

# **The role of ‘zero-responders’ during 7/7: Implications for the Emergency Services**

## **Introduction:**

The July 7<sup>th</sup> 2005 London bombings (known as 7/7) generated much media coverage and scrutiny of the subsequent response by the emergency services, leading to a debate about what the public can reasonably expect from first responders in such situations. For instance, it has been argued that accusations of fire-fighters not responding quickly enough to enter the tunnels where the explosions happened were misplaced<sup>1</sup>. Indeed the official enquiry into 7/7 (Hallett, 2011) concluded that that no one who died could have been saved had they been reached quicker by emergency services, thus countering possible accusations that they should have responded differently. However, this debate highlights a possible issue for the emergency services. The time taken to reach some survivors illustrates that in the immediate aftermath of mass emergencies, survivors may be responsible for providing assistance to each other until outside help arrives, as no response is ever instantaneous, and there is always a delay before first responders arrive (Cole et al., 2011). Existing research into various mass emergencies (e.g. Drury & Cocking, 2007, Drury et al. 2009a), and 7/7 itself (Drury et al. 2009b) has found evidence for spontaneous co-operation amongst survivors, and this paper will explore the psychological processes behind such behaviour in more detail. More specifically, it will look at how those directly affected by the 7/7 bombings reacted before emergency responders arrived, and the possible implications this can have for how the emergency services respond to such incidents.

## **The myth of ‘mass panic’**

The study of emergency planning and response has been hindered by pervasive misunderstandings of human behaviour in mass emergencies, and how it is often misrepresented<sup>2</sup>. Such misunderstandings have their roots in early psychological approaches to crowd behaviour. For instance, Le Bon (1968) argued that crowds were an inherent threat to those in authority because of their propensity for ‘irrational’ and violent behaviour. This irrationalist perspective influenced the ‘panic model’ - an amalgam of approaches to emergency behaviour that assumed vulnerable public responses during emergencies. For instance, when faced with a threat, people would become over-emotional and react disproportionately (Smelser, 1962), and the greater the perceived threat, the more extreme the emotional behaviour. Collective identities would then break down, as people displayed selfish behaviours in an effort to escape (Strauss, 1944; Schultz, 1964), and such selfish acts would spread quickly to the crowd as a whole by a process of behavioural contagion (McDougall, 1920).

However, the notion that crowds are prone to ‘irrational mass panic’ during emergencies has been largely discredited by subsequent research (e.g. Canter, 1990; Keating, 1982; Sime, 1990). Indeed, the US based Disaster Research Center<sup>3</sup> has an archive detailing over 50 years of research into mass emergencies, suggesting that people cope with disasters and emergencies remarkably well and are often much more resilient than is predicted by the panic model.

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<sup>1</sup> [http://news.bbc.co.uk/today/hi/today/newsid\\_9464000/9464186.stm](http://news.bbc.co.uk/today/hi/today/newsid_9464000/9464186.stm)

<sup>2</sup> <http://dontpaniccorrectingmythsaboutthecrowd.blogspot.co.uk/>

<sup>3</sup> <http://www.udel.edu/DRC/E.L.%20Quarantelli%20Resource%20Collection/Publications.html>

Quarantelli (2001) even questions whether ‘panic’ itself is a useful term, because it does not describe accurately how people actually behave in emergencies.

Nevertheless, the panic model is still common in popular coverage of disasters (e.g. Dynes, 2003; Fahy et al., 2011; Tierney et al., 2006) and Furedi (2008) argues there is a possible contradiction in governmental security policies, as while the emphasis is on promoting resilience during emergencies, the premises underpinning such policies often assume the vulnerability of those affected. Recent research (Drury, et al., In Press) suggests that some aspects of the vulnerability perspective are still held by those responsible for emergency crowd management, and the Hillsborough Independent Panel (2012) report of the 1989 stadium disaster supports this notion. It concluded that Liverpool fans were not responsible for the tragedy, and instead blamed it on a catalogue of mistakes by South Yorkshire Police and Sheffield Wednesday Football Club, underpinned by an approach that treated policing at football matches as a public order, rather than public safety issue.

