Understanding emergency response: lessons learned from the helping literature

Daphne E. Whitmer*, Madeleine R. LaGoy and Valerie K. Sims

Psychology Department,
University of Central Florida,
Psychology Building, 4111 Pictor Lane,
Orlando, FL Florida 32816, USA.
Email: daphne.whitmer@knights.ucf.edu
Email: madgelagoy@knights.ucf.edu
Email: valerie.sims@ucf.edu
*Corresponding author

Abstract: The purpose of this paper is to demonstrate the need for collaboration between two areas of research: classical psychological helping behaviours and emergency warnings. A large-scale disaster (i.e., the Chicago Heat Wave) is used throughout the paper as an example in which knowledge of the helping behaviour literature could have assisted emergency responders. The emergency warning literature is reviewed within the context of people heeding the warnings and deciding to share the information with others. Developments in the helping literature are reviewed, along with a final summary of key lessons from this area of experimental research that can help answer questions for future emergency responders. With a better understanding of experimental findings in the area of prosocial behaviours, emergency managers may be better able to assist their communities. Likewise, a greater collaboration between these two fields may lead to more research with the intent of improving emergency response.

Keywords: emergency management; helping; communication; emergency warnings; emergency response; risk perception.


Biographical notes: Daphne E. Whitmer is a Doctoral Candidate in the Psychology Department at the University of Central Florida working in the Applied Cognition and Technology laboratory. She obtained her BS in Psychology from the University of Central Florida in 2014 and will receive her MA in Applied Experimental and Human Factors Psychology in 2017. Her research interests include risk perception, mental models, individual differences and emergency response.

Madeleine R. LaGoy is a Research Assistant in the Applied Cognition and Technology laboratory. She is an interdisciplinary studies major concentrating in biology, physical sciences, and behavioral social sciences with a minor in Spanish, and will graduate with a BS in 2017.
1 Introduction

The goal of this paper is to present an integrative approach to studying human behaviour during emergency response. The emergency warning literature has examined how people interpret warning communication, as well as influential factors in decision-making processes during emergency situations. Classic psychological research on helping and prosocial behaviour has explored various factors that influence whether people help others in danger. By combining these two literatures, research on emergency response can be greatly improved, especially regarding an important aspect of response: how people help others in crisis and share warning communication. This paper urges for more collaborative future research to integrate the lessons from each area and improve the safety of the public during emergency response. This paper will first outline an example of a recent large-scale disaster whose extreme death toll was due in part to poor emergency identification from officials. Parts of the emergency warning literature will be reviewed with respect to how people perceive risk communication and share it with others. Next, the helping literature will be used to answer questions that could improve warning response for future disasters. If emergency managers are informed of the findings from the helping literature, this might result in fewer casualties in the future.

2 Chicago Heat Wave

To illustrate the main points of this paper, we have chosen to discuss the Chicago Heat Wave. This disaster demonstrates many problems that can result from poor emergency planning and poor emergency identification. This disaster was not largely publicised, although many people died. There are many lessons that can be learned from this unfortunate crisis to better prepare city officials and emergency personnel. Classic work in the helping literature, along with research on emergency warnings provide answers to such problems discussed below.

2.1 Description

On 13th July, 1995, Chicago's temperature reached 106 degrees Fahrenheit. By 20th July, between 521 and 739 Chicago residents had died of heat-related causes. Dozens of hospitals became too full to accept new patients, and the morgue called in refrigerated trucks to cope with a backlog of bodies. Even 20 years later, questions linger about this underexamined crisis and how hundreds of people in such a global city could be killed by a heat wave (Klinenberg, 2002, pp.1-14).
The most proportionally overrepresented group of heat victims was elderly African–American males living alone in Chicago's impoverished, dangerous, and largely abandoned neighbourhoods. The social history that led to this occurrence is complex, encompassing themes from home ownership trends to the city's infamously biased criminal justice system (Klinenberg, 2002, pp.14–32). Yet even without an understanding of Chicago's complicated history and social structure, emergency responders could have predicted with startling accuracy which citizens would need the most help, where they would be found, and the best way to communicate about the heat wave.

