

Mediating the social and psychological impacts of terrorist attacks: The role of risk perception and risk communication

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Abstract

The public's understanding of chemical, biological, radiological and nuclear (CBRN) related issues and their likely actions following a CBRN incident is an issue of great concern, as public psychological and behavioural responses will help determine subsequent morbidity and mortality rates. This paper explores the role of effective government communication with the public and its role in mediating the social and psychological impact of terrorist attacks. We examine the importance of effective communication in reducing morbidity and mortality in the event of a terrorist attack and explore the impact of risk perceptions in determining the success or failure of risk communication strategies. This includes the examination of the role of fear as a health risk, and the identification of factors relevant to public trust in risk communication. Finally, an investigation of the type of information desired by members of the public leads the authors to make risk communication recommendations targeted at the promotion of more adaptive behaviours in response to CBRN attacks

Introduction

'In their public statements, military and police spokesmen must take into consideration the psychological effect of terrorism. Otherwise, they risk winning the battle while losing the war' (Danieli, Brom, & Sills, 2005: p. 41).

Several studies confirm that effective public communication is an essential part of any emergency response programme (Vonderford, 2004; Wray & Jupka, 2004). Becker (2004) suggests that: '... the timely and effective flow of information between agencies and the public is vital for facilitating and encouraging appropriate protective actions, reducing rumours and fear, maintaining public trust and confidence, and reducing morbidity and mortality' (p. 197). Effective public communication has been shown to encourage appropriate protective actions from at risk populations, reassure individuals who are not directly at risk by reducing rumours and fears, facilitate relief efforts, and maintain public trust and confidence in the agencies responsible for ensuring the welfare of the public (Becker, 2004; Gray & Ropeik, 2002; Henderson, Henderson, Raskob, & Boatright, 2004; Sheppard, Rubin, Wardman, & Wessely, 2006; Wray & Jupka, 2004).

The public perception of risk is an important factor to consider when analysing public responses to government communication about a potential terrorist threat or terrorist incident. This is because risk perceptions, especially those that cause fear, have been known to have important implications for physical health (Becker, 2004; Gray & Ropeik, 2002; Gigerenzer, 2006). For example, research suggests that emotional responses to the 2001 September 11th attacks in the USA may have imperilled yet more individuals than the 3019 dead or missing that day. In this case, the fear of a potential terrorist attack on an airplane became a health risk in itself, leading members of the public to change travel behaviour (i.e. driving, rather than flying). As a result, individuals were exposed to a greater possible risk than if they maintained their original routine, as illustrated by the sharp increase in the number of road traffic accidents (Gigerenzer, 2006; Gray & Ropeik, 2002).

Individual responses to a perceived threat also have the ability to impact and sometimes threaten the security of entire systems, such as healthcare. For example, if the government fails to communicate about a crisis situation in an effective manner, public perceptions of risk and the resulting public reaction can put a strain on already limited resources. This was illustrated by the radioactive incident in Goiania,

Brazil (1987), where members of the public reported symptoms similar to radiation exposure, including vomiting and diarrhoea, blisters, burns, and reddened skin. Many of these symptoms were stress-induced with more than 112,000 people seeking out examination, when, in reality the radiation resulted in only four deaths and 260 people showing some sign of contamination (Becker, 2004; Fullerton, Ursano, Norwood, & Holloway, 2003; IAEA, 1988; North, 2005). Likewise, the anthrax attack in the United States impacted society on a number of levels.

In addition to injuries and killing victims, the anthrax attack also forced the desertion of commercial and public buildings, disrupted the distribution of mail, occasioned social conflict, and evoked considerable fear and concern despite the fact that these attacks produced fewer casualties than car accidents and probably no greater economic loss (Fullerton, et al., 2003: p. 2).

Terrorist incidents can have both immediate and long-term impacts on public health. A number of researchers have identified short-term disorders such as acute stress disorder (ASD), as well as long-term disorders such as post-traumatic stress disorder (PTSD). Additional occurrences include depression, anxiety and an increase in substance abuse, among others (Danieli et al., (2005); Fullerton et al., 2003; Rubin, Brewin, Greenberg, Simpson, & Wessely, 2005; Whalley & Brewin, 2007). Risk communication is a critical part of the social intervention needed to address the fear of individuals who have not been exposed (North, 2005), as well as the fear of those who have.

