

Chapter 2

Human Factors in Crisis, Disaster and Emergency: Some Policy Implications and Lessons of Effective Communication

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2.1 Prevalent Myths and Misconceptions

It is a commonly held misconception within lay society and also amongst relevant official authorities that people are apt to respond to acute situations of crisis, disaster and emergency in a socially disorganised and individually disoriented fashion. As Perry and Lindell explain,

Decades of ‘disaster’ movies and novels and press coverage, emphasise the general theme that a few ‘exceptional’ individuals lead the masses of frightened and passive victims to safety. Thus, conventional wisdom holds that typical patterns of citizen disaster response take the form of panic, shock, or passivity. ([1], pp. 49–50)

Drury et al. [2] have elaborated on this perspective by highlighting three contemporary myths that contribute to a misunderstanding of civilian cognitions and emotions in situations of this nature. Firstly, the myth of ‘mass panic’ wrongly presupposes that people typically respond to the exaggerated, ‘contagious’ and irrational fears that inevitably engulf them by engaging in overhasty and ill-advised escape behaviours which seem unrestrained by any recognisable social rule or convention. The second myth of ‘helplessness’ is predicated on the equally misguided assumption that people immediately become too stunned or ‘frozen’ to adequately ensure their own safety and well-being. Finally, the ‘civil disorder’ myth is based on the unfounded notion that emergency situations provide a context or ‘excuse’ for people to behave in antisocial and/or opportunistic behaviours, such as rioting and looting.

All of the above authors point to varied and compelling evidence in rebuttal of misconceptions of this nature.

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Indeed, most citizens do not develop shock reactions, panic flight occurs only rarely and people tend to act in what they believe is their best interest, given their limited understanding of the situation. Most citizens respond constructively to environmental threats by bringing as much information and as many resources as they can to bear on the problem of how to cope with an incident. Behaviour in the disaster response period is generally prosocial as well as rational. Following impact, uninjured victims are often the first to search for survivors, care for those who are injured, and assist others in protecting property from further damage. Antisocial behaviour such as looting is relatively rare, while crime rates tend to decline following disaster impact ([1], p. 50).

In attempting to account for such essentially prosocial and often altruistic behaviour, theorists have leaned towards the so-called affiliation model and/or ‘normative’ approaches to explaining emergency or disaster-related behaviour [3]. The former posits that, rather than primarily ‘looking after Number One’, individuals tend to prioritise the safety and security of those people who are (biologically, socially or emotionally) closely related to them (*ibid.*). The latter rests on the equally straightforward and simple assumption that civilian behaviour in emergencies generally adheres to an equivalent set of rules to those governing everyday social conduct (*ibid.*). Thus, observations of people helping others to evacuate from buildings on fire reveal that most help is accorded to such ‘vulnerable’ people as the elderly, and that customary chivalry tends to endure to the extent that men are especially supportive of women (*ibid.*).

There are, however, fundamental problems with each of these explanations. In the first place, while the affiliation model might well help to explain the prosocial behaviours occurring in situations involving family or friends, most emergencies and disasters tend to involve aggregations of complete strangers, having no previous personal ties. Second, it is also the case that, ‘While it might be normative to help someone in distress in everyday circumstances, it is surely novel rather than normative to take risks to oneself help strangers’ (*ibid.*, p. 10). Thus, it is clear that what is required in order to complement and overcome the limitations of these approaches is a ‘model of mass emergent sociality’ (*ibid.*, p. 11, *emphasis in original*).

2.2 Shared Fate and Unity of Purpose

Drury and Cocking [3] have utilised a variety of experimental and ethnographic approaches to address this very requirement. Their interviews with 21 survivors from a variety of emergency scenarios (e.g. sinking ships, bombings and football stadium disasters) highlight in particular that the sense of shared fate experienced by those involved tends to induce a powerful shared sense of identity and unity of purpose:

In most of the references to common identity, it is described as emerging over the course of the emergency itself. Only a minority referred to any sense of crowd unity prior to or without there being a perceived emergency—and for most of these the sense of unity increased in response to the emergency. The source of the unity was the crowd members’ shared fate in relation to the threat facing them. While they might have come to the event seeing them-

selves as so many individuals, the threat facing them all led them to see themselves as ‘all in the same boat’. (ibid., p. 20)

These authors emphasise that the disaster and emergency situations they observed (often characterised by conditions of extreme danger and the possibility of death) were ‘occasions for the display of the noblest intentions and behaviours rather than the basest instincts’ (ibid., p. 29).

