

**Communication Studies and Emergency Management:
Common Ground, Contributions, and Future Research
Opportunities for Two Emerging Disciplines**

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Abstract

This chapter highlights common ground between the Communication Studies and Emergency Management disciplines. It briefly describes the Communication Studies discipline, and its historical roots. Then, areas of common ground between the two disciplines are explored. The chapter also offers areas of Communication Studies inquiry that have informed the study of disaster and emergency processes. Areas of future research between the two disciplines are discussed before the chapter concludes with recommendations of how to improve the practice and study of emergency management from the perspective of the Communication Studies discipline. This chapter identifies major opportunities for future research including sensemaking and the importance of narratives in disasters, compliance-gaining and persuasion strategies, and the effects of stressful communication and events on people.

“Any attempt to establish a unified command on 9/11 would have been further frustrated by the lack of communication and coordination among responding agencies.”
– The 9/11 Commission Report

Introduction

Emergency management scholars have long recognized the roles of communication within disaster. Scholars in Communication Studies have long viewed disasters as particularly rich contexts within which to study communication processes. Despite this mutual interest, the two disciplines have had little do with each other in an integrated fashion. The metaphor that comes to mind is two ships passing in the night. Perhaps, close enough to acknowledge one another with a flash of light but not yet traveling in the same direction. It is our hope that this chapter will illuminate common ground between the disciplines so that integrated research can more readily occur. To that end, this chapter will overview the role the Communication Studies discipline can play in understanding disaster. First, the Communication Studies discipline will be introduced and briefly described. Next, we will discuss definitions of “disaster” within our discipline. The next two areas of the paper will describe common ground between the Communication Studies and Emergency Management disciplines, and areas of communication research that could inform disaster scholarship, respectively. The paper will conclude with directions for future research and some recommendations for emergency management from the Communication Studies’ perspective.

Communication Studies

The discipline of Communication Studies examines the symbolic transmission of meaning in a variety of contexts. Departments in communication originated as offshoots of English departments; instead of analyzing literary texts, the focus at that time centered on the

rhetorical study of speeches, primarily those political in nature. During the 1950s and 60s, inspired by studies of persuasion, some members of the discipline took a decidedly social scientific turn, investigating the role of communication in the creation of identity and social roles, in the process of persuasion, and in the context of decision-making. Today, most departments in Communication Studies continue to divide themselves along those two lines: rhetoric and social science. Studies in rhetoric now extend beyond the analysis of speeches to include a broader variety of texts, such as media, social movements, and war memorials, to name a few. Researchers taking a more social scientific focus can be categorized broadly into the areas of interpersonal, health, intercultural, and organizational research, all of which examine communication in a variety of social contexts including, but not limited to, organizations, education, healthcare, and families. Relevant to the current discussion, research in Communication Studies examines issues such as the transmission and processing of information (Sutcliffe 2001), communication networks (Monge and Contractor 2001), individual and organizational identity (Chen 2001; Cheney and Christenson 2001; Daly 2002), sociopolitical environments (Finet 2001), leadership (Fairhurst 2001), decision making (Seibold and Shea 2001), social support (Burlison and MacGeorge 2001), persuasion (Dillard, Anderson, and Knobloch 2001), power (Mumby 2001), conflict (Gudykunst 2001; Roloff and Soule 2001), and technology (Fulk and Collins-Jarvis; Viswanath and Zeng 2001; Walther and Parks 2001).

Defining disaster

While studies of disasters appear to be increasing within Communication Studies, an agreed-upon definition of the term “disaster” remains elusive, particularly one grounded in communication theory. What is clear is that disasters are generally considered a subset of the

crisis communication literature and are often approached as they relate to organizations. In their review of the crisis communication literature, Seeger, Sellnow, and Ulmer (1998) draw on Quarantelli in distinguishing crises from disasters, suggesting that crises are organization-based, while disasters are “non-organizationally based events generated by natural or mass technological forces” (p. 233). Additional review of the literature reveals a fragmented definition of “disaster.” Indeed, a number of Communication Studies scholars employ the term in reference to organizational crises. For example, Tyler (1992) characterizes the *Exxon Valdez* accident as a disaster, just as Rowland (1986) does in reference to the Space Shuttle Challenger explosion. However, neither offers a conceptualization of the term to distinguish it from an organizational crisis.