These examples refer to specific incidents in which government communications influenced public perceptions of risk and behavioural reactions. While all governments are different and tasked with communicating with several audiences at once, it is important to acknowledge that this type of interaction also takes place on an every-day policy-making level. For example, in the UK, we cannot neglect the role that public perceptions of risk play in influencing or ensuring the failure or success of public policy, as illustrated by the recent MMR vaccine scare. In this case, the influence of public perceptions of risk was illustrated by the low uptake of the MMR vaccine on the part of the UK public after a suggested link between the vaccine and autism/bowel cancer in 1998. In the course of the next six years, the MMR findings later came to be seen as 'flawed', but the damage was already done. Despite government messages to the contrary, thousands of parents boycotted the vaccine and immunization rates slumped. As a result, the numbers of cases of measles, mumps and rubella

soared. Incidents such as these underpin the importance of generating a better understanding of public perceptions of, and public engagement with, government communication about risk and the policy implementation process. Clearly, the public perception of risk cannot be ignored when it comes to developing and implementing government programmes and communication.

In order to better understand how individuals will respond to government plans and communication, it is necessary to understand the psychology of the public. Failure to do this, means that our plans are unlikely to be realistic (Fischhoff, 2002; Fischhoff, Bruine de Bruin, Perrin, & Downs, 2003). In short, if we do not know what individuals believe, know, or experience, then it is impossible to reduce mortality by encouraging a new set of desired behaviours. The following discussion includes an analysis of the psychodynamics of risk perceptions, and the importance of uncertainty and trust in risk communication. This investigation will serve to create a better understanding of why there are large gaps between what we predict people might do and what the experts would prefer to them to do in response to a crisis situation. The risk perception and risk communication literature is then explored in order to identify why these expectations and preferences often differ. The authors identify the type of information the public desires, which can be developed to obtain more of the preferred outcomes in terms of public behaviour. Finally, suggestions for improving risk communication and stakeholder dialogue are made with the aim of overcoming the pitfalls associated with government communication about risks such as terrorism.

Public perceptions of risk

All risks are not equal. Terrorism can be distinguished from other risks, such as natural and man-made disasters, by the 'characteristic extensive fear, loss of confidence in institutions, unpredictability and pervasive experience of loss of safety' (Fullerton et al., 2003: p. 5). While exposure to a terrorist attack might not be the most likely concern of an individual as s/he walks out of the house at the start of the day, terrorism is a 'front of mind' concern for members of the public. In fact, across the EU, the threat of international terrorism was the highest-ranked fear (out of ten) when citizens were questioned about their fears in respect of ten incidents or phenomena that could have disastrous consequences for the world (Eurobarometer, 2003: p. 9). What makes terrorism a greater concern to the public compared to more common risks such as crime or illness, which are more likely to affect them in their daily lives?

Over the past forty years, social scientists have generated a vast and significant literature on risk, risk perceptions and risk communication (Löfstedt & Frewer, 1998). One of the primary tools for plotting the level of concern generated by various risks is known as the risk matrix, which enables the comparison of risk perceptions. These matrices attempt to explain perceived levels of 'unknown and 'dread' elements shaping public attitudes towards risks with a general focus on products and substances individuals come into contact with during the course of an average day (e.g. hair dyes, lead paint, etc.).¹ Findings from the risk matrixes have led many researchers to question why individuals tend not to react strongly to a risk that might be present in everyday life, while 'overreacting' in the face of risks that are much less likely to occur and seen as highly unlikely, or a minimal threat by experts (Slovic et al., 1979, 1980, 1981, 1985; Boudier et al., 2006).