Elsewhere, Drury and/or Cocking have used numerous case studies to illustrate the fact that people’s behaviour in such circumstances was invariably ‘orderly and meaningful’, with signs of selfish or uncooperative behaviour being few and far between. Those rare instances of outright ‘selfishness’ that did occur were never imitated by others in the vicinity, and the individuals in question often found themselves being sternly rebuked by those around them ([4], p. 69). Cocking [5] likewise relates that, while people undoubtedly looked around, in the initial absence of the emergency services, for some sort of direction, they were invariably discerning and by no means uncritical of attempts to exercise leadership and influence.

This was evident in the immediate reaction of individuals caught up in the London Underground bombings of 7 July 2005 (‘7/7’). During the 45-min period before the emergency providers arrived, those present on one of the trains affected were far more responsive to the ‘calmer’, more reassuring form of leadership spontaneously exhibited by a female solicitor, than to an allegedly ‘stupid’ man, who was ‘too full of his own importance’. In the words of one actual eyewitness:

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. (quoted by [5], p. 88).

Cocking and Drury [6] echo the conclusions of researchers like Cole et al. [7] who maintain that the compassionate tone exuded by informal leadership of this nature is often in stark contrast to the somewhat brusque ‘command-and-control’ ethos exhibited by emergency services, most notably the police. During the Hillsborough stadium disaster of April 1989, for example, football fans finding themselves trapped in massively overpopulated spectator enclosures helped one another to escape the confines imposed by 2-m security fences. Indeed,

Despite the predominant image of football fans at the time as violent hooligans, the crowd’s response was quiet and considered, with individuals assisting one another and calming the situation down...The public assisted one another and carried the injured to the ambulances outside the stadium, preventing a potentially higher death toll. ([7], pp. 367–8)

By contrast, senior and junior South Yorkshire Police officers alike seemed to regard the matter as ‘a public order, rather than public safety issue’ ([5, 8], p. 80)—so much so that one eyewitness was allegedly told to ‘[f...off]’ on appealing to a junior police officer to throw open a nearby gate and generally make more effort to organise the crowd [6].

This certainly chimes with related research on the policing of public disorder, which highlights a corresponding tendency for pervasively held myths and misconceptions about the dispositions and dynamics of crowds of protesters to produce ill-conceived and counterproductive policing interventions. Thus, as Drury et al. [2] point out in their essay on disaster myths,

Convergent evidence for this line of argument comes from research on ‘public order’ policing. Pathologizing representations of the mass (e.g., the ‘mad mob’) have been shown to rationalize coercive policing practices....which offend the peaceful crowd’s sense of legitimacy and in turn produce the very angry, ‘disorderly mob’ that the police presumed.

The Elaborated Social Identity Model (ESIM) presupposes that police crowd control interventions can often serve to aggravate potential conflict to the extent that they appear unreasonable and/or indiscriminate to those present. Such tactics may well have the inadvertent effect of instilling amongst crowd members a perception of their shared fate and identity, and feelings of solidarity in the face of a common foe. Thus, even those participants harbouring no prior intention of engaging in confrontation with the police may be drawn into the ensuing conflict: ‘We find that people who expect the police to uphold their democratic rights (to protest, to watch sport in safety) but feel that the police have denied these rights are often those who are most outraged, most angry and who enter the subsequent crowd events with the greatest willingness to confront the police’ ([9]: 564)—See also Chap. 3.

This phenomenon has been more recently examined by Cocking [8], who conducted in-depth interviews with 20 respondents who had first-hand experience of having been subjected to police dispersal charges. Cocking reports that, although such respondents confessed to an initial feeling of fear on having been charged at by the police, this soon subsided to be replaced by a growing feeling of determination and sense of unity amongst the crowd, ‘suggesting that a shared sense of collective identity had emerged from the initially fearful experience’ (*ibid.*, p. 226). Thus, far from physically and psychologically fragmenting the crowd (in keeping with the objectives of the exercise), police dispersal tactics actually produce a unifying effect which enhances the prospect and intensity of disorder.

