# Crowds and stress

Dr John Drury explains how crowds act in emergencies and how facility managers can best harness the co-operation of the public in stressful situations.

Stadium managers operate with theories of crowd behaviour – whether they realise it or not! These theories have practical implications for the management of emergencies. Some of these effects may be good, others less so. This article describes some of the latest ideas in the field of mass emergency psychology, and how they can inform best practice.

## Emergency behaviour

Popular culture contains a readily recognisable image that comes to mind whenever we refer to mass emergencies, disasters or evacuations. That image is ‘mass panic’. Mass panic refers to a number of psychological features. These include exaggerated perceptions of danger, and instincts for personal survival overwhelming civilised behaviours. The behavioural effects of mass panic are said to include disorder and a lack of co-ordination. The crowd might have been able to escape the fire if people had filed out in an orderly fashion. Instead, they jammed a limited exit, fighting with each other and even trampling their own grandmothers, in their desperation to escape!

Yet we can also easily bring to mind popular representations of collective responses to emergencies that are quite the reverse of this negative image. Clichés like the ‘spirit of the Blitz’ and the ‘British Bulldog spirit’ evoke an enhanced sense of community, solidarity and strength in adversity: people coming together, talking to their neighbours, offering mutual support, taking responsibility for others, remaining in control of their emotions, and so on.

It is much more than an academic matter which of these representations we choose to believe. Each has very specific and quite different implications for the management of



crowds in public spaces and events. We shall draw out each of these implications in the course of this article. First however, let us ask what the research evidence tells us about which is right.

## Panic or resilience?

Despite its common-sense appeal, reviews of the literature on mass emergency events find little support for the view that, in an emergency, crowd members tend to exaggerate the perceived threat, lose control emotionally and behave selfishly. Thus a lack of mass panic has been noted at events as diverse as the atomic bombing of Japan in World War II, the Kings Cross Underground fire of 1987, and the 2001 World Trade Center evacuation.

Rather than mass panic, it is much more common to find survivors helping the vulnerable, orienting to friends and relatives, using their knowledge of building layout and exits, thinking critically about public address information, drawing upon social rules to guide their behaviour, communicating and discussing strategies of escape with each other. It has been pointed out, in fact, that people are more likely to be killed in an emergency such as a fire not through ‘panic’ but through the opposite – i.e. not taking the emergency seriously enough. Our own recent studies illustrate some of these points. For example, when we spoke to survivors from the London bombings of 2005 we found widespread agreement that mutual helping was common, and that levels of courtesy and co-operation were higher than on

a normal day on the London Underground! And our studies of survivors of the Hillsborough stadium crush of 1989 found numerous references to emotional self-control, self-sacrifice and strangers 'pulling together'.

Importantly, therefore, in line with current research in the field, our studies suggest that mass emergency behaviour is (a) often social rather than individualistic or anti-social, and (b) typically cognitive (i.e. knowledge-driven) rather than unthinking or irrational.

Put together, these ingredients of social behaviour and cognition in the evacuating crowd add up to a model not of panic but of collective resilience. Unlike the notion of mass panic, with its implication that there is something brutal under the veneer of civilised behaviour, the concept of resilience implies enduring and inherent integrity in human nature. In practical terms, the concept of collective resilience can be divided into five areas: (1) information, (2) trust, (3) the wording of warnings, (4) enhancing cohesion, and (5) accommodating the public urge to help.

### 1 Information

There is a common practice amongst those 'in the know' in emergency situations to try to withhold and restrict information about the nature of the danger. 'Information' that there is a fire or other emergency takes the form of a simple alarm. And architectural 'solutions' to the problem of evacuation (e.g. width of exits) are prioritised over enhanced technologies of communication.

All this makes sense if we believe that crowds are prone to over-react. But if, as we have argued, under-reaction is more likely, then it is the assumption of mass panic itself that is the real problem. It is crucial, therefore, that survivors are able to recognise an emergency for what it is as soon as possible. Why doesn't this always happen? Why, when an alarm goes off, do people continue to sit at their desks and ignore it? Too often, they think it is just a test, a false alarm or a drill. These reactions are understandable, because a simple alarm carries very little information.

