


Section A		
Institution: University of St Andrews 		
Unit of Assessment: UoA 04: Psychology, Psychiatry and Neuroscience		
Title of case study: Understanding the crowd: Increasing crowd safety through social psychology		
Period when the underpinning research was undertaken: 2001 - 2019		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Stephen David Reicher	Bishop Wardlaw Professor	01 January 1997 - present
Period when the claimed impact occurred: 2014 - 31 December 2020		
Is this case study continued from a case study submitted in 2014? N		
Section B		
1. Summary of the impact <p>Mass gatherings present major safety issues for event organisers and police. Research by Reicher and colleagues has shown that shared social identities in a crowd increase adaptive behaviours that reduce risk and enhance safety. The research has gone on to show that in emergencies, a sense of common fate emerges, leading to a new shared identity that supports mutually beneficial collective action. This research has enhanced emergency policy and procedures at national and international levels and has changed crowd safety management practices and training, thereby keeping 100s of 1,000s of people safer. Specifically, the research has:</p> <ul style="list-style-type: none"> • Shaped national policy on emergency preparedness and response through the 2016 National Risk Assessment (NRA) and changed the emergency plans of Local Resilience Forums (LRFs) to take into account the psychological impacts of emergencies. 700 emergency professionals (50% of risk specialists in the local responder community) now use social identity research to inform local emergency procedures. • Informed guidance and training of over 5,000 people (safety officers) and 1,000 people (event managers) at events worldwide, including the 2018 Commonwealth games and Glastonbury festival [text removed for publication]. This has contributed to increased safety for many hundreds of thousands of people attending mass gatherings. • Indirectly shaped procedures for mass decontamination behaviour in response to chemical, biological, radiological and nuclear (CBRN) incidents, nationally and internationally, changing the practices of 100s of Fire and Rescue Service personnel. 		
2. Underpinning research <p>Disasters are among the top ten global risks to human health (World Economic Forums between 2018 and 2020). However, danger comes not only from the disaster itself but from the responses of those affected, especially in crowded settings. In major events, there will never be enough trained personnel to care for people on the ground. Hence, there is a practical need for an alternative approach to disaster management. Reicher's research into crowd behaviour provides such an alternative. The research demonstrates the capacity of crowd members to self-regulate and self-organise, analyses the conditions under which this occurs, and hence designs interventions that maximise these capacities.</p>		

Reicher's seminal work in the early 2000s on group and crowd psychology (R1) proposes that, when members of a crowd develop a sense of shared social identity, there is a transformation of social relations such that people are more likely to provide support to each other (R2). These findings were expanded through the 2000s in Reicher's subsequent research, which showed the centrality of such shifts in social relations to the experience of a diverse set of collective events, such as football matches, music festivals (R3), and even riots (R4). Critically, his work with Drury (University of Sussex) and colleagues published in 2009 demonstrates the relevance of these processes to behaviour in emergencies (R5, R6). In contrast to popular notions of 'panic' (where people act thoughtlessly and without concern for others), the experience of being in a disaster together characteristically leads to the emergence of a sense of shared social identity even where this did not exist before. This shared social identity leads people to support and care for each other, acting, in effect, as the true 'first responders'. Moreover, it is this mutual resilience that is the basis of collective resilience in the face of disasters. The research has demonstrated that shared social identity is a powerful tool for understanding crowd behaviour that can be used to facilitate crowd safety during disaster management.

3. References to the research

The following research outputs are all peer-reviewed, published in international journals and books and highly cited. They represent key examples of Reicher's social identity research from a larger body consisting of over 100 publications since 2001.