A traditional view is to blame public perceptions of risks on lack of knowledge or poor understanding. Some authors have pointed out that this explanation is not sufficient, partly because it is centred on the preoccupations and priorities of experts and it omits looking in detail at the way society is organized (Gusterson, 2000; Rogers, Krieger, Boudier, & Löfstedt, 2006). Other authors propose that, because perceptions of risk are often based on the *interpretation* of facts, which are fed by individual judgement, values, beliefs and attitudes (Beck, 1999), both experts and members of the public are guilty of confusing cold, hard facts with their individual interpretation. Where do these values, beliefs and attitudes about risks originate? An extensive literature analysing perceptions of risk exists.² Rather than give a complex technical tour of the detailed psychological and social components of risk perception, this article will draw out key points and establish their relevance to factors affecting public confidence in government risk communication.

Risk as feelings and the affect heuristic

Slovic, Finucane, Peters, MacGregor, (2004) claim that, in the modern world, risk is understood and dealt with on three levels: (1) Risk as feelings: our initial, fast, intuitive reactions to perceived danger; (2) Risk as analysis: the logical, reasoned, scientific aspect of hazard management; and (3) Risk as politics: which arises when ancient instincts clash with modern scientific developments and analyses (e.g. genetic cloning) (p. 311).

Out of this selection, we will focus on the 'risk as feelings' aspect of perceptions, as it is likely that it has the strongest influence on public reactions to the threat of terrorism. This is because individuals tend

to base their risk judgements on the feelings created in response to the risk, meaning that the majority of risk evaluations are formed rapidly and automatically. Slovic et al., (2004) attribute this to the role of affect, which helps link our assessment of risk to emotions such as fear. Affect refers to the quality of 'goodness' or 'badness' (p. 312) associated with a risk, and can be experienced consciously or unconsciously. It enables individuals to react quickly and navigate their way through a world filled with multiple risks. This reaction is often linked to past experiences of emotionally significant events. When a new experience takes place, or new information is communicated, an individual searches through his or her memory in order to access positive or negative memories to similar stimuli. If the past feelings were negative (e.g. images of bloodied individuals wandering out of crumpled train carriages), this motivates the individual to avoid experiencing the negative feelings again. Avoidance can result in behavioural change such as relocation outside of a city, or unwillingness to use public facilities and transport. These behavioural changes have knock-on effects for the economy and well-being of others (Slovic, 1987; 1991; Tanaka, 1998).

What comes first, the feeling or the evaluation? Additional research into the influence of affect on risk perceptions found that individuals do not solely base their evaluation of the risk of an activity or technology on what they think, but also on how they feel. As a result, when individuals view an activity as favourable (e.g. driving a car), they are more likely to judge the risks as low and the benefits as high. Conversely, if the feelings are negative, individuals will judge the risks as high and the benefits as low. This way of viewing risk perception suggests that the feeling (affect) precedes the risk evaluation. Researchers refer to this as the affect heuristic, which suggests that the perception of risk can be changed by providing information on the perceived benefit or perceived risk (Alhakami & Slovic, 1993; Slovic et al., (2004); Slovic, 1987; Slovic et al., 1981; Tanaka, 1998). In respect to counter-terrorism, policy-makers and those tasked with risk communication should be able to communicate both the risks and benefits of particular technological choices. Communication about the benefits of counter-terror technologies is especially important if the technology will change the opportunities for interaction and overall environment or sense of community.

Fortunately, perceived risks can be both quantified and predicted, with voluntariness and exposure being the key mediating variables to whether or not an individual will accept risk. Familiarity, control, catastrophic potential, equity and level of knowledge also inform and influence the dynamics of the affect heuristic (Eiser, 2004; Slovic, 1987; 1991;

Slovic et al., 1981). Research also suggests that intentional, man-made traumatic events that are unexpected, sudden and violent have a greater negative impact than natural disasters (Danieli et al., 2005). While risk perceptions have been known to vary across groups (Siegrist, Keller, & Kiers, 2005), those tasked with communicating about terrorism should avoid becoming too bogged down in these social differences. For example, differences between the information needs of groups can include higher levels of distrust held by minority groups and different information-seeking behaviour in rural and urban areas. Despite these differences, emergency officials and communicators can, to a large degree, assume that a common strategy will address the information needs of most when communicating about a terrorist incident (Wray & Jupka, 2004).