2.2 Issues with the warning

In the days before the disaster, the media did not consider the heat wave to be a threat. The chief meteorologist at ABC-7 at the time, Jerry Taft, noted that meteorologists' warnings about the dangers of the heat went unheeded. Tom Skilling, then WGN-TV's chief meteorologist, recalled being, 'almost ridiculed', for suggesting it was a threat (Thomas, 2015). In a press conference on 14th July, the mayor said "it's hot... we all have our little problems, but let's not blow it out of proportion... You cannot claim that everybody who has died in the last eight or nine days died of heat" (Klinenberg, 2002). As the death toll climbed into the hundreds, the city failed to release a heat warning until 15th July, by which time the temperature had dropped to a relatively mild 99 degrees Fahrenheit, according to the Office of the State Climatologist of Illinois. On this same day, the mayor's staff said "we didn't have a plan for anything like this because nothing like this had ever happened before" (Thomas, 2015).

The most important facet of this emergency was that there was no clear emergency warning distributed to the public. As many years have passed since the Chicago Heat Wave, it is clear that the deadly heat wave was predictable but not correctly identified as an emergency. City officials were dismissive of the forecast high temperatures reported by meteorologists and were unprepared to handle a highly predictable natural disaster. Correctly identifying a dangerous situation as an emergency is crucial to emergency preparedness and subsequent response. While many emergency situations are not predictable, local authorities must have proper mitigation plans to aid the community. It must also be clearly communicated to members of the community that a situation is an emergency, so that they can engage in prosocial helping behaviours and share information (Carter et al., 2015; Latané and Nida, 1981; Latané and Darley, 1969).

2.3 Questions for future disasters

Inspired by the disaster of the Chicago Heat Wave, there are some questions for future disasters that would be beneficial to pose before an impending crisis when preparing mitigation plans. The answers lie in helping behaviour literature.

1. Do psychological and contextual factors influence people's behaviour and information-sharing tendencies in crises?

2. How can emergency responders predict who will need the most help? Which areas will likely need the most help, and moreover, in which areas are emergency warnings least likely to be communicated through social networks?
Is there any way to communicate about an emergency that will cause people to actually heed and act upon it?

This paper will outline advances in the warning literature with respect to how people make decisions to help others by exchanging warning communication. It will then explain trends in helping behaviour research over the past 50 years, and detail specific instances in which knowledge of helping behaviour research could have assisted Chicago's emergency planners and responders during the heat wave. Likewise, it will point out instances when combining the two literatures would have been beneficial. Finally, we will argue that the helping literature is a relevant area of research for exploring how people behave under stress during emergency situations. Review of experimental work in the helping behaviour literature will answer these questions for future emergency responders. Several key lessons will be summarised at the end of the paper.

3 Emergency warning literature

The emergency warning literature has examined several factors that influence risk perception of warning communication. It is important to understand how people decide to share warning communication with others, as the first step is heeding the warning. When emergencies happen, distributors (e.g., National Weather Service, university alert systems, Wireless Emergency Alert Systems, other news media) send out warnings in a variety of ways. These outlets often communicate emergency warnings through text alerts, phone calls, emails, social media, websites, public broadcast/public address systems, radio, and so on (Lindell and Perry, 2012). The recipients of these warnings also continue to transmit these messages through these channels or via word of mouth. It is up to the individual receiving the warning message to interpret the warning as a serious threat and decide what to do with the information, which includes telling friends and family about the potential crisis.