2.3 Policy Implications

There is a growing consensus amongst social scientists, managers of responses to emergencies and disasters, and humanitarian agencies that myths of this nature do have considerable policy implications: ‘The myths of irrational and antisocial behaviour in disaster are not just erroneous—they hamper the effectiveness of emergency planning by misdirecting the allocation of resources and the dissemination of information’ ([1], p. 50). Thus, as Drury et al. [2] point out, both ‘panic’ and ‘helplessness’ myths are known to underlie the restriction or withholding of information by the authorities in relation to various political or environmental threats. Perry and Lindell add that, ‘This response to the myth of panic is particularly troubling

because it has been shown repeatedly that people are more reluctant to comply with suggested emergency measures when they are provided with vague or incomplete information (warning messages)' ([1], p. 50).

An ill-conceived adherence to the 'public order' myth can also be decidedly unhelpful: for example, the unfounded expectation that Hurricane Katrina was bound to result in an upsurge of opportunistic looting led to a military rather than humanitarian reaction by the American authorities ([2] *op. cit.*, p. 2260). As Auf der Heide [10] maintains, fears of this nature can prove dysfunctional in several important ways:

For example, one reason people refuse to evacuate in disasters is to protect their property... It is also ironic that security measures undertaken to 'prevent looting' can prevent residents from salvaging property that is exposed to the elements by the disaster... Finally, overzealous police and security guards manning roadblocks set up to keep looters out sometimes prevent the entry of legitimate disaster-response personnel.

Perry and Lindell [1] emphasise that it is important not to confuse the type of fear and anxiety that may reasonably be expected in situations of crisis, emergency and disaster with panic-stricken or senseless behaviour. Given that people's knowledge about such vital issues as (say) the chemical, biological or radiological agents used in a terrorist attack is bound to be extremely limited, it is important for the authorities to urgently disseminate relevant information regarding the possible hazards involved alongside recommended means of protection:

One need not try to give those at risk a broad education about these topics, just specific relevant information. Officials should focus on defining the threat, explaining its human consequences, and explaining what can be done to minimise negative consequences. If the actions to minimise the consequences cannot be undertaken by individuals, but must be executed by authorities, then one explains what is being done. Contrary to popular fiction, the road to anxiety reduction is through providing—not withholding—information. (*ibid.*, p. 54)

These authors make the reassuring point that situations involving the presence of an unfamiliar threat generate circumstances in which citizens automatically look to the authorities for guidance, and in which both their attention to messages from the emergency agencies and readiness to take heed of official recommendations are generally at their height. This makes it imperative, of course, for all communication between the different agencies involved to be as closely coordinated as possible, such that each agency is totally aware of the nature and limitations of their own role, and the corresponding functions and responsibilities of those occupying related roles (*ibid.*)

The way in which the authorities might choose to relate to relevant sections of the public is also a matter of great significance. While the withholding of information can lead to a lack of trust in the authorities, it also signifies that those authorities lack trust in the public to react in purposeful and useful ways in an emergency situation. Drury and Cocking note the 'resilience' of the crowd, and suggest that 'the ability of the crowd to provide mutual aid, to co-ordinate and co-operate, to deal with individual distress and panic, to take initiatives and play a leadership role should not be underestimated' (*op. cit.*, p. 32).

Recent research on civilian responses to emergency and disaster situations suggests that the authorities should see the crowd as ‘part of the solution, not the problem’ [7], treating the public as a ‘capable partner’ ([11], p. 218). In fact, failure to acknowledge the potential benefits which could arise from the public’s willingness to help in such conditions means that a vast potential resource is currently being ignored. Drury and Cocking accept that public attempts at ‘helping’ are not always actually helpful in reality, but they nonetheless insist that ‘the blanket exclusion of the public from emergency planning, and the treating of crowd members simply as victims, may be counter-productive’ (*ibid.*, p. 32).

Treating the public as victims can also have further implications, especially as ‘the over-protective responses of the government may stunt the public’s own natural resilience’ (Drury and Cocking, [3], p. 32). This also informs the way in which any messages should be formulated. Veil et al. [17] recommend that any communication should include messages of self-efficacy, an approach which not only provides members of the public with a sense of control, but also clearly outlines what individuals can do to help.