Policy-makers and scientists often throw their hands up in despair when they realize that disagreements about risk are not resolved by the provision of strong evidence to the contrary. In the modern world, the majority of people experience hazards through the media documentation of threats that they will not encounter in their day-to-day lives, and which can seriously distort their perception of risk (Slovic, 1987; 1991; Slovic et al., 1981; Tanaka, 1998).³ This leaves many individuals believing that they experience and are exposed to a larger number of risks today than in the past, and that future risks will be even more numerous. Furthermore, the fact that risks are often communicated through a variety of sources (e.g. family members, politicians, the media) means that individuals are able to form evaluations of risk without direct experience of that risk. Once an opinion is formed, it is difficult to alter. This is because altering one evaluation has the knock-on effect of altering other beliefs about risk. Therefore, information contradicting individual beliefs about risk tends to be dismissed as irrational, inaccurate and unreliable, while information that confirms one's beliefs is more likely to be given greater analytic weight (Slovic, 1987, 1991; Slovic et al., 1986).

Expert and public perceptions of risk: Comparing apples and oranges

As previously illustrated, we cannot neglect the role that risk perception plays in influencing policy, or ensuring the success of government attempts at communication. Still, laws must be passed, policies must be made, and the government must communicate risks to the public. In doing so, policy-makers must ask themselves, 'What is 'acceptable risk?'

Risk and acceptability mean different things to different individuals, and it is fair to say that a gap exists between public and professional

understandings of these concepts (Beck, 1999; Eiser, 2004; Grimston & Beck, 2002; Pidgeon, Kasperson, & Slovic, 2003, Slovic et al., 1986; Slovic et al., 1981; Tanaka, 1998; Wiedemann, Clauberg, & Schutz, 2003, Rogers et al., 2006). This variation in perception is important to understand because differences between lay and expert perceptions of risk impact the success of risk communication. In short, laypeople and experts are often 'speaking different languages, solving different problems, disagree about what is feasible, and see the facts differently' (Tanaka, 1998, p. 248).

Differences between public and professional understandings of risk can be explained by the way in which each group perceives 'risk stories' (Wiedemann et al., 2003). Experts define risk in terms of cause and effect relationships and attempt to quantify the amount of harm, or the number of deaths or injuries that can result from taking part in a given activity (i.e. risk as analysis). These 'quantities' are determined through the analysis of large amounts of data and complex statistical methods. Primarily, experts are interested in the degree of confidence with which a risk can be assessed. This confidence level depends on the experts' ability to assess whether or not an effect will be harmful or toxic, as well as the degree of risk, based on exposure (Beck, 1999; Wiedemann et al., 2003). Exposure is understood by the quantity and length of time of exposure, as well as in terms of the group(s) exposed (i.e. Can exposure be linked to health effects?). Finally, experts need to identify the type of risk associated with exposure including: (1) suspicion of hazard; (2) possibility of an accident; (3) exposure to a pollutant; (4) evidence of damage; and (5) occurrence of an accident. At times, the mere suspicion of a hazard is enough to incite strong public reactions, even when the possibility of an accident is low (Wiedemann et al., 2003: p. 287).

The mismatch between expert and lay perceptions of risk exists because experts often fail to take the social context of risk into account when making decisions. The risk literature suggests that individuals fear similar things for similar reasons. This means that when the public, any public, decide on whether or not they consider a risk acceptable, they take account of several issues (Fischhoff et al., 1979; Gould et al., 1988; Weisaeth & Tønnessen, 2003; Rogers et al., 2006). Wiedemann et al., (2003) believe that lay people frame risk in terms of intention, violation of moral values, identity of the perpetrator, victims, level and type of harm, and outrage. In this way it is possible for low probability 'real risks' to be converted into 'perceived risks' with an apparent high probability during the process of forming lay risk perceptions. The public calculates risk by balancing a perceived risk against a perceived

benefit (Beck, 1999; Wiedemann et al., 2003). Three factors come into play during this conversion process: (1) familiarity of risk; (2) controllability and; (3) the number of people affected by risk (Beck, 1999; Grimston, & Beck, 2002).