### **Bystander apathy or intervention?**

Another popular misconception of emergency behaviour is that of bystander apathy, which again draws from early social-psychological perspectives. It suggests that bystanders in a crowd may avoid helping others in need via a process of diffusion of personal responsibility, and the larger the number of bystanders, the greater the chance of inaction. The bystander effect was developed by Latané & Darley (1970) as a way of explaining a horrific murder in 1964, where a young woman (Kitty Genovese) was killed in a crowded housing complex in New York, US, and her neighbours allegedly witnessed the attack but did not intervene. Detailed exploration of this case (e.g. Manning et al., 2007) has found that many of the assumptions of the bystander effect are not supported by the evidence, but it has still become a ‘modern parable’ within popular psychological discourse. The bystander effect is also used to explain inaction in emergencies, with some media coverage of 7/7 contrasting the actions of ‘brave’ individuals with the apathetic crowd as a whole<sup>4</sup>. However, subsequent research into bystander intervention (e.g. Levine et al., 2005; Levine & Crowther, 2008) has found that group size does not necessarily increase the chances of bystander apathy, and helping others increases when there is a shared sense of social identity. Therefore, rather than concluding that people are prone to inaction in emergencies, a more socially useful perspective could be to consider in what circumstances helping others could be enhanced.

### **Implications of assuming crowd vulnerability in emergencies:**

(Manning et al., 2007) argue that crowds are often considered either an active or passive threat, as they could encourage irrationality or inaction. This leads to populist representations of crowds in emergencies to conclude that they are problematic either because of their propensity for ‘panic’, or that survivors may be too shocked to co-operate with each other, and so will need direction from outside responders. Maintaining such perspectives can have direct implications for emergency planning and response. For instance, if planners assume shock or mass panic will be the dominant response, then they may discount the possibility that survivors will co-operate with each other. However, it has been argued (e.g. Furedi 2008; Wessely, 2005a&b) that implementing paternalistic responses could actually stifle any endogenous resilience that the

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<sup>4</sup> <http://www.bbc.co.uk/news/uk-12154040>

public has, thus encouraging more passivity. There is also a popular misconception that ‘panic’ can cause fatalities in emergencies, in that if people become aware of an imminent threat, they will stampede to escape. However, Mawson (2005) argues that people are more likely to delay action while they seek out more information and/or attachment figures. There is even evidence that providing information about threats actually enables people to act effectively to escape danger more quickly (Glass & Schoch-Spana, 2002; Proulx & Sime, 1991), suggesting that rather than ‘panic’, a resilient response is more likely.

### **Crowd resilience- the social identity model**

Alternative perspectives have developed since the panic model that reject its assumptions of vulnerability and argue instead for a more resilient approach to crowd responses in emergencies (e.g. Johnson, 1988; Mawson, 2005). They argue that social ties rarely break down, and people will co-operate with others where this is possible. More recently, the Social Identity Model of Collective Resilience (or SIMCR- Drury et al., 2009a & b; Williams & Drury, 2010) has developed this point by proposing that disasters may actually create social bonds between people who previously had minimal connections with each other. This explains why people often co-operate to help strangers in emergencies, and has led to the term ‘Community of Circumstance’ (Settle, n.d.) being adopted in UK Cabinet Office emergency planning guidelines to describe this phenomenon. The SIMCR draws from the principles of Self-Categorization Theory (SCT) (Turner et al., 1987), a broadly based social psychological approach which explains human behaviour in terms of self and group categorisation processes. One of its principles is that we categorize ourselves via a range of different identities (ranging on a continuum from the personal to the more collective), and such identities become more or less salient depending on the social context. If a shared collective experience becomes salient, then we begin to self-categorize with similar others, and so a shared sense of identity develops. Evidence for this sense of shared identity was initially gathered from studies of crowd disorder (e.g. Drury & Reicher, 1999; Reicher, 2001) but more recent research (e.g. Cocking et al., 2009; Drury et al., 2009a&b) has found that mass emergencies and disasters can create a common identity through a sense of shared fate (e.g. ‘we’re all in this together’) whereby people identify with others they may not necessarily know or even personally like.