The logic of our argument that the emergency crowd is thinking rather than irrational is that more rather than less information should be conveyed, and that the traditional alarm is something of an anachronism. Our society is replete with the most advanced digital technologies of surveillance. But our systems for giving rather than taking information by contrast rely largely on primitive analogue equipment. It is time to go beyond megaphones and alarms and make use of new technologies, such as giant LED screens, use of mobile phone

systems and so on.

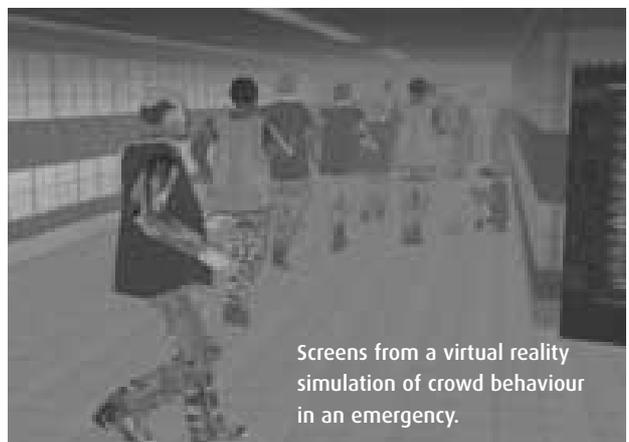
Some psychologists argue that we process information less efficiently under conditions of stress. On the other hand, one of the reasons that we are recommending here that those affected by an emergency are kept informed is in fact to reduce their stress and anxiety. Uncertainty itself is stressful. Evacuees need just the right amount of information to (a) understand the seriousness of the situation (b) locate the appropriate and safest exits. In summary, therefore, armed with practical information during the event, collective behaviour will be more adaptive and efficient.

### 2 Trust

The presumption that there will be mass panic leads to a lack of trust in the responsible behaviour in the crowd and the public. It justifies the withholding of information, as we have seen.

But the withholding of information can itself produce a lack of trust on the part of the public and the crowd. Public address announcements that are deliberately vague and wilfully uncommunicative police officers serve to create hostility and suspicion, and hence sour the relationship between the public and those in authority. Perceived lack of openness by those in-the-know risks producing what we have called 'reverse crying-wolf syndrome'. The authorities obfuscate so many times that, when they do actually tell the truth and give out some valuable practical advice, it may not be believed by the sceptical public!

The nature of modern hazards means that the need to foster trust between the authorities and the public is greater than ever. One of the greatest man-made threats



Screens from a virtual reality simulation of crowd behaviour in an emergency.



today is that of chemical, biological, radiological and nuclear (CBRN) attack. Chemical attack is perhaps the most likely of the four. Emergency services personnel may find themselves stretched to breaking point in such an event. Here, instead of the usual strategy of dispersing a crowd away from an emergency area, the crowd may need to be quarantined so decontamination can take place.

Unless there is a relationship of mutual trust, these policies of containment and decontamination could be perceived as infringements of civil liberties rather than public health measures. If they are to be complied with, for the safety of the wider population, the reasons for these policies therefore need to be clearly communicated by a trusted source. Put slightly differently, in many cases the authorities need the public to take ownership of their own civil defence procedures. This a key point we shall return to again later.

### 3 The wording of warnings

What do we imagine when someone advises us 'don't panic'? When there is already a relationship of mistrust and suspicion, such advice only indicates to us that there is indeed something to be panic about!