Factor one, familiarity, suggests that well-established risks that are easily detectable by human senses tend to be underestimated. If we define terrorism by western standards, it is seen as an unfamiliar and an uncontrollable risk (Factor 2). Additionally, if the attack involves the use of an unfamiliar agent (e.g. chemical, biological or radiological) that might not be detectable by the human senses, this suggests a low level of both controllability and familiarity, especially if the decisions to implement counter-terror technologies that might decrease the likelihood of this threat are viewed as both uninformed and unaffected by public opinion. Likewise, if a terrorist attack were to occur, the contributing and outcome factors would be out of the control of the general public. Finally, the number of people affected by the risk influences individual perceptions of risk. While terrorist attacks on Western countries are rare, the impression that one extreme event could impact the lives of many for generations to come (Factor 3) is difficult to counter (Beck, 1999; Grimston & Beck, 2002; Fullerton et al., 2003).

Communicating uncertainty: It is better to say 'I don't know'

Experts are very interested in the degree of confidence with which risk can be assessed (Van Asselt & Rotmans, 1996; Wiedemann et al., 2003). However, risk analysis is rarely an exact science, which means that risk communicators are left reassuring the public about risks containing at least an element of uncertainty. This can sometimes lead to a situation where the level of reassurance from the communicators is disproportionate to the risk. Fortunately, risk communicators are not working with a completely empty box of tools when attempting to communicate the level of uncertainty to the public. Uncertainty is familiar and individuals are used to dealing with it in their day-to-day lives – how often have you left the house with both your sunglasses case and an umbrella in your bag? The majority of the public can differentiate between at least four forms of uncertainty, including: (1) opinion poll uncertainty: knowledge based on sampling is valid, but subject to error; (2) statistical uncertainty: people are also used to dealing with they might think of as randomness or probability; (3) information uncertainty: the data on which a decision is based may or may not be true; and (4) complexity uncertainty: in theory, one can understand what is happening, but

the sheer complexity means that one also has to rely on monitoring and reaction (Shaw & Collier, 2003: p. 15). In spite of this, 'Living with uncertainty can be exceedingly stressful. Typically, uncertainty accompanies bioterrorism and is the focus of much concern in the medical community preparing for responses to terrorist attacks using biological, chemical or nuclear agents' (Fullerton et al., 2003: p. 5). In order to manage uncertainty, individuals must have confidence in the range and level of uncertainty and in the ability or competence of an organization to manage the consequences (Shaw & Collier, 2003).

In conclusion, when determining the acceptability of a risk, experts and the public are comparing apples and oranges. Terrorism has the potential to overwhelm local resources and threaten the function and safety of society (Fullerton et al., 2003), meaning that the risk of terrorism is a 'front of mind' fear for members of the public. Risk communicators must address this fear in order to instil confidence in government communication about terrorism and shape desired behaviours on the part of the public. Differences between lay and expert perceptions of risk clearly impact the success of risk communication, but perception of risk can be changed by providing information about the risks and benefits of government programmes established to deal with this threat. Therefore, it is possible to develop effective communication about terrorism. In order to do so, experts must learn to ground their analysis and risk communication within social contexts in order to facilitate understanding and shape behavioural change. Primarily, it is critical that truthful, consistent information is provided and regularly updated by trusted sources (Fullerton et al., 2003). This information must incorporate the social context by providing useful, relevant advice and information before, during and after a terrorist incident.

Further research suggests that the public do not believe that the actions of the authorities responsible for providing protection against the consequences of many risks and disasters are adequate, and many individuals have little faith in the information they receive (Carle, Charron, Milochevitch, Hardeman, 2004). This has implications for the level of trust needed to enter into effective risk communication. Given that 'The goal of terrorism is to undermine the government, to spread panic and anxiety among the targeted population and demoralise the public' (Ganor, 2005: p. 34), communication taking place before, during and after terrorist events must be targeted at maintaining and, where possible/needed, building trust. In doing so, communicators must acknowledge the ability of the public to understand and accept uncertainty in risk communication. When communicating about a specific risk, or a situation involving risk, it is better to say 'I don't know', rather

than provide false reassurances before all of the facts are known.