SCT proposes that once a shared identity develops amongst group members, the following psychological processes emerge. First, a shared social identity encourages trust and the expectation that others will be supportive (Drury & Reicher, 1999). Second, this identity creates a shared definition of social reality (Haslam et al., 1998), which allows collective co-operation. Finally, a shared social identity encourages solidarity through the mundane acts that promote general social cohesion (Reicher & Haslam, 2010) and through helping others (Levine et al., 2005). A shared social identity can develop from an existing group membership, but it can also arise within an emergency itself through the perception of a ‘common fate’ which brings survivors psychologically closer together (Drury et al., 2009a), and can be temporarily stronger than existing group memberships (especially if it develops out of the necessity for group survival). This new shared identity can endure after the event, as fellow survivors provide mutual support to protect each other from trauma (Williams & Drury, 2009).

### **Theoretical Rationale:**

The SIMCR describes well the general co-operation found in mass emergencies, and is supported by evidence from sociological studies of mass emergencies (e.g. Fritz, 1996; Solnit, 2009). However, recent studies in this area (e.g. Cocking et al., 2009; Drury et al., 2009a&b) tended to focus on the frequency of co-operative behaviours and the existence of a shared common identity during emergencies, resulting in less focus on how such identities form, and the social influence processes involved. A vulnerability framework may assume that crowds could respond to a perceived threat in two possible ways. Firstly, there is the assumption that crowds are prone to 'panic' if exposed to danger. However, the vulnerability framework could also assume that people may be so stunned during emergencies that they are prone to apathy (as suggested by the bystander effect) and will delay action until they receive direction from professional responders. There is less evidence to confirm or deny this second assumption. Chertkoff & Kushigian (1999) have suggested that during uncertain or confusing situations, people look to others for guidance, and so there could be some ad hoc social influence in emergencies, but this has yet to be explored in sufficient detail. More recently, Cole et al. (2011) looked at the individual and logistical factors that may encourage 'zero-responders' (a term used to differentiate between spontaneous helpers and professional 1<sup>st</sup> responders) to emerge from amongst survivors (such as training in first aid, availability of medical kits etc), but greater understanding of the collective psychological processes involved would be a useful addition to knowledge in this area.

Therefore, this paper describes a study which explores identification and social influence processes in emergency crowds, and the collective psychological processes involved that can encourage mutual co-operation amongst survivors. Existing research has investigated either a broad range of different incidents (e.g. Drury et al., 2009a), or focussed on the same emergency (Drury et al., 2009b), and have provided evidence for the general psychological processes involved. However, social influence processes amongst survivors (particularly whether or not figures of influence can emerge from amongst survivors) have received less attention. Therefore, this study proposes to explore such processes in more detail from a sample of survivors from the same incident (7/7). Rather than attempting to provide a detailed picture of what happened using data triangulated from multiple sources, which has been done elsewhere (e.g. Drury et al., 2009b), this study proposes to explore the social influence processes underlying spontaneous co-operation, and how it may be of use to practitioners when planning responses to mass emergencies.

Therefore, the following research questions will be considered;

A) Do emergency crowds co-operate spontaneously with each other, and is such a process facilitated by the emergence of influential figures from within the crowd, or do survivors respond in a more vulnerable way that requires outside intervention from first responders?

B) What are the social identification processes underlying such responses, and how do such processes emerge? For instance, does a common identity emerge amongst survivors that can explain any subsequent mutual co-operation, and will this underlie any social influence processes that develop?