Emergency warnings have information about the extent of the emergency, as well as protective action recommendations (PARs) (Mileti and Peek, 2000). PARs are suggestions from emergency officials of how to stay safe during a crisis. The most common PAR is an evacuation (Sorensen, 2000). One of the most important aspects of heeding a warning is following PARs. People must correctly identify risks before deciding to follow protective action recommendations (Whitmer et al., 2017). Several researchers have outlined steps describing the information-processing associated with decision-making when people are faced with an emergency warning (Lindell and Perry, 2012; Mileti and Peek, 2000; Sorensen and Mileti, 1987). Each of these models has slightly different wording of these processes, but they have very similar sequences. First, one must detect and recognise the threat of a hazard. This detection can come from social cues, environmental cues, or warnings themselves (Lindell and Perry, 2012). Next, the individual must comprehend the warning and interpret it appropriately. Third, the individual must then believe it poses a true threat and believe that the situation is personally dangerous. The second and third steps involve risk perception, or beliefs that the warning communication indicates a true threat (Mileti and Peek, 2000). The fourth step includes deciding what to do about the emergency and whether to inform others. The last step is performing the behaviour decided in the previous step, including
protective actions. The helping literature has demonstrated that people want to help others, but inaccurately identifying a risk can prevent them from doing so (Fischer et al., 2006; Latané and Darley, 1969; Shotland and Stebbins, 1983). Latané and Darley (1969) provide a similar five step framework that describes helping during emergencies that will be discussed in the helping section.

Classic research on helping behaviours has examined the cost-benefit analysis people undergo when deciding to help (Shotland and Stebbins, 1983), as well as what personal characteristics influence decision-making and behaviour in crises (Helsloot and Ruitenberg, 2004; Katz et al., 2015). The emergency warning literature has also examined influential factors in decision-making in crisis and what personal characteristics affect risk perception. According to the steps previously outlined, one must first decide to take an emergency warning seriously enough to take the protective action recommendation before sharing the warning with others. However, much of past research on emergency warnings shows that people fail to take warnings seriously (Janis and Mann, 1977; Perloff and Fetzer, 1986; Rogers and Mewborn, 1976). Experiencing many false alarms can negatively influence one’s risk perception, resulting in complacency and the cry-wolf effect (Breznitz, 1984; Simmons and Sutter, 2009). This overconfidence in one’s safety may prevent someone from sharing the warning communication with family and friends. However, this area of research on false alarms resulting in reduced warning compliance is mixed and inconclusive (Barnes et al., 2007). New research suggests that mental models (i.e., mental representations that guide processing, decision-making, and behaviour) of emergencies are an important facet of risk identification and decision-making (Whitmer et al., 2017). In addition, one must personalise the emergency warning by believing the emergency is likely to happen to oneself or one’s loved ones before deciding to share the warning communication with others. Past research has shown that the degree to which someone personalises a risk affect one’s perception of the emergency warning and the associated level of danger, and the subsequent decision to act (Dash, 2002; Dash and Gladwin, 2007; Mileti and Sorensen, 1987; Sorensen, 1991). Likewise, one must take personal responsibility to help others during an emergency (Latané and Darley, 1969). Psychologically, these factors severely influence the decision to take the safe and appropriate actions after receiving an emergency warning. The interpretation of warning communication impacts subsequent decision-making in emergencies, such as helping others or sharing the warning information.

Mileti and Peek (2000) discussed several important factors that influence warning response, such as the style of a warning message and receiver characteristics. It is likely that these factors also influence how people share the information, because it affects their own risk perception. The message must have specific and sufficient information about the hazard, PARs, and its location. The message(s) should have consistent information and should have a consistent style. The message should demonstrate both certainty (or confidence) and clarity, as messages that appear uncertain or unclear can be misinterpreted and negatively impact warning response (i.e., people failing to comply with PARs). Messages that are communicated over multiple types of channels in a timely manner are the most effective, especially those that come from reputable sources. Mileti and Peek (2000) identified factors that influence the receiver of the message to comply with PARs. These characteristics of receivers include the physical nature of their setting when they receive a warning. That can include the weather observed or the physical proximity to the reported disaster. Social settings, ties, and structures also
influence the recipient. For example, group cohesion positively impacts warning response. Mileti and Peek (2000) explained that individual differences influence risk perception, such as sex and age. Other psychological factors that were suggested to influence warning response are one's cognitive abilities and personality factors (Kopel et al., 2014). Finally, they suggest that people's preconceptions about an emergency can impact people's interpretation and response to a warning message. Much of this research is strongly related to the second step during the processing stages of an emergency warning: the individual must comprehend the warning and interpret it appropriately. Receiving accurate information about an emergency informs one's risk beliefs (i.e., step three) and the decision to act and inform others (i.e., step four). The helping literature would strongly pertain to the personal and contextual characteristics that can affect decision-making processes to help others (Helsloot and Ruitenberg, 2004; Fothergill, 1996; Katz et al., 2015; Latane and Nida, 1981; Latane and Rodin, 1969; Levine and Manning, 2013; Shotland and Stebbins, 1983). Other research on the saliency of social identity during crisis has similarly noted that warning communication itself can influence whether people help others during an emergency (Drury, 2012; Williams and Drury, 2009).