Benetiz (2004) offers a glimpse of how “disaster” may ultimately be defined within Communication Studies when he suggests that while present conceptualizations of natural disasters tend to emphasize only physical characteristics and negative impacts of disasters, socio-economic processes such as human decisions, governmental policies, and economic development models should also be considered. As Rogers et al. (1995) argue, “when a major event threatens the stability of a system, it forces the members of the system to construct new and changing meanings of their community” (p. 676). Considering the Communication Studies discipline’s long-standing interest in the social construction of reality (Berger and Luckmann 1966; Rogers et al. 1995), it is likely that a definition or conceptualization of what constitutes a “disaster” will include the way society, and especially subsets of it, co-create the meaning of disaster through processes including language, discourse, power, and politics.

Communication Studies and Disasters: Common Ground

Communication and disaster

Communication Studies and Emergency Management scholarship share considerable common ground though little of it is integrated. First, both the communication and emergency management literature routinely highlight the role of human and technological communication within disaster contexts. For instance, in their detailed review of four disaster case studies, Dynes and Quarantelli (1977) generate no fewer than 294 propositions on disaster communication. Auf der Heide (1989) observes that “one of the most consistent observations about disasters is that communication is inadequate” (Ch. 5). Recent disasters have further highlighted the role of communication within disasters. As Liebenau (2003) points out, “The destruction of the World Trade Center ... brought to public attention the many different critical roles that communications play when disaster strikes” (p. 45). Indeed, communication plays a part in each of the hazard cycle’s four phases.

First, mitigation efforts will be enhanced when disaster personnel and agencies develop communication networks, increase the flow of relevant information, and share ideas. Fischer (1998) recognizes that new communication technologies, such as electronic mail and chat rooms, facilitate dialogue about disaster mitigation among experts and community leaders throughout the world. Furthermore, Benetiz (2004) recommends utilizing communication in designing and evaluating effective channels and mechanisms of interaction between local and national governments and other organizations to facilitate natural disaster mitigation. Regarding the second phase, preparedness, Auf der Heide (1989) identifies a number of communication-related reasons for public and governmental apathy, including a lack of awareness, underestimation of risk, social pressures, opposing special interest groups, difficulty substantiating the benefits of

preparedness, and ambiguity of responsibility. He contends that effective public communication programs could overcome apathy. For example, he describes how the San Francisco Fire Department aligned with the mayor's office and developed a successful information campaign that secured the community's financial backing, leading to the creation of an emergency response plan that included improvements in the city water system, firefighting capability, and an emergency operations center.

Regarding the response phase, Ronsenthal, Hart, and Charles (1989) suggest that "in crisis situations, there is a considerable increase in the volume and speed of upward and downward communication" (p. 19) and "controlling the information flow" (p. 20) proves problematic. Some information must be released to the public, generating additional communication concerns. For example, Sorenson (2000) contends that message construction constitutes a critical component influencing public response to hazard warning systems. Warning message characteristics such as consistency and repetition, specificity, and legitimacy of the warning's source have all been recognized as critical factors in the effort to alert citizens (Auf der Heide 1989; Drabek 1986; Drabek 1985; Quarantelli 1982). Also, effective and timely communication between organizations during response has been acknowledged as vital by a number of scholars (Auf der Heide 1989; Drabek and McEntire 2002; Toulmin, Givans, and Steel 1989). To this end, Granatt (2004) describes and advocates public information and warning partnerships (PIWPs), which are voluntary partnerships in the United Kingdom between governmental, non-profit, and media organizations. Such partnerships integrate the resources and support of their members and recognize that "public confidence and safety depend on timely, clear, coordinated information" (p. 360). He describes how one PIWP was successfully used to avert public panic when an extortionist threatened to poison English water supplies in 1999.