## **Method:**

## Events & participants

The July 7<sup>th</sup> 2005 London bombings killed 56 people (including the four bombers), injured over 770, and was the largest terrorist attack in the UK to date<sup>5</sup>. There were four different explosions (three on the underground tube system and one on a bus). Those in the bombed trains were not reached by the emergency services immediately, and were left in the dark, with little information about what had happened. Some waited for up to 45 minutes before the arrival of the emergency services, and because of the prioritization of those in more urgent need, some of the less severely injured casualties were not transferred to hospital until nearly three hours after the blasts (Cole et al., 2011). Therefore, some survivors would have been largely responsible for each others' welfare until specialized help arrived.

Advertisements were carried in newspapers and a website<sup>6</sup> was created asking those affected (either as survivors or bystanders) to send their accounts, and from these respondents, twelve were recruited for face-to-face interviews. Because of the risk of distress occurring by asking participants to recount what were undoubtedly traumatic events, the following ethical safeguards were adopted: a) participants were interviewed at least two months after the event, so that those with a diagnosis of PTSD could be excluded from the study, b) informed consent was gained, and participants were told that the nature of the exercise was research and not therapy, and c) a distress protocol was followed with graded measures to manage possible distress in participants during the interviews. These safeguards were approved, and ethical clearance was received to conduct the study.

## Interview & analytic procedure

Interviews took place at a location of the participant's choosing. They were asked to provide some background, and then describe the events as s/he remembered them. The rest of the interview was organized according to the following issues: (i) behaviour of those involved; (ii) participants' thoughts and feelings; and (iii) their sense of identification with others involved in the incident. Interviews lasted between 45-60 minutes, and were fully transcribed, producing a mean of 6875 words per verbatim transcript. The analysis involved thematically coding the interview texts (using Miles & Huberman's coding guidelines, 1994, p. 65) in relation to the issues of interest: a) instances of spontaneous mutual co-operation and whether influential figures emerged from the crowd who helped facilitate such co-operation, and b) whether survivors felt an emergent sense of shared identity with others.

## Results/analysis:

Participants were sub-divided into two groups: six survivors who experienced the blasts and six witnesses who were not directly caught up in the blasts, but saw or heard the explosions, and saw others' responses in the aftermath. A summary of their experiences is presented in the following table.

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<sup>5</sup> [http://news.bbc.co.uk/1/hi/in\\_depth/uk/2005/london\\_explosions/default.stm](http://news.bbc.co.uk/1/hi/in_depth/uk/2005/london_explosions/default.stm)

<sup>6</sup> <http://www.sussex.ac.uk/affiliates/panic/lb/index.htm>

Insert Table 1 here

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All survivors reported feeling a strong sense of unity with those affected, but this was more nuanced amongst witnesses. This ranged from some (e.g. LB9) reporting a lack of collective identification, to others feeling an underlying sense of empathy with those affected without strongly identifying with them (e.g. LB3), and those who developed a growing sense of unity with those affected (LB2, LB6 & LB10). Furthermore, all survivors reported witnessing spontaneous co-operation before the emergency services arrived. However, the picture is again more complex with witnesses. Some (e.g. LB4 & LB9) were not close enough to the explosions to witness spontaneous co-operation, others (LB2) did not report spontaneous co-operation amongst the survivors they saw, and some (LB6 & LB10) became involved in co-operative acts with others to assist the evacuation or help those injured. The processes underlying how such unity and co-operation developed will now be explored in more depth.