- R1. Reicher, S. (2001) The psychology of crowd dynamics. In Blackwell Handbook of Social Psychology: Group Processes. pp 182-208 Chapter 8. Editors Hogg, M.A., Tindale, R.S. Blackwell Publishers Ltd. Reprinted in 2004 In M. Brewer, & M. Hewstone (Eds.), Perspectives on social psychology. Self and Social Identity Blackwell (pp. 232-258) Malden Blackwell Publishing. DOI: [10.1002/9780470998458.ch8](https://doi.org/10.1002/9780470998458.ch8)
- R2. Levine, M., Prosser, A., Evans, D., & Reicher, S. (2005). Identity and emergency intervention: How social group membership and inclusiveness of group boundaries shape helping behavior. *Personality and Social Psychology Bulletin*, 31(4), 443-453. DOI: [10.1177/0146167204271651](https://doi.org/10.1177/0146167204271651).
- R3. Neville, F., & Reicher, S. (2011). The experience of collective participation: Shared identity, relatedness and emotionality. *Contemporary Social Science*, 6(3), 377-396. DOI: [10.1080/21582041.2012.627277](https://doi.org/10.1080/21582041.2012.627277))
- R4. Drury, J., & Reicher, S. (2005). Explaining enduring empowerment: A comparative study of collective action and psychological outcomes. *European Journal of Social Psychology*, 35(1), 35-58. DOI: [10.1002/ejsp.231](https://doi.org/10.1002/ejsp.231)
- R5. Drury, J., Cocking, C., & Reicher, S. (2009) Everyone for themselves? A comparative study of crowd solidarity among emergency survivors. *British Journal of Social Psychology*, 48, 487-506. DOI: [10.1348/014466608X357893%20](https://doi.org/10.1348/014466608X357893%20)
- R6. Drury, J., Cocking, C., & Reicher, S. (2009) The nature of collective resilience: Survivor reactions to the 2005 London bombings. *International Journal of Mass Emergencies and Disasters*, 27, 66-95. <http://ijmed.org/articles/113/download/>

4. Details of the impact

Reicher's research described in Section 2 has been used both nationally and internationally to inform and change policy and procedures for dealing with crowds in mass gatherings and emergencies. Several organisations, the UK and international governments, [text removed for publication] and crowd safety management companies have engaged with the research to manage policy on emergency preparedness and response as well as event safety practice and training. The research has changed policy and practise of Local Resilience Forums (50% of local risk specialists in the UK local responder community now use social identity research), resulting in the training of tens of thousands of safety officers and stewards at sports events and music festivals and changed procedures for CBRN mass decontamination responses.

1. Shaping government policy on response to emergencies

Government efforts to improve resilience of the UK to emergencies, from floods to terrorism, are the responsibility of the Civil Contingencies Secretariat (CCS) within the Cabinet Office. It is here that Reicher's research has greatly contributed to the understanding of how social identity within crowds can be used to mitigate the impacts of civil emergencies. Reicher's social identity research has led him to work directly with CCS, which cited his research in government reports and used training of those responsible for emergency responses. As noted by the CCS's Assistant Director, Reicher's research ***"has been crucial to ensuring that the government and local emergency responders are able to anticipate and plan for the behavioural impacts of emergencies. Professor Reicher has helped make sure emergency responders can factor in how people perceive events and how this may place additional burdens (or not) on emergency services or helplines. His contributions have placed the UK at the forefront of this field."*** (S1). An example of this is that Reicher's research was cited in two reports in 2015 to the CCS on how risks from mass participation events can be mitigated using social psychology (S2).

Following on from these reports, Reicher was part of an independent Expert Group on Behavioural Sciences that was commissioned by the Cabinet Office to contribute to the assessment of the potential psychological impacts of major emergencies as part of the 2016 National Risk Assessment (NRA) process. Emergency responders in the UK (police, fire, local authorities and health services) need to coordinate action in response to a wide range of potential disasters. This coordination is carried out by Local Resilience Forums (LRFs) whose preparedness and response plans are informed by the NRA, a guide on risk and emergencies. As part of the 2016 NRA process, Reicher's findings that public solidarity is common and irrational anxiety or panic is less common in emergencies and disasters have reached over 200 policymakers across HM Government (S1). These policy makers included permanent secretaries and chief scientists across most government departments as well as specialists and analysts within executive agencies such as Natural England and Public Health England. As a result, ***"Professor Reicher's contributions have also shaped the way Local Resilience Forums in England and Wales, as well as the equivalents in Scotland and Northern Ireland, take into account the psychological impacts of emergencies when assessing their local risks. Over 700 specialists from local authorities, police forces, fire and rescue services, ambulance services and utility providers have used the output from Professor Reicher's work to inform local preparations for dealing with emergencies; this figure equates to approximately 50% of all risk specialists in the local responder community."*** (S1).