There is a strong social aspect tied to deciding whether to inform others about an emergency warning. Disseminating urgent crisis communication can be accomplished by both individuals associated with emergency management and residents in the community through social networks or virtual communities (Simon et al., 2015). Individuals in the community depend on reliable information from emergency management to effectively spread the word of an emergency situation and help others evade it (Jaeger et al., 2007). Social media is a useful tool for emergency management to converse with individuals and confirm the veracity of relevant information, and has become one of the strongest means of communication in modern disaster preparedness and response (Maron, 2013; Marchant et al., 2011; Yates and Paquette, 2011). There needs to be a strong, functional relationship between residents and emergency management for effective information sharing. There are times when individuals seek more information and detail from other sources (Stiegler et al., 2011), including through their social ties and communities (Shklovski et al., 2008) or the internet (Abbasi et al., 2010) to reduce anxiety about the welfare of their communities (Shklovski et al., 2008). For instance, people assist others in emergency crises in a reciprocal manner by exchanging up-to-date information and relevant protective actions (Simon et al., 2015). These online communication tools used by emergency management and the public can help speed up recovery time through enhancement in social connections (Carroll et al., 2005). In times of crisis, people seek out others for information, protection, comfort, and closeness. The degree to which people help others by sharing information regarding crises and safety is an important behavioural aspect of risk perception and interpretation of warning messages. The social component that influences information sharing is significant and likely influences that last two steps in processing emergency warnings. Both the warning and the helping literature have taken great strides at exploring social causes to information sharing, but the helping literature could inform the warning literature about the neighbourhood characteristics that influence prosocial behaviour (Korte et al., 1975; O'Brien and Kauffman, 2013), specifically in contexts of improving relations between emergency officials and the community.

Many of the residents of Chicago in 1995 were witness to several problems with emergency warnings. They were not officially given an emergency warning, so it is
unlikely that they could complete the five steps leading to applying protective actions to stay safe. Because they were unsure about the severity of the approaching heat wave, residents were unable to make proper decisions or inform others in their community. What led to this is complicated, but from the emergency warning literature two things are clear.

First, the ‘warnings’ Chicago residents received were confusing. Meteorologists predicted unusually high temperatures while the mayor suggested the heat was a meaningless, mundane part of the summer season. These messages were not consistent, nor did they communicate certainty. Second, the social aspect tied to information sharing was complex. In 1995, the internet was just starting to be introduced commercially and social media was years away from its inception. However, the communities hit the hardest by the heat wave were poverty-stricken and it is questionable whether these individuals would have had access to social media or own a smart phone had the heat wave occurred more recently. Furthermore, many of these neighbourhoods were not only poor but also abandoned, which allowed crime to fester almost unobstructed. Because these neighbourhoods had few places for people to gather safely, there was little community integration in these areas. This is illustrated by the case of North and South Lawndale, two neighbourhoods where a majority of residents were poor and non-white with a high proportion of elderly residents. Despite their similar demographics, South Lawndale fared much better than North Lawndale. This is likely due in part to South Lawndale’s lower fear of crime, many grocery stores and shops, and subsequent thriving sense of community (Klinenberg, 2002, pp.90–91). The conditions of these neighbourhoods were a long-standing social problem that secluded the individuals living there from responders and the health department. Together, these issues with the emergency communication are contributing factors to decision-making in emergency situations, but the helping literature can explain ways in which members of the community and emergency responders can cooperatively help each other in the face of a disaster and share important safety information.