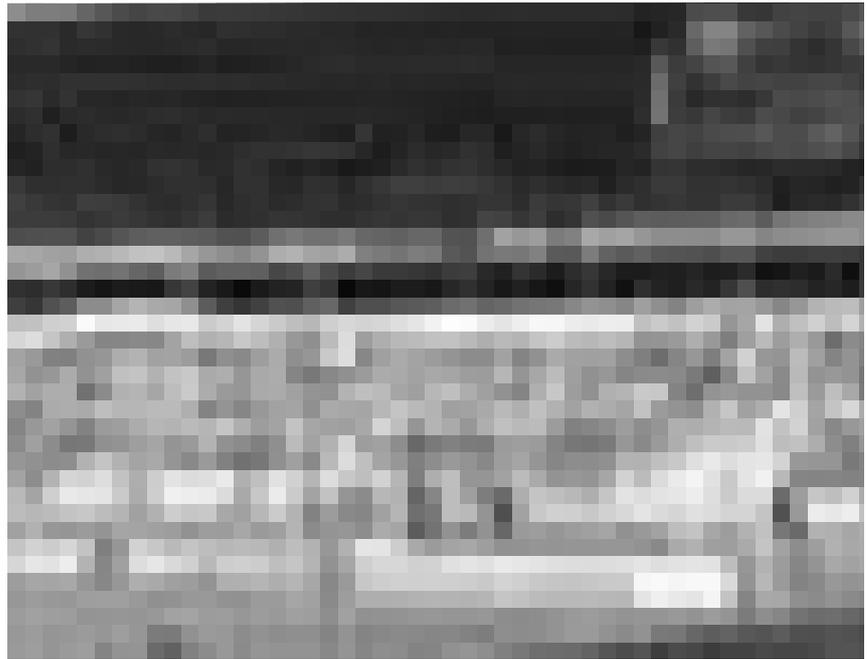
Mass panic is not only an image in popular culture, but a discourse with pernicious consequences for what we expect of and perceive in other people. If we are told that others are 'panicking', this undermines our trust in their commitment to act in a socially responsible way. In leading us to expect selfish, individualised behaviour from others, references to their 'panic' provide a rationale for selfish behaviour on our part. This was well illustrated when mass media reports of motorists 'panic buying' petrol only encouraged more such so-called 'panic buying'!

As we have argued, information needs to be made available: practical information. In the case of an evacuation, the nature and location of the threat needs to be communicated. But the advice 'don't panic' is neither informative nor practical!

### 4 Enhancing cohesion

In rejecting mass panic as a model of behaviour in emergencies, we have been amongst a number of social scientists trying to explain instead the occurrence of solidarity and self-sacrifice. Our theory is that shared identity is the basis of such widespread cohesion.

In order to test this idea we first developed a method for simulating aspects of mass emergency evacuation in a laboratory. Based on computer game techniques, we produced a virtual reality simulation of a crowd escaping a fire in an underground railway station. We then looked at the relationship between the shared



Research suggests that individuals in a crowd respond to an idea of shared identity and react positively and unselfishly in an emergency situation.

identity our research participants felt with other crowd members in the simulation and their behaviour towards them. As expected, high-identification participants – i.e. those who felt a greater sense of togetherness with others – helped more and pushed less than did low-identification participants.

While we were exhibiting the virtual reality simulation at the Royal Society in 2005, the London bombings took place. The availability of so many accounts of the events encouraged us to move from the laboratory to collecting archive and interview data. As is well known, co-operation and orderly behaviour were common and selfish behaviours infrequent amongst survivors. Yet few people were with friends and relatives. We developed a hypothesis that the shared fate of the emergency itself can bring people together and create the sense of shared identity. In line with this, most of those that we interviewed described in rich and detailed terms the sense of unity they felt with other survivors, even though they didn't know them personally.

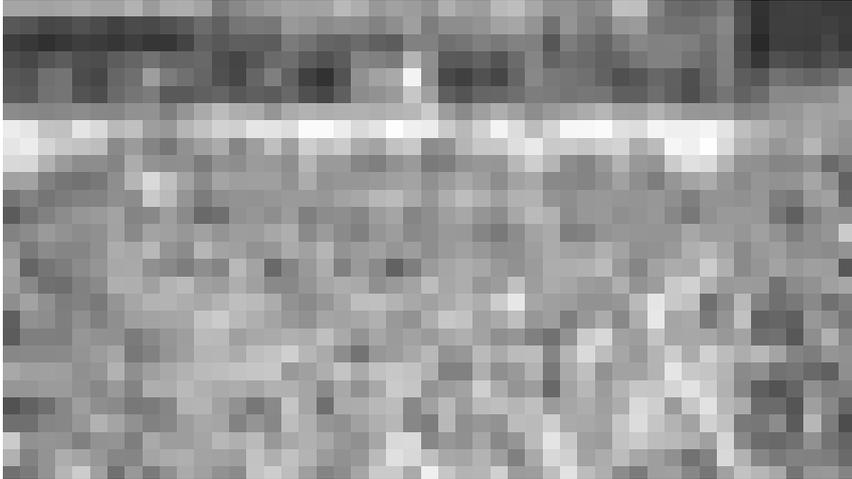
A third study tested systematically this idea of shared fate and shared identity as the basis of cohesion. We interviewed 21 survivors from 11 different emergency events, including the Hillsborough crush (1989), the Bradford fire (1985), the Fatboy Slim Brighton beach party (2002), and the Ghana football stadium 'stampede' (2001). On the basis of their interview accounts, we divided people into high- versus low-identifiers. As expected, high-identifiers were more likely than low-identifiers to perceived shared fate in the crowd; to see

help, give help and receive help; and to perceive calm, order, social rules and courtesy. They were also less likely to experience selfishness from others.