### **Spontaneous co-operation emerges from sense of shared fate:**

#### *Survivors*

As found in previous research (Drury et al., 2009a&b), survivors' experiences are consistent with the notion that being in emergencies can create a strong sense of shared identity which encourages co-operation (such as sharing information, helping casualties etc.) rather than apathetic and/or selfish behaviour. Furthermore, this emerged spontaneously amongst survivors rather than them waiting passively for outside help from emergency responders. LB1 who survived the Edgware Road explosion describes how co-operation emerged almost immediately after the blast and contrasted this with the normal selfish behaviour of rush-hour commuters in London;

*1. Int<sup>7</sup>: This helping that took place, did it happen straight after the blast or was there any delay when people started helping other people out?*

*LB1: I'd say straight after the blast, it was almost instantaneously...<sup>8</sup>there was people just literally checking that the people sat next to them were ok...it was refreshing to see that the human beings that we are, were able to change their behaviour to the situation in hand...normal behaviour on the train at that time of the morning is fight, once you get your seat you put your head in the Metro newspaper and that's it until you get off, but people actually interacted with each other and helped each other and were being considerate*

This co-operation seemed to emerge from a sense of shared identity, even amongst those who were caught in the most extreme situations. For instance, LB7 survived the Piccadilly Line explosion, and had to climb from underneath the bodies of other victims in order to escape. Nevertheless, she felt that a high level of unity developed straightaway, resulting in general co-operation amongst survivors;

*2. Int: Can you remember when this sense of unity first emerged?*

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<sup>7</sup> 'Int:' denotes speech by interviewer

<sup>8</sup> '...' denotes material edited for reasons of brevity and/or clarity

LB7: *I guess probably straight away and then it probably grew a bit but as soon as it happened and people were screaming there was another guy saying 'calm down' and people were talking to each other straight away and obviously something huge had happened and we just kind of instantly felt quite together*

Spontaneous co-operation may also have developed from a perceived necessity for autonomous action amongst survivors, as in the immediate aftermath of the explosions there was an absence of information from those in authority. Only one survivor (LB1) reported receiving information about what was happening via announcements from the train driver. Of the other survivors, four (LB5, LB7, LB8, & LB12) stated that they received no official information. The remaining survivor (LB11) was on the upstairs floor of the bus that was bombed, where it was immediately apparent that a bomb had exploded (news was already circulating by this point that there had been explosions elsewhere), and so survivors evacuated without seeking further information about how to act.

### *Witnesses*

Feelings of shared identity and reports of spontaneous co-operation were more mixed amongst witnesses. For instance, LB3 was a security guard working at Kings Cross and so assisted the emergency services in their response. While he expressed sympathy for the victims, (and hence, some sense of identification with them) he also felt the need to maintain a professional distance, so his ability to help was not compromised:

**3.** *Obviously I had to distance myself a bit because I was doing a job. But...I did feel for the people...sometimes I'll take the Tube in...so I know what that part of the station looks like going down where the Piccadilly line is and all that, and I remember going down and the smell and the heat and seeing the blood on the escalators and people who weren't so fortunate being brought up...so after that yes I did feel a sympathy, closer to the people who had been involved*

He later reported seeing co-operation and mutual support amongst passengers emerging from the escalator, suggesting a sense of shared identity amongst survivors:

**4.** *I was going out to the main forecourt area obviously assisting wherever I could...you would see some people in little groups where they're helping each other... the ones that came up later on, when more and more started...coming through as a group and in a couple of them I do remember seeing, like there obviously was one person more distressed than the others and there would be like bonding kind of going on, like group therapy*

However, some witnesses did not feel a common identity with others. LB9 was in the vicinity of the bus bomb, and heard the explosion. Whilst he saw others communicating about what was going on, he also reported feeling isolated from them, as he did not feel the same sense of stoicism that he perceived in others, and so presumably did not identify with those who appeared to be adopting a calmer norm than he had expected (or was feeling himself):

**5.** *A lot of people saying very normal things and um I was feeling...very anxious and quite panicky...bordering on the hysterical...But people seemed to be very stoical to me, which I found rather disconcerting...the way I felt is really just you know, to sort of run away shouting or screaming...and there seemed to be a lot of people that weren't reacting that way...I thought there would have been a lot more general hysteria in the crowd but people seemed to be making an effort to be calm...I was looking at...buildings and thinking well maybe this one's going to blow up in a minute and...there didn't seem to be anybody really to share that sort of thing with in the crowd. Um so it was a bit isolating I think, quite lonely in a way to be in that situation.*