Risk communication and trust

Despite best intentions, the communication of expert risk information can appear to fall on deaf ears. Scientists and policy-makers often hold this view, however it is questionable whether the public are simply not listening, or whether it is rather a case of selective hearing. It is highly unlikely that individuals fail to understand expert communication, but instead that they do not recognize it as relevant to their social selves or social world. Communicators of risk must strike a fine balance between providing factual, useful information on risk and avoiding the creation of undue anxiety (Kasperson & Palmlund, 2005). During the process of communicating risk, a combination of communication factors converge and combine with social factors, thus determining the fate of each communication attempt. These factors include reputation, uncertainty, trust, and the social amplification of risks (Kasperson & Palmlund, 2005; Löfstedt, 2003).

As an important element of social capital, trust is believed to reduce social uncertainty and complexity, and influence risk perceptions and acceptance of risks. Additionally, trust is seen as imperative for effective risk communication to take place, and distrust has been associated with technological stigma, and the social amplification of risk that often follows major public policy failings. Given that trust plays such an important role in informing risk perceptions and facilitating risk communication attempts, it is no wonder that trust, as a concept, has generated a number of approaches and theories (Renn & Levine, 1991; Earle, 2004; Poortinga & Pidgeon, 2003). Within academia, there is general consensus that trust is the primary route to cooperation, meaning that issues of trust cannot be ignored when discussing risk communication (Earle, 2004; Kasperson et al., 1992; Löfstedt, 2005; Poortinga & Pidgeon, 2003; Renn & Levine, 1991; Wynne, 1992).

Public acceptance and uptake of expert communication depends primarily upon the levels of trust and credibility public groups are willing to invest in expert institutions, which are dependent upon the social relationships and identities affected by the communication of expert information (Wynne, 1992). In terms of terrorism, the behaviour of the Shoe Bomber Richard Reid, the instigators of the 7/7 London bombings, and the recent alleged terror plot to kidnap and behead a British soldier in the UK has led many to question the identity and intentions of many British citizens. In addition, a dialogue over 'home grown terrorism' has begun, including

concerns about the capability of government agencies to address and deal with this threat coming from inside our borders.

Likewise, one cannot disregard the power of events in determining the level of public faith in government organisations. Wynne (1992) proposes that 'public responses to risks and risk information are rationally based upon their experience and judgement of the credibility and trustworthiness of the institutions which claim to be in charge' (p. 281). With the onset of instant access to mobile phone images and interviews with the public, it quickly became evident that the official version of the shooting of de Menezes on July 22nd, 2005 in Stockwell shortly after the 7/7 bombings did not coincide with the public version of what took place, instantly placing the UK Government in a defensive position as they began the complex process of risk communication. This had the effect of diminishing faith and trust in the official version of events and those communicating them.

Risk communicators can follow a few 'rules of thumb' when determining their approach. First, it is important to keep in mind that trust and cooperation occur within groups and cannot extend across boundaries. While general communication attempts about issues such as terrorism are possible (Wray & Jupka, 2004), the fact that a communication attempt worked with one social group does not ensure that it will work with another, and communicators must ensure that they concentrate on local relationships (Earle, 2004). Second, the lynch-pin in the trust and risk communication formula is the importance of the issue at stake, which goes a long way towards explaining levels of trust, and perceptions of fairness, objectivity and bias. Social trust (trust on the societal level) is especially important when communicating about risks that are not common to everyday experiences. This is especially relevant for highly complex arguments, such as national security and counter-terrorism, where the complexity of the situation dictates that individuals are more likely to base their trust on agreement and sympathy, rather than on carefully reasoned arguments, thus forming a direct link with the previously discussed affect dimension of risk perceptions (Earle, 2004; Kasperson & Palmlund, 2005; Poortinga & Pidgeon, 2003). Identifying the level of importance an issue plays in the public mind can help shape communication strategies. Issues of high moral importance are likely to have the trust levels of risk managers determined by the outcome preferences of individuals (Earle, 2004). This has strong implications for trust in policy makers, with policy agreement and judgement of value similarity leading to judgements of trust, whereas mismatches between policy values and individual values result in lower