The concerns of the public should also be taken into account, both during and before an event, and Veil et al. [17] suggest establishing a dialogue between the authorities and the public, since ‘listening to and understanding a public through monitoring public opinion about risk is essential in the development of a relationship’ (p. 111). Glass and Schoch-Spana [11] note the importance of participatory decision-making processes, and it is advised that other stakeholders should also be involved in this dialogue—which ought to be ‘aimed at resolving disputes and reaching consensus’ [12].

2.4 Lessons for Communication Strategy

Drury and Cocking [3] point out that, given the importance of effective two-way communication, priority should be given to the creation and maintenance of reliable communication channels (such as public address systems) rather than physical features of disaster or emergency prone public places (such as the width of exits). They also make several recommendations regarding the possible media of communication that are liable to prove most effective. Thus, they advocate the use of public announcement systems rather than sirens, and suggest that greater utility is made of video screens.

Channels of communication must also be reconsidered and reappraised in terms of their effectiveness. Sellnow and Vidoloff ([13], cited in [14]) stress that it is extremely important that any communication which takes place in a crisis situation to be suitably sensitive to any cultural differences between groups affected by the situation. Thus, messages should be disseminated in ways which ‘make additional efforts to reach under-represented populations including those who are enduring poverty, are new to [the country], or others who have limited access to mainstream media’ ([14], p. 112).

There is an equally obvious need for the source of any communication with the public to be perceived as both credible and trustworthy. It is almost inevitable that the role of 'leader' will also be informally taken on by one or more members of the crowd, with a view to helping to calm other victims, or create a return to order (as happened, for example, in the '7/7' bombings in London). However, due to the need in such situations for accurate and consistent information [14], it is advisable to ensure that there is a rapid deployment at ground level of 'wardens', such as fire brigade personnel, police officers or stewards, to whom people can look for guidance and direction.

These individuals must be familiar with the area, and sufficiently trained to be able to provide consistent and confident information to the public. This ties in with Kapucu's [15] notion of 'boundary spanners'—i.e. those organization members 'who link their organisation with the external environment'. Kapucu notes that it is vital to have people in place who are capable of understanding the composition, cultures and sensibilities of the various group or groups involved, and thus able to decide the best methods of effectively sharing and disseminating relevant information across group and organisational boundaries.

Trust may also be related to how much the public/crowd relate to the source in question—for example, they may find it easier to identify with, and thus have confidence in, a local radio station, rather than a government spokesperson. Relationships with credible sources can be developed before a crisis occurs [17].

Ritchie et al. [14] stress the importance of a quick response to an event, ensuring that relevant information is communicated to stakeholders as soon as possible. The instructions provided during emergencies also need to be 'clear, informative and easily accessible to the public', providing 'the knowledge needed for informed decision making about risks' ([12], p. 383). Evidence suggests that access to information increases an individual's chance of survival in an emergency situation, but this is not always made as readily available as it could be (e.g. tube train information during the 7/7 London bombings).

The key role played by information dissemination in an evacuation context means that, as noted previously, the communication should be 'explicit and unambiguous' to ensure it is as effective as possible. This information should also be accurate and consistent, and should inform stakeholders what has happened (where, when and how), what is being done about the situation and what precautions they can take [14]. Hesloot and Ruitenbergh ([16], p. 105) suggest that the focus of any efforts should be geared towards 'solving the problem, not the prevention of chaos'. However, despite the need for clear and accurate communication, Veil et al. [17] note that emergency situations are often inherently ambiguous, and so a certain level of uncertainty must be accepted in communications, which can be modified as more information becomes available.

Perry and Lindell add that information of this nature should extend to the recommendation of particular courses of action. They maintain that, once informed of the presence of a particular form of hazard, individuals will naturally try to undertake any steps they believe necessary to reduce the danger (See Chaps. 3 and 5). Thus,

A message not accompanied by constructive suggestions for action simply enhances fear, which itself cannot be salved without information and action. When providing protective action recommendations, it is also critical to briefly link the action with protection for the citizen. Telling citizens why evacuating an area will reduce their exposure to smallpox, or why taking potassium iodide will reduce radiation exposure damage accomplishes two important objectives. First, it increases compliance by those at risk, and second, it discourages them from taking other actions that seem to be effective but are not [1], pp. 54–55.

