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**The Psychology of Crowd Behaviour in emergency  
evacuations: Results from two interview studies and  
implications for the Fire & Rescue Service.**

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**Abstract:**

Existing psychological models of crowd behaviour were applied to examine emergency egress behaviour, and how this could facilitate the safe management of mass evacuations. Two interview studies of survivors' experiences of different emergencies were conducted. It was found that far from mass panic occurring, being in an emergency can create a common identity amongst those affected, meaning that people are co-operative and altruistic towards others- even when amongst strangers, and/or in life-threatening situations. The research has direct implications for how the Fire Services manage mass evacuations, as, along with earlier critiques, the concept of mass panic is considered to be a myth unsupported by existing evidence. Crowds in emergencies can be trusted to behave in more social ways than has previously been expected in some areas of the emergency planning field.

## **Introduction:**

The human tragedy apparent in mass emergencies and disasters is depressingly familiar in society today. Coverage in the mass media after 9/11, and more recently the July 7<sup>th</sup> London bombings was characterised by reports of fear, shock and mass panic. However, while 'panic' is a word frequently used to describe egress behaviour in disasters, a closer inspection of the behaviour of those affected rarely supports this idea of mass panic. Indeed, the behaviour of crowds during disasters is often much more social than that with which they are sometimes credited, with co-operation and altruism often predominating, rather than selfish uncooperative behaviour. While the myth of mass panic during emergencies is largely accepted by academics (e.g. Keating, 1982; Quarantelli, 2001; Mawson, 2005) this view still persists to some extent in the applied field and in popular discourse, with the implication being that crowds in emergencies cannot be trusted to behave in a co-operative way that facilitates their safe evacuation from danger. This paper will provide evidence supporting the notion that crowds can behave in ordered and meaningful ways that seem appropriate to those involved (given the information they have available about the current situation). It will offer practical suggestions for the Fire Services to help ensure the safe management of crowds in mass emergencies.

## **The myth of panic**

Despite the frequent use of the word in coverage of disasters, the term 'panic' is rarely examined in any analytical detail to investigate what those who are 'panicking' are actually doing. Mawson (2005) defines panic as:

'Inappropriate (or excessive) fear and/or flight' p.96

However, he argues that when looking at behaviour during emergencies, it is difficult to identify such instances of panic, and descriptions of panic are usually made by outside observers with the benefit of hindsight. Indeed, people in emergencies often behave in meaningful ways according to the information available to them at the time. For instance, studies of evacuations in fires (e.g. Sime, 1983; Canter, 1990) show that people tend to leave venues by the way they entered, even if there are other, closer, exits available. This can be seen as meaningful behaviour, as the smoke and heat in fires can create uncertainty, which may cause people to seek escape through an exit that they already know exists if they are unfamiliar with other possible routes. Canter (1990) also found that fatalities could occur in fires because people were often unwilling to deviate from familiar activity, leading them to continue along known routes, even in the face of mortal danger. He concluded that the concept of panic or 'non-adaptive behaviour' was inadequate to explain human behaviour in fires, and that the danger in such situations often lay in people's unwillingness to evacuate quickly before the fire spread to an extent where it became impossible to escape.

Recent studies (e.g. Reicher, 2001, Stott & Drury, 2000) have argued that society's view of crowd behaviour and management often rely wrongly on early reactionary accounts of crowd psychology, such as Le Bon's (1895/1947) commentary on

the crowds of the Paris Commune during 1870-1. He emphasised the negative elements of crowds, frequently referring to them as an irrational mob prone to emotion and suggestibility. If one person began behaving in an anti-social or irrational way, then this would quickly spread to others in a process termed contagion. Although the crowds he studied were those involved in civil disorder, his observations have been applied since to crowds during emergencies to conclude that mass panic develops in the following ways. Firstly, when faced with danger, people behave irrationally as they evacuate in a manner disproportionate to the actual threat (Smelser, 1962). Collective bonds and norms also break down, meaning that people behave selfishly as they compete with others in an uncoordinated way to escape danger (Cantril, 1958; Quarantelli, 1954; Strauss, 1944).