levels of trust (Earle, 2004), as seen in the recent public debate about acceptable periods of detention for terrorist suspects in the UK. Third, trust can be created through an awareness and identification of shared values and agreement. Risk communicators should be able to demonstrate that groups are pursuing the same goal, or at least identify overlaps of interest on local, concrete issues wherever possible (e.g. institutional trust vs. local risk perceptions) (Earle, 2004; Poortinga & Pidgeon, 2003). As there is a general tendency towards distrust in government, governments must be seen to share the same values on risk issues as the people they represent (Earle, 2004; Poortinga & Pidgeon, 2003). Trust is easy to destroy and difficult to rebuild, with the most common of trust-damaging incidents being caused by companies or governments. Löfstedt (2005) suggests that the best risk management tool pays attention to whether and why the public lost trust (if it ever existed) in the organization in the first place. In short, organizations **MUST** be prepared to constantly test for trust before engaging in a communication process, and the public must also be able to trust their decision-makers to make choices worthy of the public interest, as public opposition is the only logical response to a policy decision when trust is absent from the decision-making process (Flynn, 2003). Risk communicators should be able to demonstrate that the groups are pursuing the same goal, or at least identify overlaps of interest on local, concrete issues wherever possible.

Communicating about terrorism: What does the public want to know?

The communication of risk can create a risk in, and of itself. A greater push for transparency on the part of government and industry has led to situations in which a plethora of information is available in the public arena, but individuals are still left feeling confused and uninformed. When communication does occur, recipients of risk communication are often unsure of what needs to be done with their newfound knowledge (Freedman, 2005). On one hand, governments and organizations can be accused of failing their duty when they say nothing of possible threats of which they are aware. On the other hand, these organizations can be accused of alarmism if they issue regular warnings, without a threat materializing. Government warnings that inform the public of a threat, but fail to offer useful advice also fail in their duty to the public. In short, 'The sins of omission or commission compete, with bad advice generating panic at one extreme, and apathy at the other' (Freedman, 2005: p. 379).

How should government organizations go about developing risk communication standards that are

relevant to public life? Fischhoff (as cited in Freedman, 2005) argued that, when taking part in prospective risk communication, a high-quality model of the threat will aid the generation of 'consistent alarm standards'. If citizens properly understand these standards, they are more likely to support open, honest, and accurate information, despite the fact that the communication of that information raises their concerns. This high-level of understanding can be generated through linking public opinion with public policy, in a structured discussion of the best way to go about addressing the challenges of particular risks. This argument suggests that, after ensuring a high level of public understanding, organizations with potentially alarming information should not withhold information out of the fear of generating panic or being accused of 'crying wolf'. Freedman (2005) cautions, however, that often the information provided is of a poor quality, suggesting that simply creating a warning model of risk communication is not enough. The public must be consulted and engaged throughout the development of the model in order to ensure that it conveys useful, practical information that will aid them in risk avoidance and risk management.

What do members of the public think about terrorist attacks and the capability of the government and emergency services to respond to such an attack? The public views terrorist attacks as intentional, manmade and catastrophic by design. This, in turn, creates a heightened potential for causing distress and uncertainty. Furthermore, the public psychological and behavioural responses to CBRN incidents are likely to differ from their response to traditional disasters such as fires, floods, and explosions because, 'Unlike other traumatic events, which are grounded in sensory experiences, here the instigating event, the stressor is information alone. These disasters then may hinge on what authorities say or deny. Because toxic threat cannot be seen or heard, it is tempting for authorities to deny or minimize its effects' (Lindy, Grace, & Green, 2003, p. 236). When the elements of dread risk, fear of contamination and lack of familiarity are taken into account, it is easy to see how fear and social disruption can spread to non-exposed populations. When asked what they would do if a terrorist attack occurred, members of the general public in one study in the USA reported responses including seeking information, contacting family members and loved ones (a key concern, even for health-care officials), taking protective steps for self and family, and locating food, water and shelter (Wray & Jupka, 2004). Respondents desire information about all of these issues, as well as the current status of the attack and subsequent identification or capture of the perpetrators, and the magnitude and progress of the attack.