The tone of any communication is also vitally important when attempting to encourage the public to trust in any official authority or spokesperson. Veil et al. [17] suggest that spokespersons should humanise the situation as much as possible and demonstrate genuine commitment by communicating with ‘compassion, concern and empathy’. The potential resilience of the crowd is directly related to their shared identity. In other words, the more collective spirit is fostered, the more the crowd is likely to be to respond effectively to an emergency situation: This has important consequences for the way in which information is communicated to the public. Messages which appeal to the collective spirit of the crowd, rather than referring to them as a group of isolated individuals, are more likely to foster a sense shared identity and thereby encourage cooperation.

2.5 A Place for Social Media

Historically at least, the police in western societies have been somewhat sluggish in their uptake and utilisation of social media as a means of engaging with and encouraging the general population at large (e.g. [18, 19]). One notable exception investigated by the present authors [20, 21] was the social media strategy devised and implemented by South Yorkshire Police in response to the staged protest by 5000 people occurring outside the Liberal Democrats’ Spring Conference in Sheffield in March 2011. An internal memorandum issued in January 2011 defined the main aims and objectives of the strategy as: maintaining public confidence; engaging with social media communities and potential protesters; and providing ‘consistent and informed messages’ to the parties concerned [20]. The strategy involved the use of Twitter, Facebook, and local and national discussion forums, both in the build up to and during the event (ibid).

At the pre-conference stage, the Senior Media Officer in charge of the 4-person Social Media Cell assigned to the operation worked for several months to build up as significant a Twitter following as possible. Tweeting in specific relation to the event started in earnest a month prior to the protest, with the SMO taking personal responsibility for maintaining the account—which was attributed to her as an individual, rather than corporately to ‘South Yorkshire Police’. At this point in time, regular updates were posted, using the hashtag #libdempolicing. Such messages were deliberately upbeat and positive in nature. For example:

@InspJForrest: SYP are committed to providing a safe and enjoyable environment for all through their #libdempolicing. More details to follow (quoted in ibid).

On the day of the actual conference, Twitter continued to be used extensively, not only in order to maintain an upbeat ethos, but also to rectify any misunderstandings related to particular police tactics. The SMO moved swiftly, for example, to repudiate assertions that a gated barrier at the bottom of the protest site was being used with the intention of ‘kettling’ protesters. She quickly succeeded in persuading her Twitter followers that the gate was being used purely as a safety measure—to offset any possibility of crushing. An accompanying reassurance was consistently put out to the effect that ‘South Yorkshire Police does not acknowledge kettling as an approved Home Office method of crowd control’ (ibid.). Tweets were also successfully utilised in order to scotch potentially pernicious rumours—such as a rapidly growing theory circulating amongst the crowd that police personnel on top of the John Lewis department store, directly opposite the protest site, were armed snipers in disguise.

The police’s own impression that its social media strategy contributed to an outcome involving only one arrest is well borne out by the substantial positive feedback subsequently volunteered by members of the public. The SMO appeared justified in attributing this success to the fact that she was allowed to make her Twitter posts in her capacity as an individual, as opposed to a corporate account. In this way, respondents were encouraged to engage with her ‘on quite a personable level’ (ibid.).

While undoubtedly highlighting the strategic and tactical utility of the police use of social media in uncertain and socially volatile situations, the impact and significance of our example was massively superseded by the occurrence of the English riots later that same year (see, for example, [22]). The widespread social mayhem, conflict and physical destruction characterising these riots certainly qualifies them for inclusion amongst the three case studies of crisis situations or events we intend using in Chap. 4 of this edition to investigate the way that social media has been employed by the police and emergency services in response to large-scale public disorder, terrorism and natural disaster and global disease (See Chap. 6). The case studies in question are presented as a basis for exploring in close detail some lessons of good and bad practice, and the key benefits and risks, associated with incorporating social media and personal communication technology capabilities into crisis preparedness and management.