4 Helping literature

The process of choosing to help other people in an emergency situation can be greatly informed by variables found in classical helping literature. The helping literature is particularly applicable and informative for the emergency warning literature because it has studied what influences people to decide to help others in emergencies. This area of research has widely studied why people help when they do, or when they do not, and can advise the emergency warning literature about how people inform or alert others of an emergency situation. Like the warning research, Latané and Darley (1969) outline five steps that lead to helping during an emergency: notice the event, interpret it as an emergency, assume responsibility, choose how to help, and implement the help. Any interruption or failure of one of these steps will prevent helping. The warning literature might explain how emergency warnings spread. That is, when do people choose to use ‘word-of-mouth’ to spread the word of an emergency after receiving a warning? What causes them to help others in taking protective action recommendations? At an individual level, when do people feel the need and take it upon themselves to disseminate emergency communication?
One large contrast between these two areas of research is the collective or group nature of the helping behaviour literature. For instance, much of the classic research focuses on factors (i.e., victim, situation, or environment) that influence offering help to another person in an emergency while other bystanders are around (Clark and Wood, 1972; Darley and Latane, 1968; Latane and Nida, 1981; Shotland and Huston, 1979). Much of the helping literature focuses on combined factors of a situation. In contrast, the emergency response literature has taken a more individual approach, examining factors of warning communication that influence interpretation of the warning itself and subsequent emergency response and decision-making (Drabek, 1986; Mileti et al., 1975; Slovic et al., 1974; Turner, 1979). This individual approach examines an individual’s risk belief system. There are some commonalities, primarily regarding the examination of individual characteristics that influence decision-making. These two research areas study very related problems about how people make decisions under stress, but ask different questions about emergency response. If both fields were to combine efforts, it could lead to a better understanding of what features of a warning message influence people to interpret the situation as serious, and further relay the information to help friends and loved ones.

4.1 Answers from the helping literature

The helping literature has examined various factors that influence how people make decisions under stress to provide assistance to others. When helping behaviour first became a major area of study, following the infamous murder of Kitty Genovese in 1964, it focused largely on the bystander effect, which occurs when the presence of a group inhibits helping behaviour. Since then, helping behaviour research has used a wide variety of experimental techniques to discover what factors influence the decision to help. Four factors in particular emerge as the most salient: whether the behaviour occurs in a non-dangerous social context or during an emergency, the presence or absence of bystanders, the identity of the potential helper, and the characteristics of the person in need of help.

One of the most fascinating themes apparent in the study of helping behaviour is the sharp difference between social helping behaviour and the helping behaviour that occurs during emergencies. ‘Social helping’ refers to prosocial behaviour not motivated by an emergency, and appears to be influenced by how prone a potential helper is to embarrassment (Zoccola et al., 2011), approval of the person asking for help (Bryan and Test, 1967), and the presence of either a model of prosocial behaviour or priming with language related to prosocial behaviour (Abbate et al., 2013; Bryan and Test, 1967). In the context of an emergency, the bystander effect is often reversed (Fischer et al., 2006; Latane and Nida, 1981). However, there is a caveat. It is thought that the bystander effect occurs because group members look to each other for confirmation that something is actually an emergency, and mistakenly interpret confusion in others for apathy (Darley and Latane, 1963; Latane and Darley, 1969; Latane and Rodin, 1969). Thus, to avoid the bystander effect and increase helping behaviour, groups should receive clear indication that a situation is an emergency (Fischer et al., 2011; Greitemeyer and Mugge, 2015).

Studies of helping behaviour in emergencies show different situational and personal traits as being most important in determining helping behaviour. Many studies of emergency behaviour focus on different aspects of the bystander effect. Multiple experiments over decades of research indicate that the effect is the result of people
looking to each other to confirm whether or not a situation is worthy of attention (Darley and Latané, 1968; Latané and Rodin, 1969). There has also been a great deal of research into personal characteristics that determine helping behaviour. Arguably, the most important of these traits are a potential helper's perception of their own competence (Dunning and Ehrlinger, 2003; Eagly and Crowley, 1986; Katz et al., 2015; Staub, 1970), personality type (Staub, 1970; Liebhardt, 1972), and social group categorisation (Drury et al., 2009a, 2009b; Levine and Crowther, 2008; Levine et al., 2005).