This approach (known as the ‘panic model’) has been influential in the design of public spaces and engineering of procedures for emergency evacuations (Sime, 1990; 1995). It suggests that plans for the evacuation of buildings should focus on physical factors such as the width of emergency exits to prevent jamming, rather than psychological factors such as the role of information and communication. In short, rather than being viewed as active, thinking agents, members of crowds are considered to flow in the same way as unthinking, inanimate objects such as ball bearings. This has implications for whether emergency planners decide to provide information to the public during emergencies, as there is often a concern that people will panic if they know the true gravity of the situation facing them. Therefore, information is often withheld, despite there being little, if any evidence to support this assertion (Drury, 2004).

However, despite the frequent usage in popular discourse of the term ‘panic’ to describe behaviour during disasters, studies of various different emergencies throughout

the last century have found a general absence of mass panic, despite the threat of death. This includes: the atomic bombings of Japan in 1945 (Janis, 1951), fires in the US (Feinberg & Johnson, 2001) and UK (Donald & Canter, 1990), and crushes at concerts (Johnson, 1987). More recently, Blake et al. (2004) studied the behaviour of evacuees from the World Trade Centre on 11<sup>th</sup> Sept 2001, and found that ‘classic panic action or people behaving in an irrational manner was noted in [just] 1/124 (0.8%) cases’ p. 5.

### **The social attachment model of crowd behaviour**

Instead of the panic model, an alternative social attachment model has been developed by Mawson (1978; 2005). He argues that in times of danger people display affiliative behaviours, where they move from unfamiliar situations towards people and/or places that are familiar (such as friends or family) and they will also try to evacuate within this familiar group rather than as individuals. Family and/or friendship ties remain strong in these situations with mutual co-operation predominating within these groups, as opposed to selfish, uncooperative behaviour. This approach is influenced by the work of Bowlby (1969, 1973) into children’s distress at separation from attachment figures (usually their mother). The presence or absence of attachment figures is also believed to influence distress during disasters. Indeed, Mawson (2005) reported that during air raids on London in World War II, children often found separation from parents more distressing than the air-raid itself, suggesting that attachment bonds endure even in highly stressful situations.

This has been supported by studies of behaviour during emergencies, (Sime, 1983; 1985; Cornwell et al., 2001; Feinberg & Johnson, 2001) arguing that rather than breaking down, social bonds within groups endure during emergencies, with people

tending to delay their individual flight to ensure safe evacuation of the group as a whole. Sime (1983) interviewed survivors of a fire in a leisure complex on the Isle of Man, UK in 1973, and argued that families involved adopted a strategy for group rather than individual egress, with the quicker family members delaying their own escape to ensure the safe evacuation of slower individuals. However, Feinberg and Johnson (2001) argued that this could have tragic consequences for the group as a whole. Their study of the Beverley Hills Supper Club fire in the US in 1977 found that individual fatality risk increased with group size (although more groups survived than would be predicted by an individualistic panic model if all social bonds had broken down). Nevertheless, implicit within these findings is the notion that while social norms remain largely intact during an emergency, the larger the group one is in, the lower the chances of individual escape, as group members wait until all are safe. It is also possible that physical size of the group, as well as any existing attachment, can delay egress, as larger groups may take longer to evacuate.

The social attachment model has advantages over the panic model as it emphasises the maintenance of social bonds and the co-operative nature of groups during disasters, but there are two main drawbacks. Firstly, the attachment model has rather pessimistic implications for large groups that affiliate with each other through existing social bonds, as it is more difficult to ensure the safe evacuation of all group members if one is with ten other companions as opposed to being alone. Cornwell (2003) developed this point further by arguing that while co-operative behaviour would help contribute to the best universal outcome, there could be negative consequences for members of groups closest to the source of danger. This was because existing social bonds behind attachment

behaviour could actually contribute to increased fatalities as people would be more likely to stay with attachment figures and delay action rather than act quickly to escape.

A second limitation with the social attachment model is that while it rightly points out that people attempt to preserve the safety of existing attachment figures, by focussing on this, it implicitly neglects the possibility of co-operative behaviour between those who had no existing attachment bonds before the emergency began, or that attachment bonds could develop quickly between strangers. It also assumes that while being around attachment figures can diminish fear, if the individual is alone or with strangers, then, 'even mild threats can precipitate flight-and-affiliation to familiar persons and locations at a distance' (Mawson, 2005 p.102), thus implying that flight and selfish 'panic behaviour' are more likely when in a crowd of strangers.