Finally, the recovery phase includes those processes that restore individual and community lifelines after the immediate emergency has run its course. Disaster management and communication studies both find interest in examining how social and cultural issues influence responses to disaster. Due to gearing services to the dominant majority, disaster aid has been denied (Yelvington, 1997), and people who were homeless before disasters have been denied shelter in favor of the newly homeless (Phillips, 1996). Gender roles are even more stringently enforced during times of disaster (Anderson, 1994; Scanlon, 1997). For example, Scanlon (1997) points out that after a mudslide forced the evacuation of a small town in British Columbia, women, much more than men, were instructed to leave town, regardless of their occupation, their skill level, or whether or not they had families.

Additionally, Tierney, Lindell, and Perry (2001) highlight the importance of intercultural communication within recovery. Specifically, they observe that minority groups may have special dietary requirements, may include non-native English speakers who have difficulty understanding forms written in English, and may be cautious about seeking support from agencies for fear of being deported. Each of these issues could be described as communication problems that routinely exist when members of different cultures attempt to interact when discussing risks or during an emergency (Quigley, Handy, Goble, Sanchez, and George 2000).

Crisis communication

A second area of common ground between communication and disaster scholars concerns an interest in sudden, cataclysmic events that generate great potential for harm. Much of the Communication Studies research into such phenomenon addresses *crisis communication*, particularly from an organizational perspective. While some scholars distinguish between crises and disasters (Seeger et al. 1998), the two share much in common. Disasters invoke a sense of

urgency in response, close observation by the news media, and an interruption in normal working or living conditions, all conditions noted by Williams and Treadaway (1992) as characteristic of crises. Rosenthal, Charles, and Hart (1989) and Coombs' (1999) include natural disasters as a specific type of crisis. Communication scholars have conducted "crisis communication" research, albeit usually from an organizational perspective, on such disasters as the 1994 Los Angeles earthquake (Fearn-Banks 2002), the Mann Gulch and Storm King Mountain Fires (Alder 1997), the 1994 South Canyon fire in Colorado (Larson 2003), the 1997 Red River Valley flood in Minnesota and North Dakota (Sellnow, Seeger, and Ulmer 2002), and the 9/11 attack on the World Trade Center (Noll 2003).

The crisis communication literature consists of two distinct branches: practitioner-oriented application and theory-grounded understanding (Seeger et al. 1998). The practitioner-oriented approach addresses issues such as (in)effective media response strategies, group decision-making, inter-organizational relationships and communication, and long-term recovery activities. For example, Huxman and Bruce (1995) investigate Dow Chemical's response to charges that they produced Napalm during the Vietnam War, pointing out that Dow failed in its attempts to subvert negative attention. Similarly, Williams and Treadaway (1992) scrutinize Exxon's failure to develop a proactive public relations campaign immediately after the spill, instead providing brief and inaccurate messages about the extent of the spill. In addition, Exxon did not take responsibility for the spill, and instead chose to scapegoat two of its employees. By limiting initial information and not taking responsibility for the spill, Exxon damaged its corporate image. Also investigating the Valdez oil spill, Sellnow (1993), by conducting rhetorical analyses of three speeches delivered by Exxon's president, analyzes the ethical issues involved in Exxon's use of scientific evidence and arguments to justify their actions after the

Valdez oil spill. Furthermore, Tyler (1992) points out Exxon's 11 major mistakes, including antagonizing local fishermen and other area residents, understating the seriousness of the disaster, and not keeping public promises made to the public. Taken together, these articles provide a list of crisis communication's "do's" and "don'ts" from which other organizations could learn.

Theoretical examinations of crises address them as internal and environmental forces, which affect organizing and communicating processes and systems (Seeger et al. 1998). In his examination of the Mann Gulch and Storm King Mountain Fires, Alder (1997) refers to the "paradox of obedience" to explain how "crew members obeyed orders that should have been questioned and ignored directives with which (they) should have complied" (p. 111) resulting in disorganization and ultimately human death. Other scholars view crises from sensemaking perspectives (Larson 2003), and use chaos theory to explain how emergency personnel assume that traditional methods of prediction are adequate in contexts which belie predictability (Sellnow et al. 2002). Two other areas which disaster and communication scholars share common ground include interest in technology and decision-making processes.