Each of these factors could be extremely useful to disaster planning. To illustrate this point, this section of the paper will answer each of the questions posed at the beginning, and use relevant examples from the Chicago Heat Wave of 1995.

1. Do psychological and contextual factors influence people's behaviour and information sharing tendencies in crises?

Years of helping behaviour research show that the intersection of individual characteristics and context plays a major role in helping behaviour (Abbate et al., 2013; Latané and Nida, 1981; Tice and Baumeister, 1985). Important predictors of emergency helping behaviour in individuals seem to be gender, social identity, and social group categorisation.

Socially accepted gender roles are strongly tied to the different scenarios in which men and women are expected to help (Eagly and Crowley, 1986), and therefore affect how people in mixed-gender groups decide to help. For example, in disasters, women are more likely to take disaster warnings seriously and actively prepare for the event. Meanwhile, men are more likely to engage in 'white knight' behaviour, such as remaining behind during an evacuation to guard a home from potential looting (Fothergill, 1996). In experimental settings, women are less likely to help in the presence of men (Levine and Crowther, 2008) and scores for 'masculine' personality traits are negatively correlated with helping behaviour. Rather than being a trait of males in general, this likely occurs because those with highly masculine personalities are motivated to avoid embarrassment when in the presence of a group (Tice and Baumeister, 1985). By contrast, a major determinant of female helping is perceived competence (Katz et al., 2015). Women are more likely to perceive themselves as less competent than they really are, while men follow the opposite pattern (Dunning and Ehrlinger, 2003). These studies seem to indicate that the reduced prosocial behaviour exhibited by women in certain experimental scenarios, such as in mixed-gender groups, may be at least partially the result of social conditioning or perhaps the activation of a social schema. Another personality factor to consider is activity level, or the propensity to engage in activity of any kind. Higher activity level and helping have been shown to be positively correlated in studies of very young children (Staub, 1970), and a similar effect has been observed in empathetic adults with high 'instrumental activity', or a propensity towards taking action to alleviate their own stress. Empathetic adults feel distressed by the suffering of others, but adults who are high in instrumental activity are more motivated to ease their discomfort by helping (Liebhardt, 1972).

Multiple studies have found that bystanders are more likely to help victims that belong to their own in-group (Levine et al., 2002; Levine et al., 2005). Furthermore, the boundaries of in-groups seem to be malleable; in other words, emphasising one aspect of identity over another can broaden or narrow who is considered part of a certain in-group (Levine and Manning, 2013). Prediction models of group behaviour during emergencies suggest that people tend to socially identify with others in danger, regardless of
pre-existing group status, based on a ‘common fate’ (Drury, 2012; Drury et al., 2009a, 2009b, 2015; Williams and Drury, 2009). These people, who often do not know each other or have no pre-existing social ties, help each other based on a common goal of survival. In other words, unity becomes a strong factor during emergencies. One’s social identity during an emergency becomes a collective identity because survivors come together to help. A shared social identity that arises during crisis results in collective helping because solidarity, or a feeling of togetherness, results in a strong collective resilience to danger. Williams and Drury (2009) suggest that these groups must have accurate information (i.e., effective warning communication) to help each other efficiently.