Finally, there was evidence that some witnesses' sense of collective identification changed as events progressed. For instance, LB6 and LB10 reported an increased sense of psychological identification as they both became involved in responding to the incidents. For instance, LB6 was evacuated from the tube system near Edgware Road, but was not initially aware of the explosions, and so felt little common identity with others who were evacuated with him. However, as he approached Edgware Road above ground, he realised the seriousness of the situation, and became involved in helping survivors who were evacuating from the station, thus developing a greater sense of identification with others:

*6. Int: when you were involved in the incident around Edgware Rd did you notice any change, did you feel any sense of connection or unity later?*

*LB6: yes, obviously...totally different set of people...you thought these people knew each other the way they were reacting and these people about ten minutes earlier had no idea who each other were um they knew that it was people that were involved in the same situation as themselves...so yes there was a difference and...I felt that I have something that a lot of people don't when they travel on the tube when they sit there thinking you're ignorant and I think to them- no if something does happen these people will react and you will work together as if you've known each other and that is a good feeling to have*

LB6 also mentioned that his experiences gave him an enduring sense of identification with other passengers since, from which he felt a sense of collective support, as he believed that in future emergencies he could rely upon others, which overcame popular misconceptions that commuters in London do not co-operate with each other.

### **Inaction because of bystander apathy?**

Reports of a lack of co-operation amongst participants could suggest evidence for bystander apathy, if people did not spontaneously help others. However, while all participants except one (LB7) did report shock either in themselves or others that initially resulted in inaction, this was often characterized as being within individuals, and did not hinder the development of co-operation amongst survivors. Some were so shocked they were initially unable to move, but rather than this contributing to general inaction, other survivors intervened and encouraged others to help:

*7. LB12: There was a German set of grandparents...they bought their grandson to England for a birthday treat and so we were talking in halting German/English...one of the other girls said she was going to pass out and I said no you are not you will be fine...and I did say at one point when people started to panic, saying 'what shall we do', I said 'look we are all ok in here now so let's just keep it that way'*

*Int: Did people listen to you?*

*LB12: Yeah they did...actually I think everybody was just petrified. I mean not petrified scared...but petrified like in stone because when we eventually came to get off, the German couple...everybody was like automatons, and they had two big wheelee suitcases and the little boy was trying to pull one...I said to some of the guys 'can somebody help' and they said 'yeah of course' and they immediately leapt in.*

For LB9 the sense of shock he experienced was reported as a possible reason for his inability to help others, which is perhaps conceptually different from bystander apathy (when bystanders are capable of helping but choose not to do so). It is also possible that this lack of co-operation could be related to his earlier inability to identify with others, in line Levine & Crowther's (2008) evidence that bystander intervention is related to a sense of shared identity:



**8.** *I came across an old woman who was just standing in the street crying and didn't know what to do...thought maybe I should try to help some of these people but I can't actually do anything*

*Int: Did you get the chance to help anybody else?*

*LB9: Um not really no. And I felt a bit guilty about that actually but in hindsight I realised that I was probably in a bit of a state of shock and the only thing I should have done would be just to go home.*

### **Social influence:**

As well as accounts of spontaneous co-operation, some individuals emerged from amongst the survivors who were able to encourage further co-operation, thus counter-acting any general bystander apathy. For instance, LB1 describes how the 'calm' passengers took a lead, while others' actions contributed towards a general co-operative norm, suggesting an element of social influence amongst survivors:

**9.** *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*

*Int: Did you notice any particular differences between people who took charge and those that didn't?*

*LB1: the ones that took charge...seemed to be fairly calm, focused on what was happening and they seemed to be aware of this immediate threat to other people and they were helping people that were consoling other people nearby*