Technology and disaster

Technology affects essentially every aspect of society; likewise, technology now plays an integral role in disaster processes. Both Communication Studies and Emergency Management scholars are aware of and demonstrate interest in these effects. Technologies promise to facilitate discussion about mitigation efforts, identification of potential hazards, connectivity between response organizations of all types, warning messages to the public, and diffusion of important disaster information (Carey 2003; Drabek 1991; Fischer 1998; Tierney et al. 2001).

Communication Studies scholars, for example, were particularly interested in the role of new communication technologies during and immediately after the September 11 attack on the World Trade Center. Cell phones played an important role in every aspect of the September 11 attacks: the plane hijackers used cell phones to stay in contact with each other, people on board the planes used cell phones to communicate with family and emergency operators, people inside the towers after the attacks used cell phones to contact friends, family, and emergency networks, and emergency personnel used cell phones to help coordinate rescues (Dutton and Nainoa 2003).

Most people learned of the September 11 attacks via television (Cohen, Ball-Rokeach, Jung, and Kim 2003). Carey (2003) found that the World Wide Web and e-mail were important sources of information but took a back seat to television and radio sources immediately following the attacks. In one survey, just six percent of respondents reported using the web as their primary news source. One problem recognized during the immediate aftermath of the attacks was an inability to access many websites because of heavy net traffic. However, in subsequent weeks, visitors utilized news websites in numbers two to three times their normal usage. Of course, the Internet continues to improve in its capabilities, so it would probably experience less difficulty with heavy traffic today, and certainly less so in the future.

Technology also plays an important role in maintaining contact with family and friends after disasters. Carey (2003) notes that instant messages and e-mail served the important purpose of checking on the safety of friends and relatives on September 11. Similarly, Sellnow, Seeger, and Ulmer (2002) point out that residents evacuated after the 1997 Red River Valley flood in Minnesota and North Dakota used radio station broadcasts to reconnect with family members. With improvements in wireless technology, mediated communication during and after disasters will inevitably increase.

Organizations also utilize technology during disasters. In their study of internet-based crisis communication, Perry, Taylor, and Doerfel (2003) observe that a majority of the 50 organizations they studied used the Internet to communicate to the public and the media during a crisis. This trend was consistent regardless of what type of organization the authors examined, or what type of crisis had occurred. Just as technology can aid in crisis and disaster response, its role as a source for disaster must also be determined. Thus, recognizing the risks associated with society's dependence upon various types of technology is essential in understanding the potential for technological disasters. Waugh (2000) argues that society becomes more fragile as our dependency upon increasingly complex technological systems increases. In 2003, blackouts in major U.S. cities evidenced this concern when energy and cellular phone systems became inoperable leaving large numbers of people incommunicado and without basic transportation services. Furthermore, the use of technologies during disasters may result in ironic outcomes. For example, the Internet may be a source for, and foster quick dissemination of, rumors and false information which confound disaster response efforts (Quarantelli 1997). And while many consider technology a tool for education, it may also be used for educating those who would be responsible for disaster. The Internet's ability to disseminate information widely may expose potentially sensitive information, such as natural gas pipeline routes for example, to those most likely to utilize it for nefarious reasons, particularly terrorists (Carey 2003). Ravalut (2003) argues that the "September 11 terrorist attacks demonstrate that global communications saturated with images of the United States can dramatically backfire when used by global terrorists for their own ends" (p. 209). At the same time that technologies are valuable tools for disaster mitigation and response, their potential as a source of disaster deserves examination.

Decision-making processes and disaster

A final area of common ground between Communication Studies and Emergency Management scholars concerns decision-making processes including those occurring prior to, during, and after disasters. Disaster scholars have long recognized the unique qualities and pressures of making decisions within emergency contexts. Rosenthal et al. (1989) assert that in crisis situations decision-making becomes increasingly centralized and informal. Additional issues include dealing with uncertainty (Sorenson & Meleti 1987), concerns that a decision to warn the public will cause panic (Auf der Heide 1989), and the potential for information overload (Quarantelli 1997). Within the crisis communication literature, researchers examine decision-making for its role in causing crises, how it is affected during a crisis, and its function in post-crisis investigations (Seeger et al. 1998). Niles (2004) argues that faulty decision-making processes at NASA contributed to both the Challenger and Columbia disasters. She goes on to say that efforts to change NASA's culture after the Challenger explosion to a culture more open to disagreement and dissent ultimately failed. This failed attempt created conditions that made another space shuttle tragedy increasingly likely.