However, coverage of disasters throughout history is replete with examples of complete strangers behaving co-operatively towards each other, even under conditions of great personal danger, leading Furedi (forthcoming) to state:

'even in today's highly individuated globalised society, calamities have a unique capacity to encourage acts of solidarity and altruism' p.2.

Johnson's (1987) examination of a fatal crush at a concert by 'the Who' in the US in 1979, found that rather than displaying selfish panic behaviour as was reported, crowd members tried to help others where possible. When trampling occurred, it was largely due to people not being able to help those who had fallen because of the pressure of others upon them. It is of course possible that crowd members had an existing sense of unity that encouraged more co-operation, as they were fans of the same band, but other studies have found that this unity can develop amongst people whose only common link



appears to be that they are affected by the same disaster. For instance, Tierney (2002) found that New Yorkers during and after the terrorist attacks of September 11<sup>th</sup> 2001 were generally altruistic and co-operative towards each other even at great risk to themselves.

### **The Self-Categorisation approach**

Psychological research into crowd behaviour has argued that far from losing all rational thought and behaviour to a 'mob mentality', crowd members tend to operate within social norms, often imposing limits on their behaviour, even during highly stressful situations. The Elaborated Social Identity Model (ESIM) of crowd behaviour (Reicher, 2001) is derived from studies of crowd conflict (e.g. Reicher 1984, Drury & Reicher, 2000), and suggests that a common identity emerges amongst crowd members as a result of a shared fate in the face of illegitimate attacks from an out-group. This common identity can result in people helping and supporting others who may have been complete strangers before the conflict started, and is not explained easily by traditional attachment models of behaviour. The ESIM tends to focus on incidents of crowd conflict, such as political demonstrations and disorder at football matches, but has begun recently to examine crowd behaviour during emergencies, such as natural disasters and terrorist attacks, drawing on existing sociological and psychological approaches to mass behaviour. Clarke (2002) has argued that disasters can create a sense of 'we-ness' leading to a common bond of solidarity amongst participants, where co-operation and altruism predominate rather than selfish behaviour. While Clarke's concept of we-ness has not been tested empirically, social psychology's Self-Categorisation Theory (SCT) predicts such a

process (e.g. Turner, 1982; 1985; Turner, et al., 1987; 1994). SCT suggests that during emergencies, a range of non-panic behaviours and perceptions, including: personal sacrifice, mutual co-ordination, and concern for those involved, will be displayed. SCT predicts that cognitive representations of the self take the form of self-categorizations, which may range from personal self-categorizations (what makes us distinct from others) to shared, collective self-categorizations (what makes us similar to others). Seeing oneself as personally interchangeable with other in-group members on some relevant dimensions – ‘depersonalization’ – means not only seeing the in-group as homogeneous, but also seeing other in-group members as part of self. This, in turn, means caring about others and acting in their interests, even where they are not known. SCT would suggest that on the rare occasions where there is individualized competitive behaviour in a crowd, this is because physical or psychological constraints prevented the emergence of a sense of shared identity. Indeed, SCT argues that panic is a feature of individuals, and in most crowds, order will be the norm, with panic only present in a few unrepresentative individuals. According to SCT, during a mass emergency, self-categorisation can emerge in a crowd amongst strangers from a shared fate in that they suffer the same threat, and hence a common shared identity will develop as participants escape danger. This could help explain the accounts of people helping strangers, even at risk to themselves. For, if people categorise others as part of the collective self, then a threat to others is also a threat to the self. However, there is little empirical evidence gathered from a psychological perspective to support this notion, hence the need for research in this area. Therefore, a post hoc interview study of survivors of crowd emergencies was planned to

investigate such incidents in more detail and gather qualitative data about people's experiences. The following hypotheses were suggested:

### **Hypotheses:**

- 1) That there will be little evidence of panic behaviour. Individuals may become distressed and/ or fearful, but this would be unlikely to spread to the crowd as a whole.**
- 2) Furthermore, orderly, altruistic and co-operative behaviour would predominate as opposed to disorderly, selfish and competitive behaviour.**
- 3) That this co-operative behaviour could be explained by the development of a common identity in response to the shared threat faced in an emergency.**

### **Method:**

Two interview studies were conducted with survivors of mass emergencies, where there was a real, or perceived threat of danger and/or death. The data from both studies were drawn from larger data-sets that have been analysed elsewhere in greater detail (e.g. Drury et al., in Submission; Drury et al., in Preparation). The first was an exploratory study to investigate whether some situations were more likely to result in panic than others. Interview data was gathered from a diverse range of different crowd emergencies, with different physical constraints, levels of threat faced by participants, and scale of casualties suffered.