Prejudice and in-group bias are complex factors that contribute to helping behaviours during crisis. For instance, in the presence of bystanders, highly prejudiced White individuals are far less likely to help a Black victim than low prejudiced Whites; however, when alone, highly prejudiced Whites are equally likely to help a Black victim and a White victim (Gaertner et al., 1982). An explanation presented by Gaertner and colleagues is that the highly prejudiced in the presence of bystanders can easily attribute their decision not to help to non-racial factors, such as the likelihood that someone else would help, or that the victim was not really in danger. Thus, when alone with a Black victim and unable to form a non-racial justification for not helping, highly prejudiced individuals in the study offered assistance to Black victims much more quickly. This theory is supported by studies that have found that the avoidable victim effect (i.e., victims who need help but are easy for a bystander to avoid helping; Staub and Baer, 1974) is amplified by racial prejudice in situations when White individuals encounter Black victims (Kuntsman and Plant, 2008). However, this trend of racial prejudice deterring prosocial behaviours is not always the case, as many contextual factors are important to consider. The common in-group identity model (Gaertner and Dovidio, 2000, 2012) is a prejudice reduction strategy that has been shown to promote positive relations between the in-group and out-group. The key to this model is in transforming one’s mental representation of two groups (i.e., out-group and in-group) into one intergroup. Research has shown that strengthening ‘one-group’ perceptions has powerful effects on intergroup relations and increases helping behaviours (Andrighetto et al., 2016; Vezzali et al., 2015). All things considered, bolstering the collective identity and intergroup perceptions promotes the resilience and fortitude of a population post-crisis.

Taken together, the major areas of research into individuals’ behaviour in different helping contexts have several major implications for emergency responders. Research into gender differences shows that it is important to consider the different spheres in which men and women are likely to exhibit helping behaviour, and ensure that warnings pertain to both domestic and ‘white knight’ helping. Research on warning design suggests that emergency warnings should contain phrasing that encourages multiple types of helping behaviour in an effort to increase helping behaviours (Schroeder et al., 2017). In the case of the Chicago Heat Wave, the mayor asked residents to check on their relatives and to ensure their homes were ventilated, which is an example of a ‘domestic’ warning. This warning could have been issued alongside ‘white knight warnings’, reminding people to check on their neighbours and emphasizing the importance of neighbourhood identity, especially in the hardest hit poor communities. Finally, emergency warnings that encourage communities to help each other could be made more effective by making a highly inclusive aspect of identity salient, to avoid in-group favouritism. After a natural disaster occurs, members of the in-group and the out-group
often become one overall, collective group of disaster victims and helping behaviours increase. However, with no clear warnings or declarations of an emergency, these feelings of solidarity never came to fruition in Chicago. A high proportion of the heat wave’s victims were elderly Black men who lived alone and needed help, a profile eerily similar to that of the victim most prone to the bystander effect via racial prejudice. If these findings held true during the Chicago Heat Wave, implicit racial prejudice may have negatively impacted prosocial behaviours.

2 Which areas will likely need the most help, and moreover, in which areas are emergency warnings least likely to be communicated through social networks?

In most disasters, lay citizens are the most effective emergency responders (Helsloot and Ruitenberg, 2004). Thus, it stands to reason that emergency responders should prioritise delivering services to those who cannot rely on their neighbours and social networks for help. Helping behaviour research shows that the neighbourhoods where people are least likely to help each other are those that have weak community bonds (Chen and Brauer, 2002, O’Brien and Kauffman, 2013) and a high fear of crime (Zhan, 2009). Research into the effect of victim characteristics on helping behaviour shows that women are more likely to receive help than men (Eagly and Crowley, 1986), and are also more likely to perceive impending disasters as threatening and take preparative measures (Fothergill, 1996). Finally, sociology research shows that elderly people in dilapidated neighbourhoods are less likely to help other members of their own social network than their counterparts in neighbourhoods with greater social capital (Krause, 2011).

In the case of the Chicago Heat Wave, the city government should have known that heat waves were most dangerous to infants and the elderly. Had it also known that men were less likely to take impending threats seriously, but were less likely to receive help than women, emergency responders could have predicted that elderly men would need special attention from emergency services, even if the city’s goal was to get family members to do the bulk of emergency services’ job. Moreover, had the city realised that people in high-crime areas with low community investment tend to exhibit less helping behaviour, the city would have known that the vulnerable in these areas could not rely on social support networks, and would require the state’s assistance. Integrating findings from helping behaviour research with disaster planning would have enabled the city to mount a proactive, efficient response and prevent the horrifying loss of life that ensued. Instead, with no official warning of the emergency, Chicago’s emergency services reacted to the crisis as it unfolded, and found its resources depleted, hospitals overrun, and morgues overflowing.