Organizational emergencies and crises have been recognized as creating unique conditions for decision-makers. Such high-pressure situations may create what Janis and Mann (1977) term hypervigilance, which may cause decision makers into two faulty states: a state of temporary paralysis in which no decision is made, or a hasty decision based upon the first available option. Of course, either option may serve to heighten the crisis. One fundamental aspect of decision-making involves power and influence. After investigating the Challenger explosion, Gross & Walzer (1990) assert that much of the blame rested on the lack of ethical persuasion tactics; people were coerced to launch the Challenger even though it was against their

better judgment. In his analysis of mountain fires at Mann Gulch and Storm King, Alder (1997) argues that firefighter deaths could be attributed to a breakdown in authority; people refused to follow orders during crucial moments. Alder (1997) suggests that while organizations should endeavor to create participative cultures that encourage discussion, in times of crisis leaders should be given the power to make unquestioned decisions.

Informing Emergency Management through Communication Studies

In addition to sharing much in common, it is likely that the Communication Studies and Emergency Management disciplines could inform one another. This next section of the paper will detail three primary particular areas that Communication Studies could contribute to Emergency Management scholarship. These areas include research into sensemaking and narrative, studies of persuasion and compliance gaining, and the effects of stressful events and communication on people.

Sensemaking and narrative

Much research in Communication Studies investigates the role of communication and sensemaking in various contexts. Sellnow, Seeger, and Ulmer (2002), in their study of the 1997 Red River Valley flood in Minnesota and North Dakota, observe that people found it difficult to make sense of what happened, due to “facing an experience that was completely unanticipated and beyond their previous experiences” (p. 281). Examining how people make sense of seemingly nonsensical situations, for which few might possess a frame of reference, proves an interesting and worthy area of study.

A growing area of research in Communication Studies analyzes how collective memory and public commemoration of disaster and tragedy serve as rhetorical strategies to aid in sensemaking and coping during the grief and healing process. For example, Jorgenson-Earp and Lanzilotti (1998) studied shrines created after the Oklahoma City bombing in 1995 and in Dublane, Scotland in 1996 after a man walked in to a school, shooting and killing sixteen children and one teacher, and injuring 14 others. In both locations, people created shrines to memorialize the dead. Jorgenson-Earp and Lanzilotti argue that bringing objects to the shrines mitigated the voyeuristic and touristic aspects of visiting the sites, instead inviting “the viewer to add to the text, to help write the final story of the tragedy, and thereby regain control over the scene” (p. 160). The objects left at the shrines symbolized continuing relationships with the children who died, many objects included the names of family members left behind, often including gifts and messages from family members to the deceased child.

Another research area within Communication Studies that could contribute to emergency management involves the use of narrative. Jerome Bruner (1990) argues that narrative constitutes one of the most fundamental modes of thought and understanding; people understand the world, and their experiences in the world, through stories. Telling stories is an essential element of human experience (Fisher, 1987); we story our lives, and what we choose to tell stories about reflects what we value. Narratives create meaning (Feldman 1990) and facilitate sensemaking (Coopman et al. 1998); narratives help us to make sense of the past and present, while projecting the future (Polletta 1998). Narratives serve both a communication and sensemaking function by enabling individuals to interpret the world and convey that interpretation to others.

The use of narrative proves especially beneficial for understanding how individuals “make sense” of, recall, and participate in the social construction of how people experience and

conceptualize disaster. Weick and Browning (1986) contend that narratives aid individuals in the comprehension of complex environments. Similarly, Maines (1993) posits that narratives serve as tools that people use to understand troubling events when meanings are not clear. Bridger and Maines (1998) recognize that narratives “are an important interpretive and rhetorical resource that is drawn upon in times of crisis and rapid change” (p. 320).