The public acceptance of uncertainty was evident during the course of a study involving a plague scenario in which reported levels of fear decreased in a number of respondents when they were provided with additional information suggesting that emergency personnel were responding to the situation (Wray & Jupka, 2004). Importantly, a key finding from several studies is that, while the public respond positively to the provision of information, the source of information must be known in order to create trust and credibility (Henderson, Henderson, Raskob, & Boatright, 2004; Wray & Jupka, 2004).

General conclusions

While avoiding the social amplification of risk or the weakening of national and international responses to terrorist attacks, policy-makers must find a way to communicate the threat of terrorism and the ability of the government to respond to these threats in order to ensure that members of the public have the ability to take action (Rogers, 2007). Information and awareness are required in order to enable individuals to define the problem, recognize where to place blame and responsibility (e.g. government, industry or themselves), and understand appropriate behavioural responses (Bord, O'Connor, & Fisher, 2000; Bulkeley, 2000; Lowe et al., 2006; O'Connor, 1999).

Terrorism is a 'front of mind' fear across the EU and is an issue of great concern for the public. Communication about the likelihood of a terrorist attack and the capability of the government to respond to an attack must take place. This information should be issued repeatedly in order to allow the public to enter into discussions about current and future defence policies and counter-terror technologies, rather than building their judgements and conversations on outdated policies or information that they believe failed them in the past. Communicators must ensure that the public knows how the threat of terrorism has changed and is likely to change, how their safety is improved, the way in which government secures and monitors safety, and what these changes mean for them in their day-to-day lives. While communicating about terrorism when it has become a crisis issue is certainly needed, communication about the threat of terrorism and government capabilities to deal with this threat before an incident takes place must become a part of regular communication with the public in order to maintain trust and faith in the system (Haug, 2002; Rogers et al., 2006; Rogers, 2007). Discussing counter-terror measures and preparedness only during times of crisis is more likely to exclude the

public even further as this approach fails to enable the public to take part in practical action (Meyers, 1998).

Trust has been identified as a key issue impacting public perceptions of risk. The level of trust in an organizational body responsible for responding to the risk should be taken into account during both the policy-making and communication processes. Some researchers believe that, in public policy terms, certain global issues such as terrorism requires urgent attention, '... but in public information terms it does not, for it remains unlikely and there is not a lot that individuals could do should it occur' (Freedman, 2005: p. 385–386). The authors disagree and argue that, while public trust in decision-makers has been clearly eroded in a number of areas, public respect, support, and confidence can and must be proactively earned (Rogers et al., 2006; Rogers, 2007). Public opinion polls provide the perfect 'road map' of topics with which the public feel ill-informed, or uncomfortable. Currently, the public do not believe that they are in control of the decisions about acceptable risks, or the implementation of the decisions about countering those risks. Government communicators can fill these information gaps by addressing issues such as home grown terrorism and options for countering-terror. Additionally, communicators must recognize that it is likely that individuals do not fail to understand scientific and expert communication, but rather that they often do not recognize it as relevant to their social selves or social world. Government communication about terrorism and counter-terror must be illustrated and explained in reference to every day life in order for risk and benefit messages to effectively inform public opinion (Rogers et al., 2006; Rogers, 2007).

Finally, the development of a better understanding of public perceptions of government security policies is crucial. The capabilities, risks and benefits of government organizations and counter-terror technologies must be fully explained and set within the context of national safety, including time-scales for government response to a terrorist incident. Only then can acceptance or opposition to government security policy be truly understood and representative of the general public.

Notes

- [1] See Slovic, Fischhoff and Lichtenstein, 1979, 1980, 1981, and 1985; Boudier, Rogers, Krieger and Löfstedt, 2006.

- [2] See for example: Eiser, 2004; Alhakami and Slovic, 1993; Löfstedt, 2005; Siegrist, Keller, and Kiers, 2005; Slovic, 1987; 1991; Slovic, Finucane, Peters, and MacGregor, 2004; Slovic, Fischhoff, and Lichtenstein, 1981, 1980, 1986; Tanaka, 1998; etc.
- [3] See Trumbo and Shanahan, 2000; Löfstedt, 2003; Pidgeon, Kasperson, and Slovic, 2003; Kasperson and Kasperson, 2005; Kasperson, Kasperson, Pidgeon, and Slovic, 2005 for a full description of the social amplification of risk framework.

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