However, as the interview study progressed, little evidence was found for mass panic occurring, despite the clear threat of death in some of the emergencies studied. Therefore it was decided to investigate the 2005 July 7<sup>th</sup> London bombings which happened halfway through the project, and presented an opportunity to gather data from four similar events, and to test an emerging hypothesis that if panic was likely to occur, it could have been under the physical and psychological conditions present on July 7<sup>th</sup>. For instance, the bombs exploded during the morning rush-hour, meaning that the tube trains and bus targeted were full to capacity, and it was also highly likely that the vast majority of travellers would be atomised commuters with minimal existing affiliative ties to their fellow passengers. The consequent fear of fire and/ or death after the explosions may also have resulted in a highly stressful situation with no obvious escape route, and this may have resulted in survivors disregarding others' welfare to ensure personal survival. Therefore, a second study was conducted that included material from survivors of each bombing and treat it as one event, as they were roughly comparable.

## **Participants:**

### **1<sup>st</sup> interview study:**

Participants were recruited via adverts in the national media, and through existing contacts. The events can be divided into five categories: sinking ships, football stadium and concert crushes, fires, bombs and bomb threats, and a train accident. 21 survivors' accounts from 11 different emergencies were gathered and analysed.

### **July 7<sup>th</sup> interview study:**

A total of 17 participants were recruited in a similar way to the previous study, but a website<sup>1</sup> was also set up after 7/7 asking those affected directly to send us their personal accounts by e-mail at first (thirteen accounts were received), and we then approached these respondents to ask if they would be interested in being interviewed as well. Four further interviewees were recruited via advertisements in the press, approaching support organizations and official bodies, and through snowballing personal contacts to see if they knew others who would be willing to participate. Six of the interviewees were men and six women. Of the remaining five e-mail respondents, three were women. Five of the interviewees and three of the e-mail-only respondents were directly caught up in the blasts; the rest were eye-witnesses.

### **Procedure:**

We arranged for the interviews to take place where the participants would feel comfortable, usually in their home or a local park. The interviewee was first asked to provide some background, to set the scene, and then to tell the story of the events as s/he remembered them. The rest of the questions covered the following issues:

Behaviour: e.g., ‘What did you do in response to these events? How quickly did people respond and evacuate? Did people co-operate/ help each other out? Did anyone behave selfishly?’

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<sup>1</sup> Available via; <http://www.sussex.ac.uk/affiliates/panic/lb/index.htm>

Thoughts/ feelings: e.g., ‘What were you thinking/ feeling as incident progressed? Did you feel in control of your actions/ feelings? Do you think that anyone panicked? If so, what did they do?’

Identities: e.g., ‘How would you describe those in the evacuation with you? How did you feel towards them? Did you feel a sense of unity with each other? Was there a common identity before-hand?’

Each interview lasted between 45 and 90 minutes, and the data was transcribed in full for qualitative analysis of the themes under investigation.

## Results<sup>2</sup>:

### The myth of panic and/ or selfish behaviour:

#### 1<sup>st</sup> interview study:

Eleven interviewees described the crowd's behaviour as 'panic', while eight did not.

However, this does not necessarily support the 'panic' account, as the term needs more critical analysis. For instance, most interviewees (14 vs. 6) explicitly contrasted the over-emotional, panicked behaviour of some individuals with the relatively orderly behaviour of the rest of the crowd. Furthermore, when directly asked if they thought there was mass panic, most interviewees (18 vs. 1) also explicitly denied that crowd panic took place.

The following interviewee, a survivor of the Hillsborough football disaster in 1989 where 96 Liverpool fans died in a stadium crush was explicit in his use of the term panic:

1.

You had no choice, you went where the crowd took you.. as everybody else did .. it was that scary, it was terrifying, but as I said once blind panic has set in I would think that was that was the main part, every everyone really panicked, sheer panic, the police panicked, the crowd panicked, everyone panicked.