From a methodological standpoint, narrative analysis offers a unique way of accessing the way disaster witnesses, survivors, and victims make sense of and describe the impact on their lives. Additionally, narrative analysis serves to facilitate understanding of the manner in which an afflicted community participates in the social construction of meaning. Krug (1993) illustrates the power of storytelling after interviewed the residents of four small towns in Arkansas, after a climatologist predicted that an earthquake would occur along a fault zone in the vicinity of the towns. Krug argues that stories contributed to the sensemaking of the people in the towns; many people spent most of their days gathered together telling stories of the potential for earthquake, and in the end relied more on the stories of the community than the spectacular stories delivered through the media. Krug’s study points out the potential role that stories play in persuasion, leading to the next suggestion for emergency management research.

Persuasion and compliance-gaining

Communication Studies scholars have long been interested in how individuals or groups get other individuals or groups to change their attitudes or behaviors. Fifty years of research produces a plethora of information on persuasion strategies and goals. Research in compliance-gaining strategies indicates that effective, long-term persuasion is relatively slow (Miller and Burgoon 1978), and that both verbal and nonverbal communication are influential in

compliance-gaining strategies (Segrin 1993). Persuasion plays an important role in effective leadership, and effective leaders recognize that both supervisors and employees participate in persuasive tactics (Deluga 1988). Prosocial rather than antisocial approaches to persuasion tend to prove more effective and influence perceptions of competence (Johnson 1992). In general, successful compliance gaining proves somewhat complex, and research indicates that utilizing a variety of approaches brings the most success.

Key conclusions from Communication Studies' persuasion and compliance gaining research has not examined the context of emergency management, but this area of research would prove interesting. For example, persuading citizens to heed warning messages and securing their compliance with evacuation or stay-at-home messages function as critical components of disasters. As Alder (1997) points out, encouraging organizational cultures that foster participation, recognizing the reciprocal role of persuasion in organizations is effective during day-to-day operations, yet organizations should also investigate ways leaders can persuade employees to comply with directives during times of crisis. When considering terrorism, researchers should examine the compliance-gaining tactics of terrorist leaders, studies that inevitably would also entail investigation of ideology.

Effects of stressful events and communication on people

Communication scholars are also interested in how interpersonal relationships, or perceived social support, influence our personal and professional lives. Disasters are particularly stressful times, fostering states of uncertainty, fear and fright. Research in a variety of contexts indicates that people experience more negative symptoms, both psychologically and physiologically, without the strength of interpersonal support (Albrecht, Burleson, and Goldsmith 2001). Much research in emergency management focuses on responses during

disasters and on utilitarian responses after disaster. How communication and relationships aid in coping and survival during and after disasters also deserves attention.

In the context of disasters, for example, research has indicated that social support is an important coping strategy for emergency dispatchers (Jenkins 1997). However, relationships are not always positive. For example, research has found that domestic violence increases during disasters (Clemens, Hietala, Rytter, Schmidt, and Reese 1999). In their investigation of the 1997 Red River Valley Flood, Davis and Ender (1999) found that if a marital relationship was strong before the flood, the couples perceived their marriage to be stronger after the flood; if the relationships were perceived as weak before the flood, they were perceived as even more weak after the flood.

People cope with disaster in a variety of ways. For example, one research study explored the phenomenon of graffiti that occurred after the 1997 Red River Valley Flood. Hagen, Ender, Tiemann, and Hagan (1999) termed graffiti after a disaster as “catastroffiti,” and functioned initially to mark one’s property, but also functioned to express emotions such as frustration and hope. Jorgenson-Earp and Lanzilotti’s (1998) study of shrines created after the Oklahoma City bombing and in Dublanc, Scotland discussed earlier in this chapter point to the different ways people cope with tragedy. More studies of how people respond to disaster would provide more information on aiding in the coping and healing process.