Findings from Reicher's research have also been used by the Indian Government National Disaster Management Authority to understand crowd behaviour and advise State Government, Local Authorities, Administrators and organisers of mass gatherings showing that the research is used widely in an international setting. (S3)

2. Influencing event safety management and practices

Reicher's research has been used by event safety organisers and trainers to understand the psychological factors governing crowd behaviour and improve safety. Specifically, his work has helped event organisers understand that, in the event of emergencies, panic within crowds is rare (R5-R6) and that crowds can engender positive emotion and individuals are more likely to be helpful than selfish in the face of external threats (R5). Such positive emotion and helpfulness in crowds is a function of shared social identity (R5, R6). Organisers have made use of these findings on how social identity impacts crowd behaviour by increasing practices such as communication and respecting identities and norms that facilitate crowd identification and hence collective self-regulation. Training in these practices has been given to tens of thousands of safety officers and stewards at sports events (e.g., 2018 Commonwealth Games) and music festivals (e.g., Glastonbury festival) across the UK and internationally. This has contributed to safer events.

Between 2010 and 2018, a module on crowd psychology, which included Reicher's research (R1-R6), was taught to crowd safety managers at Buckinghamshire New University as part of the only Foundation and BA (hons) degrees taught in the UK. This module has brought the

research to the attention of crowd safety managers, both from the UK and internationally. Subsequently, many of the graduates have used social identity concepts in their practice. For example, one such graduate is Head of Security & Safety at a crowd safety management company owned by the Roskilde Festival in Denmark that provides security and safety staff for over 200 public events each year, including the Roskilde festival in Denmark that hosts 135,000 people each year across 8 days. He explains ***“In Crowd Safety Management at Buckinghamshire university I realized that crowd psychology was the foundation of creating safe events. Especially Stephen Reicher’s extended social identity model was important for my work. The understanding of people shifting their personal identity to a social identity, and understanding that there are crowds within the crowd, was very important for me. But also understanding that a peaceful crowd might be incited by the staff’s profile has had a huge impact on how we plan, train and provide safety at events”*** (S4). He is also a member of the steering committee for the Europe Event Safety Management group, a group of festival organisers from 26 European countries, who coordinate to ensure best safety practises including those informed by Reicher’s research. He recently helped to rewrite the Danish Guide to Safety at Outdoor Music Events and the teaching book for licensed door supervisors. Through these activities, he notes that ***“Stephen Reicher’s research has been a part of changing the industry in Denmark, and in other parts of Europe where I am involved in sharing knowledge”*** (S4).

Another graduate is the Chief Executive Officer of the Square Metre Group that offers training for event organisers and stewards. They offer training courses and workshops on themes from crowd behaviour modelling to spectator safety. Reicher’s research has been used in these training programmes for an estimated 5,000 event safety stewards (S5). The Square Metre Group also offers strategic level crowd safety management training to event managers around the world. Since 2014, this training has been delivered to over 1,000 high-level managers who have responsibility for safety at some of the worlds’ largest events (S5). Indeed, the Highfield Training Guide for crowd safety stewards used by the Square Metre Group, cites the social identities research. The director of the Square Metre Group states that ***“[Reicher’s] research findings on mass emergencies are becoming an important part of the knowledge-base and training for crowd safety professionals”*** (S5). He goes onto to say that they use ***“Ideas showing that social identities shape behaviour in crowds (generally and during emergencies) [R1-R6] in our training programme”*** (S5). The stewards trained have worked in many major sporting arenas and events, including the 2012 Olympic Games, Old Trafford, The Emirates, Wembley, the 2018 Commonwealth Games and Glastonbury Festival. Hence, conservatively, we estimate hundreds of thousands of people attending these events have been kept safe as a result of the research.