It is possible that if survivors were susceptible to any kind of influence (calm or otherwise), then they could have been influenced into a more 'panicked' response by less calm leadership figures. However, the following account shows how the influence process is more complicated than assuming mere susceptibility amongst survivors. LB8 describes that while she felt that people did need some kind of direction, they were not uncritical of all influence and they tended to follow the calmer leadership figure from the two different individuals who emerged amongst passengers in one of the train carriages caught in the explosion at King's Cross:

**10.** *There was a girl who turned out to be a solicitor...standing on the seats and saying "right everybody don't panic, it's going to be all right, we don't know what's happened but people know we're here...they will come and get us...let's all keep calm" ...this woman who was trying to direct things was keeping people safe...*

*There was a stupid man...who also thought he was very self important. The other woman was just good at taking control and calm people down, keeping a calm atmosphere, and he was going 'we've got to get out of here!'*

*Int: Did you notice any difference in the way people listened to either of them, were people following their directions equally, or one more than the other?*

*LB8: I think people seemed to be glad that there was somebody like the lawyer woman taking some kind of control...I think people looked to that...and she had a good strong voice, she was sensible, she commanded some kind of respect and authority if you like and what she was saying was very sensible so people were taking note...the bloke he was just a bit of a pompous ass and I don't think people were really taking much notice of him*

## **Discussion:**

The evidence presented from survivors and witnesses of 7/7 suggests that people were able to co-operate spontaneously in the immediate aftermath of the explosions, and popular assumptions of crowd vulnerability in emergencies (mass panic or bystander apathy) were not supported. This was attributed to the emergence of a common identity that encouraged resilient and co-operative behaviour, as opposed to the selfish and competitive behaviour that a vulnerable framework would predict. It also appears that figures of influence emerged, who then had a positive effect on the general co-operation to help others. Therefore, assumptions that those in emergencies will either be too shocked or panic-stricken to follow advice, or that they will be susceptible to all social influence, are not supported.

However, it is also worth considering that the resilient approach does not assume that all those affected in emergencies will necessarily behave heroically, as actions of exceptional bravery by individuals who may risk their own safety to help others, are by definition rare. It is more that mundane acts of social cohesion (Drury, 2011) in emergencies (such as comforting others, not getting in the way of others helping, etc) allow brave individuals to emerge from this cooperative norm who can then exert social influence to encourage more pro-active co-operation amongst survivors. Overall, then, the data seems to support a resilience rather than a vulnerability approach to crowd behaviour in emergencies, but before discussing the implications of these findings, it is first necessary to explore possible limitations with this study.

## **Possible limitations:**

Methodological constraints mean that the data presented in this study need to be treated with some caution. Firstly, participant recruitment was vulnerable to possible self-selection bias, in that those who did not feel a sense of unity or cooperation with other survivors may have been more reluctant to be interviewed. It is also possible that reports by survivors of life-threatening emergencies may be susceptible to bias in self-presentation demands, in that they may not be willing to disclose information that may present them in a negative light (e.g. if they behaved selfishly towards others). However, participants did not report selfish behaviour in others either (which would have been less susceptible to self-presentation bias), which is consistent with other research in this area (e.g. Drury et al, 2009a&b). Many of the participants also spontaneously mentioned phenomena (such as a sense of shared unity and co-operation) before being asked by the interviewer, giving us more confidence that the results are robust. Finally, there is a potential limitation concerning our analysis, in that we must be careful not to make claims that go beyond the data presented, as they were from a small sub-set of participants affected by the same incident (Drury et al., 2009b provide data from a wider set of sources that comprised an estimated 5% of those affected by 7/7). This may limit the generalisability of our findings. While we are confident that our findings illustrate the possible social influence processes found in a particular mass emergency, more research into how social identification and influence processes develop in other mass incidents (such as at sport events or music festivals) would be welcome.