Based on these findings, and together with the existing literature, we therefore explained cohesion and hence resilience in mass emergencies in terms of shared identity. Resilience refers to the ability of individuals, groups and organisations to resist attack and recover from adverse conditions. We suggest that shared identity is the key to such resilience. Shared identity allows people to see themselves and act as part of a collective (even if they don't know each other). The collective is an adaptive mechanism: feeling part of a collective enables survivors to express and expect solidarity, and thereby to co-ordinate and draw upon collective sources of support and other practical resources, to deal with adversity.

Collective resilience as shared identity makes sense of some of the practical recommendations we have been describing. Thus we treat information as veridical knowledge when we trust its source, and we trust its source when we categorise that source as one of 'us'. We feel less anxiety and stress when we perceive those around us as 'us' rather than 'them'; we then expect fellow survivors to be supportive not competitive; and we believe their reassurances. And since we share their perspective, we feel ownership of the plans and goals we seek to realise.

In practical terms, therefore, the natural human cohesion that arises in a mass



emergency can be facilitated (rather than inhibited) in the following ways:

First, use of any strategies which promote, build upon and refer to unity. This could be as subtle as the type of language used. For example, the contemporary reference to rail users as 'customers' positions them in an individualising cash nexus, whereas the more old-fashioned term 'passengers' evokes their (common) relationship to the train.

Second, including employees and the public – whether in the planning and preparedness stages or during the event – rather than excluding them. Inclusion refers not only to sharing information but also to sharing control. The crowd and the public often need to take greater ownership of their own civil defence.

This takes us to our final practical recommendation.

### 5 Accommodating the public urge to help

Whenever there is a major incident or emergency, one of the first tasks that the emergency services set out to do is to exclude the general public from the scene by throwing a cordon around it. While there are indeed people who just come to gawp, many who come to the scene of an emergency do so because they want to offer help.

The same is true for survivors themselves. The urge to help by the public, whether directly or indirectly affected by the emergency themselves, is inevitable. We are therefore arguing that this urge needs to be harnessed.

There are several reasons for this. First, as discussed, enabling survivors to get involved and take ownership, rather being excluded by the 'experts', can serve to build unity and cohesion. Second, if people feel that they are doing something constructive rather than standing idly by, then it can actually make them feel better. The counter-argument to these points is that well-meaning members of the public can get in the way of those who do actually know best. Third, however, and most

importantly, the emergency services sometimes have no choice but to rely on members of the crowd.

This is well illustrated in our study of the experiences of those on the bombed London underground trains in July 2005. Many of those caught up were not reached by the emergency services for a considerable period of time. In the absence of fire and ambulance crews, it was their fellow passengers who administered first aid, tore up clothing for make-shift bandages, tied tourniquets, and attempted to rescue each other in various ways. In events like this, in other words, the crowd becomes the fourth emergency service!

## Conclusions

If there is one claim which sums up the argument of this article it is that the crowd can operate as a psychological resource in times of emergency.

This is not to say of course that crowds do not present problems of various practical kinds for those whose job it is to manage stadiums or other large buildings and public spaces. There are obvious logistical problems, for example, in managing the most effective use of fire assembly points if large numbers of people evacuate several exit points simultaneously: where does one put all these people?

But such logistical problems of the crowd are quite different from the psychological problems implicit in the notion of mass panic. We have argued here that, as a concept, mass panic is part of the problem not part of the solution. It rationalises practices which exclude, deny, divide, disenfranchise and disempower the crowd. By contrast, we suggest, crowd behaviour in emergencies should be seen as both social and knowledge-driven. This kind of perspective provides the rationale for practices which enhance and facilitate the tendency toward collective resilience which naturally arises in emergency crowds.

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Further information on Dr John Drury's research, consultancy and CPD training can be found at his website:

[www.sussex.ac.uk/affiliates/panic/](http://www.sussex.ac.uk/affiliates/panic/)

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