[text removed for publication]

3. CBRN mass decontamination

In addition, Reicher’s original conception of the social identity theory (R1) and later Reicher and Drury’s research (e.g., R4-R6) examined how social identity can be applied to improve safety in mass emergencies. Drury has since used Reicher’s research in further studies on chemical, biological, radiological and nuclear (CBRN) mass decontamination at Sussex University (by Drury & Carter). Professor Drury confirms that the work of Drury & Carter ***“draws upon principles and evidence originally proposed by Reicher and others to explain dynamics between groups, the elaborated social identity model”*** (e.g., R1) (S7). Following a CBRN incident, the speed and efficiency of mass decontamination can save lives and minimise casualties. Traditionally, guidance for this process has ignored the social relationship between the public and emergency professionals. Drury’s research showed how a simple intervention, based on the manipulating shared social identity in a crowd, improves outcomes such as increasing speed of decontamination showers, which is critical in this type of emergency. Drury & Carter’s research is summarised in evidence provided for a report to the House of Commons between 2016 and 2017 Science and Technology Committee (S8). Changes to CBRN mass decontamination procedures and policy resulting from social identity research is evidenced in the guidance that cites this research. The guidance includes recommendations on communication in legitimising responder behaviours (S9-S10, including the US Department of Homeland Security).

Changes to UK Fire and Rescue Service (FRS) decontamination practice, which led to faster decontamination (S11), and changes to Government thinking about CBRN decontamination, based on social identity research, are evident in the 2016 & 2017 Commons Science and Technology Committee hearing and report (S11). Changes to the training of FRS operational personnel (S12) mean that since 2016, between 80 and 100 people (firefighters) per year have been trained to use communication in the decontamination procedure. Since approximately 50% are middle managers who have responsibility for communicating this information throughout the UK, social identity concepts are having a wide reach. In the Commons Science and Technology Committee (2016) Chris Green MP recognises the research and states that ***“[decontamination] is not only a technical procedure but a social relationship between the responders and the public”*** (S11, p.14). Additionally, the Chief Fire Officers’ Association states that the FRS are using the principles from the research and that when using these principles: ***“it was clear that the decontamination processes were much slicker and effective ... It made the casualties much more compliant, which meant that the decontamination process was faster and we could put people through it more quickly.”*** (S11, p.15)

5. Sources to corroborate the impact (indicative maximum of ten references)

- S1. Letter (2019) from Assistant Director – National Risks, Civil Contingencies Secretariat.
- S2. Reports for Cabinet Office. (p. 9).
- S3. National Disaster Management Authority, Government of India. (2014) Managing crowd at events and venues of mass gathering: A guide for state government, local authorities, administrators and organizers. (p.63).
- S4. Letter (2020) from Head of Security & Safety at Roskilde Festival, Denmark.
- S5. Letter (2020) from the Chief Executive of The Square Metre Group.
- S6. [text removed for publication]
- S7. Letter (2019) from Professor John Drury.
- S8. Written evidence to House of Commons Science and Technology Committee.
- S9. US Department of Homeland Security, US Department of Health and Human Services. (2014). *Patient decontamination in a mass chemical exposure incident: National planning guidance for communities*. Washington, DC. (see p.94)
- S10. Chilcott, R. P., Lerner, J., & Matar, H. (Eds) (2018) *Primary Response Incident Scene Management (PRISM): Guidance for the operational response to chemical incidents. Volume 1. Strategic guidance for mass casualty disrobe and decontamination*. Second edition. (See pp. 126-29).
- S11. Oral Evidence *Science in emergencies: chemical, biological, radiological or nuclear incidents* 7 June 2016 (pp. 14-15) and House of Commons Science and Technology Committee (2016-17) *Science in emergencies: chemical, biological, radiological or nuclear incidents* Twelfth Report of Session, HC 163. Links to S8 on p.36.
- S12. Letter (2018) from Capability Officer, National Resilience.