References

1. Perry, R., & Lindell, M. (2003). Understanding citizen response to disasters with implications for terrorism. *Journal of Contingencies & Crisis Management*, 11(2), 49–60.
2. Drury, J., Novelli, D., & Stott, C. (2013). Psychological disaster myths in the perception and management of mass emergencies. *Journal of Applied Social Psychology*, 43, 2259–2270.
3. Drury, J., & Cocking, C. (2007). *The mass psychology of disasters and emergency evacuations: A research report and implications for practice*. Brighton: University of Sussex.
4. Cocking, C., Drury, J., & Reicher, S. (2009). The psychology of crowd behaviour in emergency evacuations: Results from two interview studies and implications for the Fire and Rescue Services. *The Irish Journal of Psychology*, 30(1–2), 59–73.

5. Cocking, C. (2013). Crowd flight in response to police dispersal techniques: A momentary lapse of reason? *Journal of Investigative Psychology and Offender Profiling*, 10(2), 219–236.
6. Cocking, C., & Drury, J. (2014). Talking about Hillsborough: ‘Panic’ as discourse in survivors’ accounts of the 1989 football stadium disaster. *Journal of Community and Applied Social Psychology*, 24, 86–99.
7. Cole, J., Walters, M., & Lynch, M. (2011). Part of the solution, not the problem: The crowd’s role in emergency response. *Contemporary Social Science: Journal of the Academy of Social Sciences*, 6(3), 361–375.
8. Cocking, C. (2013). The role of ‘zero responders’ during 7/7: Implications for the emergency services. *International Journal of Emergency Services*, 2(2), 79–93.
9. Reicher, S. D., Stott, C., Cronin, P., & Adang, O. (2004). An integrated approach to crowd psychology and public order policing. *Policing: An International Journal of Police Strategies & Management*, 17(4), 558–572.
10. Auf der Heide, E. (2004) Common misperceptions about disasters: panic, the “disaster syndrome” and looting. In M. O’Leary (Ed.), *The First 72 Hours: A Community Approach to Disaster Preparedness*. Lincoln, Nebraska: iUniverse Publishing.
11. Glass, T., & Schoch-Spana, M. (2002). Bioterrorism and the people: How to vaccinate a city against panic. *Confronting Biological Weapons*, 34, 217–223.
12. Covello, V., Peters, R., Wojtecki, J., & Hyde, R. (2001). Risk communication, the West Nile virus epidemic, and bioterrorism: Responding to the communication challenges posed by the intentional or unintentional release of a pathogen in an urban setting. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 78(2), 382–391.
13. Sellnow, T., & Vidoloff, K. (2009). Getting crisis communication right. *Food Technology*, 63(9), 40–45.
14. Ritchie, B., Dorrell, H., Miller, D., & Miller, G. (2004). Crisis communication and recovery for the tourism industry. *Journal of Travel & Tourism Marketing*, 15(2–3), 199–216.
15. Kapucu, N. (2006). Interagency communication networks during emergencies: Boundary spanners in multiagency coordination. *The American Review of Public Administration*, 36, 207–225.
16. Helsloot, I., & Ruitenberg, A. (2004). Citizen response to disasters: A survey of literature and some practical implications. *Journal of Contingencies & Crisis Management*, 12(3), 98–111.
17. Veil, S., Buehner, T., & Palenchar, M. (2011). A work-in-process literature review: Incorporating social media in risk and crisis communication. *Journal of Contingencies & Crisis Management*, 19(2), 110–122.
18. Brainard, L., & McNutt, J. (2010). Virtual government-citizen relations: Informational, transactional or collaborative? *Administration and Society*, 42, 836–858.
19. Crump, J. (2011) What are the police doing on Twitter? Social media, the police and the public. *Policy and Internet*, 3(4), article 7.
20. McSeveny, K., & Waddington, D. P. (2011). Up close and personal: The interplay between information technology and human agency in the policing of the 2011 Sheffield Anti-Lib Dem protest. In B. Akghar & S. Yates (Eds.), *Intelligence management (knowledge driven frameworks for combating terrorism and organised crime)*. New York: Springer.
21. Waddington, D. (2013). A ‘kinder blue’: Analysing the police management of the Sheffield anti-Lib Dem protest of March 2011. *Policing and Society*, 23(1), 46–64.
22. Moran, M., & Waddington, D. P. (2016). *Riots: An international comparison*. London: Palgrave Macmillan.



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