Directions of Future Inquiry

Future research should focus on developing a better understanding of “terrorist culture,” particularly in an age of increasing globalization. Globalization, with its promises of greater economic, technological, and democratic rewards, deserves examination of how people

throughout the world perceive globalization, particularly Islamic fundamentalists, other potential terrorists, and marginalized groups. Communication Studies' scholars are well positioned to examine how messages of globalization are being interpreted across the world. It would be of great value to determine how these messages are altered in order to contribute to a particular ideology. Likewise, the rhetoric of terrorist leaders and its effects on potential followers should be investigated. Scholars who contributed to Noll's (2003) examination of the Crisis Communications lessons of September 11 have already begun some work into this area which should serve as a springboard for future study.

Another area of future inquiry should address inter-organizational relationships and communication. As globalization proceeds, an increasing number of organizations in diverse cultures will work together. If disaster strikes at or near these organizations, unique communication challenges may need to be overcome, such as what happened in the Union Carbide leak in Bhopal, India, discussed earlier. Additionally, organizations and individuals are increasingly linked via communication technology. These linkages necessarily require interdependence of people from a variety of backgrounds, communication styles, and ideologies. As the number of connected organizations are forced to cope with disaster issues, it is important to understand the challenges of their communication with each other so communication can be facilitated.

Communication should be examined not just for its role in preventing, responding to, and recovering from disaster. Researchers should also study communication for its role in creating or being a source of disaster. Communication Studies and Emergency Management scholars should explore communication's contribution to issues such as mob mentality, riots, and panicked evacuations. As mentioned above, communication also plays a significant role in

terrorists' ideology formation, recruitment, and propaganda. Each of these areas could contribute to potential disaster situations and are worthy of future exploration. Finally, we must continue to examine society's increasing dependence upon new communication technologies.

Does our dependence upon technological systems make us more or less vulnerable to disasters? How will response efforts be affected when communication technologies break down? Can communication technologies cause disasters through the rapid transmission of false information? Each of these questions and others must be explored.

Recommendations for Emergency Management

Communication Studies would offer several recommendations to the emergency management profession. First, this discipline would suggest that "communication" not be seen solely from a functional, or utilitarian, perspective. Rather, consider communication's symbolic functions particularly within disasters contexts. For example, when a government agency releases a hazard warning or evacuation message, the message has both content and symbolic functions. While the content element may be precise, the symbolic elements may be more powerful. One could imagine members of a marginalized community, already mistrusting of government agencies, treating a warning message much differently than a community that is fully confident in such agencies. Such phenomenon must continue to be included in emergency management research and practice.

Communication Studies would also propose a partnership between our discipline and Emergency Management scholars. Considering the wide variety of research areas, within our discipline, the possibilities of integrated scholarship are limitless. As mentioned at the outset of the chapter, Communication Studies scholars research an incredibly diverse subject area,

primarily because communication is substantive to so many areas of individual, group, organizational, and societal life. For example, as globalization moves forward, we must understand how it is communicated and interpreted throughout the world. Such efforts may help us comprehend terrorism, particularly its recruiting, propaganda, and diffusion processes.

Finally, we would recommend that more disaster-related studies privilege multiple voices, beyond those of researchers and disaster managers. Qualitative techniques, such as long-term observation, or ethnography, interviewing, focus groups, and document and artifact analysis provide valuable means of data collection and capture subjects' own words, perceptions, and experiences. Disasters especially effect individuals and communities in unique ways and it is critical for research subjects to express their experience from their perspective. Communication Studies has benefited greatly in recent years by including qualitative research in its repertoire of methodological approaches and would recommend that Emergency Management scholars consider doing likewise.

Conclusion

The Communication Studies discipline examines the symbolic transmission of meaning in a variety of contexts, including disasters and crises. Specifically, Communication Studies has examined a multitude of ways communication contributes to our understanding of disaster processes, before, during and after disasters. While both Communication Studies and Emergency Management scholars seem to realize the value of one another's disciplines, little integrated research between the two has been conducted. Yet, there are a number of areas where such integration could occur. These areas include, but are not limited to, decision-making processes, technology and disaster, sensemaking and narrative, stress and social support, and persuasion and compliance gaining, all within the context of disaster. Joint studies on these

areas and others can spotlight the common ground of both disciplines, and open new directions for future research.

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