There are also theoretical reasons for treating the data presented in this study with caution. The reasons for the relative effectiveness of the social influence reported amongst bystanders are more speculative. It is possible that the emergent figures of influence encouraged what appeared to be in-group normative behaviour (e.g. calm rather than 'panicked' behaviour), and so were more effective in influencing others, because they were seen as prototypical of the in-group. The

Social Identity Theory of leadership (Hogg, 2001; Hogg & Van Knippenberg, 2003) suggests that as a group's social identity grows and people identify more strongly with their in-group, then they are more aware of the group prototype to which they should adhere. Those that are seen as more prototypical of that group will then be seen as influential by other in-group members, and so have the ability to become effective leaders. Therefore, it is possible that those who emerged as potential figures of influence amongst survivors were successful in influencing others if they shared the prototypical values of the group norm that developed (e.g. calm and co-operative, as opposed to 'panicked' and selfish). However, the evidence for the prototypicality of such influence is patchy, and so the conclusions drawn here are tentative and in need of further empirical study.

### **Implications:**

This study adds to a growing body of evidence (e.g. Drury, 2011) that supports the Social Identity Model of Collective Resilience, and has practical implications for the safe management of mass emergencies. For instance, if emergency planners hold irrationalist and/or paternalistic views of crowds, then this could lead to the conclusion that they cannot be trusted in emergencies and therefore need shepherding away from danger in a non-participatory and perhaps even authoritarian way. This could lead to the perception that crowds in emergencies are a potential public order problem (resulting in more coercive forms of crowd management), rather than as potential partners in enabling successful mass evacuations. Neglecting the potential spontaneous resilience of crowds in emergencies by the authorities could also be missing out on an opportunity to make use of a positive resource. The ability of people in emergencies to exert social influence and co-ordinate mutual aid amongst survivors should not be underestimated, and there is evidence that this notion has already been incorporated into some international emergency response strategies. For instance the Israeli ambulance service distributes first aid kits in the immediate aftermath of suicide bombings, so that uninjured bystanders can use them to assist casualties (Cole, 2010). Therefore, rather than seeing the public as potential obstructions that need to be moved on, acknowledging and making provision for people's willingness to help and direct others could provide the emergency services with a large pool of potential volunteers, who can act as a 'force multiplier' (Cole et al., 2011, p.363) so the professional first responders can focus on more specialised tasks. In short, rather than the crowd in an emergency being seen as 'part of the problem', perhaps it should be viewed as 'part of the solution' (Cole et al., 2011). Developing this concept, and exploring how to facilitate the development of shared identities can also play a part in further mitigating the impacts of future mass emergencies by encouraging the ability of people to help each other in times of adversity.

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**Table 1**

<b>Participant</b>	<b>Location</b>	<b>Survivor/ witness</b>	<b>High/Low ID?</b>	<b>Spontaneous co-operation?</b>
<b>LB1 (male, late 20s)</b>	Edgware Road	Survivor	High	Yes
<b>LB2 (female, late 20s)</b>	Tavistock Square	Witness	Initially low but grows over time	No
<b>LB3 (male early 30s)</b>	Kings Cross	Witness	Low (but some sense of empathy with others)	Yes
<b>LB4 (male early 40s)</b>	Tavistock Square	Witness	Low (but some sense of empathy with others)	n/a
<b>LB5 (female, mid 50s)</b>	Aldgate	Survivor	High	Yes
<b>LB6 (male, late 20s)</b>	Edgware Road	Witness	Initially low, but becomes high	Yes
<b>LB7 (female mid 20s)</b>	Kings Cross	Survivor	High	Yes
<b>LB8 (female, mid 50s)</b>	Kings Cross	Survivor	High	Yes
<b>LB9 (male, early 40s)</b>	Tavistock Square	Witness	Low	n/a
<b>LB10 (male, mid 20s)</b>	Kings Cross	Witness	Medium	Yes
<b>LB11 (female, mid 40s)</b>	Tavistock Square	Survivor	High	Yes
<b>LB12 (female, early 50s)</b>	Aldgate	Survivor	High	Yes