**(Hillsborough 1)**

While he mentions panic six times in this extract, he does not explain in any detail what it is people were doing that led to him describing it as panic. When asked to give an example of what he felt was panicked behaviour, he described the following account:

2.

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<sup>2</sup>Because much of the material gathered contained data that overlapped between the different hypotheses, they are reported in two different sections, as opposed to addressing each hypothesis in turn, which is done in the Discussion section

Never ever would I consider stepping on a dead body .I did that to save myself because I panicked [ ] I thought to myself look I'm either going to step on he or she [ ] to get out of this and live or die.

**(Hillsborough 1)**

However, while this is an exceptional situation, a closer analysis begs the question as to whether this is actually selfish panic or logical flight behaviour. He was faced with a stark choice of stepping on someone who was dead (and so beyond help) to escape the crush in the pens, or be killed himself. He also later described his own co-operative behaviour to help other injured fans once he was free from the crush:

**3.**

As soon as I could get my arms out I was helping people and pushing them up,[ ]it's only when you look back you just feel 'oh I could have done that', I mean you look back, I mean everyone did help each other and I don't think there was anyone that could really look back and say I didn't do anything to help anybody

**(Hillsborough 1)**

If the 'panic model' was correct, we would expect little in the way of such co-operative behaviours. However, consistent with the hypothesis that mass panic is rare, accounts of helping (including physically helping people, allowing others to go first, and comforting others) were more common than personally selfish behaviours (barging others aside, ignoring others in need, trying to push ahead of others etc.). Indeed, more interviewees reported behaving helpfully (12) than said they did not (6), more interviewees reported being helped (13) than not (0); and the vast majority reported observing others helping others (20) than did not (1). Likewise, fewer interviewees reported behaving personally



selfishly or competitively (3) than said they did not (14), fewer interviewees reported suffering from others' personal selfishness (6) than said they did not (14), however, more interviewees reported observing others being personally selfish (11) than did not (5).

### **July 7<sup>th</sup> interview study:**

An emergent hypothesis developed that mass panic would be more likely under the conditions present on 7/7, as those affected would be largely with strangers in a situation of danger, and so a common identity may not have emerged. However, of the 7/7 survivors, only one said s/he 'panicked', while four others said they 'felt' panicky, but this was usually internal feelings of fear rather than any overt behaviour. Two respondents were explicit that they did not panic, with others not using 'panic' to describe their behaviour. When describing others' behaviour, only one respondent used the term 'panic', and when asked what she meant, she replied that people were screaming. However, she also described others' behaviour as overwhelmingly 'calm'. The other respondents either denied that people panicked (five respondents), said that people 'started to panic' but were ultimately calm or controlled (two), said that they didn't see any panic (two), or limited it to one individual or a small minority in the crowd 'hyperventilating', 'screaming' or becoming 'hysterical' (four). The following quote from someone who witnessed the Edgware Road bomb indicates the lack of panic:

#### **4.**

It was so calm and relaxed it was almost like a fire drill [ ] everyone was sat down and the driver was saying 'you might as well sit down as there'll be a bit of a wait till we get out' and [ ] some people trying to get a bit further along the line but

there was no-one desperately running along the train, it was a very relaxed calm evacuation, and I think the atmosphere and the instructions from the driver because he was very calm about the whole situation obviously [ ] he'd seen the blast from his carriage but he was calm and I think his calm instilled calm throughout the whole train yeah there wasn't it wasn't a panic really bolt for the door by any means.

**(July 7<sup>th</sup> 1)**

### **Shared identity and co-operative behaviour:**

The third hypothesis was that a sense of common identity would at least partly explain the lack of panic and extent of helping behaviour. This was tested by examining the data for references to common identity, and for a link between common identity and helping.

#### **1<sup>st</sup> interview study:**

Participants placed great importance on unity with others involved, often spontaneously mentioning this before we asked them about the concept. Therefore, we can have some confidence that the data reflect a genuine sense of common identity that existed in the crowd. Thirteen participants referred unambiguously to a sense of unity or togetherness with the rest of the crowd during the emergency. Their comments usually included examples of other people's motivations and behaviour, suggesting that the unity was not something that existed only subjectively for them, but was felt by the crowd as a whole. In most of the references to common identity, it is also described as developing over the course of the emergency itself. Only seven participants described any sense of unity

before the incident, and these were all at football matches or concerts, (and so might be expected to identify with others as fans of the same team or band). Conversely, most of the people who described a shared sense of threat also referred to a sense of common identity developing over the course of the event, sometimes explicitly explaining the feeling of unity in terms of the threat to the crowd as a whole.