3 Is there any way to communicate about an emergency that will cause people to actually heed and act upon it?

The determinants of helping behaviour in emergencies are quite different from those of social helping. During emergencies, empathic arousal, or stress caused by seeing another person in distress, seems to trigger a special cognitive schema that causes people to accept more risk and less reward for helping than they normally would (Dovidio et al., 1991; Fischer et al., 2006). Several seminal papers in the helping behaviour literature show that the bystander effect is reduced, helping behaviour increased, in situations clearly identified as an emergency, and where group members who know each other believe something is an emergency (Darley et al., 1976, Fischer et al., 2011; Latane and Nida, 1981; Levine et al., 2005). In cohesive groups faced with an emergency, the
bystander effect is not merely reduced, but entirely reversed (Rutkowski et al., 1983). In other words, individuals faced with an emergency are more likely to engage in helping behaviour when they are part of a close-knit group, and helping behaviour becomes positively correlated with group size. Therefore, warnings must make it clear that the situation is defined as an emergency. Furthermore, emergency warnings should lend themselves to communication among social networks, because people look to emergency management and each other, especially members of their own social group, for confirmation as to whether or not something is an emergency (Darley and Latané, 1968). It is very important that emergency officials foster strong relationships with members of the community because people seek legitimate information from trusted organisations (Jaeger et al., 2007).

The biggest mistake the city of Chicago made was not classifying the heat wave crisis as an emergency from the beginning. The reasons for this oversight are manifold, and range from heat waves being a ‘dull’ disaster to mistakes made by an administration infamous for trying to give Chicago a better reputation than it deserved (Klinenberg, 2002, p.27). Ultimately, the city government’s decision to downplay the crisis not only deprived Chicago’s emergency services of vital resources, but also denied the city the benefits of increased helping behaviour by citizens triggered by accurately identifying a situation as an emergency. This is especially important in light of the fact that, as mentioned previously, neighbours are quite often the most effective disaster responders (Helsloot and Ruitenberg, 2004).

This brief summary of the experimental helping literature provides insight into studies exploring variables such as gender, psychological traits, situations, and victim characteristics. Such a diverse knowledge is the product of half a century dedicated to research into human behaviour. Currently, emergency warning research is grappling with a host of problems including a changing social environment, new channels of communication, and a populace that is constantly bombarded with information. New research into emergency warnings is important, but neglecting the incredibly vast, detailed, and specific knowledge of what makes people act gleaned by helping behaviour research makes the task of researching emergency communication and improving emergency response even more difficult than it should be.

5 Lessons learned and concluding remarks

1 A review of the helping literature can mitigate problems in emergencies, specifically with providing assistance to those who may need it most or to those who may be in most danger.

2 It is important for authorities to express that a given crisis is an emergency to improve assistance provided at a national, state, local, and personal level. In connection with information-processing theories, this step in risk perception is crucial and precedes decision-making to follow protective action recommendations in warning communication and the decision to share this information with others.

3 It is essential that emergency management and other personnel establish strong community ties and reinforce these relations within the community itself. People seek out others for information and safety. A strong community that has an open
dialogue (i.e., real or virtual) may be the best defence against tragedy, as this can help facilitate the exchange of emergency communication.

4 People redistribute warnings, so the factors that influence when people decide to help under duress matter. Many of these factors come from experimental findings in the helping literature, as well as characteristics of the helper.

Decades of research in the field of helping behaviour have yielded a wealth of information about what motivates people facing different threats to engage in prosocial behaviour in times of crisis. Researchers have discovered how people decide whether or not a situation is dangerous, how people behave in groups and alone, and even how the characteristics of perceived victims affect helping behaviour. It is high time that emergency response research looks to the field of helping behaviour for lessons as to how to ensure that disaster plans adequately account for the one factor that will confront every emergency response, from the tundra to the tropics: human behaviour.

References