The following extract is from someone evacuated from a hotel fire in Boston, US in 1971, and had only arrived the day before from the UK, not knowing anyone else in the hotel. Therefore, his chances of having a common identity with others was minimal, but this did not prevent one emerging in response to the threat:

**5.**

We were herded into groups of about ten or fifteen people or so in the hall talking and milling around amongst themselves at that point yes there was a little bit of camaraderie that we'd all come through something that could have been potentially very dangerous.

**(Boston Hotel Fire)**

This common identity was not just an internal perception amongst participants, as it also appeared to influence their behaviour to others, as the following extract from another survivor of Hillsborough illustrates how fans tried to help those in need:

**6.**

The behaviour of many people in that crowd and simply trying to help their fellow supporters was heroic in some cases. So I don't think in my view there was any question that there was an organic sense of unity of crowd behaviour. It was clearly the case [ ] that people were trying to get people who were seriously

injured out of that crowd, it was seriously a case of trying to get people to hospital, get them to safety .. I just wish I'd been able to prevail on a few more people not to put themselves in danger.

**(Hillsborough 2)**

**July 7<sup>th</sup> interview study:**

Most respondents were amongst strangers (only one interviewee and three e-mail respondents were with friends or family) and so would have had minimal existing affiliative ties to their fellow commuters. However, as will be shown, this did not prevent a sense of unity emerging rapidly after the explosions. Moreover, when asked to describe how this unity developed, there was evidence that it emerged from a sense of shared fate. Nine interviewees (plus two of the e-mail respondents) were explicit that there was a strong sense of unity in the crowd. Indeed, as with the first interview study, some of them mentioned this before being asked about it by the interviewer, with the following terms being used: 'empathy', 'unity', 'similarity', 'part of a group'. When asked to rate the strength of this feeling of togetherness, participants used scores such as: 8/10, 9/10, 100%, 10/10, suggesting that this was a strong subjective feeling. Some explicitly contrasted this positive feeling of unity in the emergency with the unpleasant sense of competition and atomization with other commuters they would experience on a normal rush-hour morning. Only one respondent reported a low sense of unity with others (scored as 3/10), and this was someone who was not directly affected by the explosions, but was in the area of the bus bomb and heard the explosion from a distance. Therefore, it

is possible that he did not feel the same immediate threat of death that others felt, thus reducing the sense of shared fate which would predict such a sense of unity.

The following quote from a female survivor of the King's Cross bomb was gathered from a web-site set up for survivors to support each other<sup>3</sup>, and illustrates the sense of unity that developed amongst those caught up in the blast

7.

One of the things which struck me about this experience is that one minute you are standing around strangers and the next minute they become the closest and most important people in your life. That feeling was quite extraordinary

**(July 7<sup>th</sup> 2.)**

There was also clear evidence of co-operation with thirteen respondents reporting at least one instance of helping others – ranging from providing comfort, water, or first aid.

While there were no reports of overtly selfish behaviour, seven respondents said they felt 'selfish' or guilty for being overly concerned for their own personal safety. However, this may be evidence for the phenomenon of survivor guilt, where people sometimes struggle to come to terms with why they survived emergencies and others did not, or even feel they were to blame for some aspect of the trauma they later suffer<sup>4</sup>. Seven respondents were explicit that they witnessed no selfish or, competitive behaviour in others. However, two respondents described one individual being concerned with his mobile phone when he could have helped (although they did also report that others remonstrated with the person for doing so), and two described people outside the events who showed no

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<sup>3</sup> <http://www.londonrecovers.com>

<sup>4</sup> National Institute for Clinical Excellence (2006) *NICE Guidelines on PTSD*. Online leaflet provided for survivors of trauma  
Accessed on 13/7/2007 via  
<http://www.7julyassistance.org.uk/downloads/Affected%20by%20the%20London%20bombings.pdf>

concern for the plight of those affected. Only one described people ‘ignoring others, walking past’. The following quote from a survivor of the Edgware Rd bomb describes the general co-operative atmosphere:

**8.**

Some people took charge of the situation by looking for stuff and then other people were just looking after people next to them and other people were just keeping out of the way

**(July 7<sup>th</sup>, 1)**

## **Discussion**

The interview studies generated a rich qualitative data-set which produced evidence for the remarkable resilience that people are capable of under extreme pressure. Moreover, this resilience appears to be not despite the crowd, but because of it, as it was a product of the sense of collective identification that they derived from others involved in the same incident. Each hypothesis will now be addressed in turn.

### **H1) Lack of mass Panic:**

The evidence gathered supports the theory that there would be little evidence of mass panic, and while the term ‘panic’ was often used by participants, it did not stand up to scrutiny. Behaviour described as panic usually consisted of vocal expressions of fear or distress amongst individuals rather than any physical behaviour, and this did not spread to others. Furthermore, mass panic did not occur even under the conditions of the July 7<sup>th</sup> London bombings, where one might not have expected this common identity to emerge

(e.g. clear threat of death, limited means of escape, and little or no existing affiliative ties amongst participants beforehand). This led the researchers to conclude that if mass panic did not happen here, then it was unlikely to happen in most emergency situations.

**H2) Orderly, co-operative behaviour would pre-dominate:**

People's behaviour during the incidents in question tended to remain orderly and meaningful, with selfish, uncooperative behaviour being rare. Moreover, any behaviour in others that was perceived by participants as selfish did not spread, and sometimes other crowd members remonstrated with the 'selfish' individuals in question.

**H3) The development of a common identity in response to the threat would explain this co-operative behaviour:**

Participants were often explicit that they felt a common unity with others affected as a result of having a shared fate in response to the danger they faced, and that this influenced their co-operative behaviour. Furthermore, participants often spontaneously mentioned this sense of unity before being asked by the interviewer, lending strength to this hypothesis.

## **Conclusion and implications for practice:**

The widespread co-operative behaviour reported by participants in emergencies contradicts the assumptions of selfish behaviour inherent in the panic model.

Furthermore, the evidence we found for the development of a common shared identity amongst participants who had minimal attachment bonds to others before the emergency began, highlights the limitations of the attachment model in explaining all behaviour in emergencies. Therefore we can conclude with a degree of confidence that the idea of mass panic occurring in emergencies, is largely a myth unsupported by evidence, and that the term is neither a helpful nor accurate description of human behaviour in emergencies.

This research has direct implications for the safe egress of large numbers of people in emergency evacuations, as assuming they will panic can delay a safe and efficient evacuation, because information that crowd members could act upon may be withheld for fear of them being unable to act sensibly upon the information they are given.<sup>5</sup> Therefore, the following recommendations are proposed to facilitate future safe egress during emergencies:

1) More rather than less information should be provided wherever practically possible during emergencies. People in emergencies can digest and act upon information much more effectively than they are often given credit for. Assuming that crowds will panic may indeed delay efficient evacuations, if emergency planners withhold information from crowd members in the mistaken belief that panic will occur if people become aware of the threat they face. Indeed, a study (Proulx & Sime, 1991) of different

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<sup>5</sup> For a more detailed analysis account of practical steps that emergency planners can take to facilitate safe mass evacuations, see Drury & Cocking (2007), which is available online at; [http://www.sussex.ac.uk/affiliates/panic/Disasters%20and%20emergency%20evacuations%20\(2007\).pdf](http://www.sussex.ac.uk/affiliates/panic/Disasters%20and%20emergency%20evacuations%20(2007).pdf)



methods of evacuation from the Metro system in Newcastle, UK found that providing clear information to the public from a believable source about a threat, far from hampering efficient evacuation, actually improved evacuation times.

2) Forms of communication that can nurture a sense of collective identity should be encouraged, and appealing to people's co-operative nature before and during mass emergencies can be an effective tactic to ensure a safe and efficient evacuation. A shared identity can be encouraged in public spaces (such as Underground stations) on an everyday basis. This might be achieved via public information campaigns and the wording of public addresses, advertisements, notices and so on.

Finally, and from a more general perspective, emergency planners should be aware that crowds in evacuations can usually be trusted to behave well during evacuations. We believe that our findings are part of a growing body of evidence that crowd behaviour is meaningful and cognitive, and using this knowledge could help reduce the risk of severe injuries and/or fatalities happening during future mass emergencies.

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