University of Delaware
Disaster Research Center

PRELIMINARY PAPER
#218

CONTEXTUAL EFFECTS ON RESPONSIBILITY JUDGMENTS

Valerie P. Hans
Joanne Nigg
Melvin D’Souza

1994
Contextual Effects on Responsibility Judgments

Valerie P. Hans, Joanne Nigg, and Melvin D'Souza

1994

Paper presented in a symposium, "Whose Responsibility, For What, When? Responsibility Judgments for Disaster Consequences," at the annual meeting of the American Association for the Advancement of Science, San Francisco, February 19, 1994. The research reported in this paper was supported by National Science Foundation Grant No. SBE-9213737. Correspondence may be addressed to the authors at the Disaster Research Center, University of Delaware, Newark, DE 19716. Tel: 302-831-6618.
Contextual Effects on Responsibility Judgments

Valerie P. Hans, Joanne Nigg, and Melvin D'Souza

Abstract

Our research program has examined factors that lead people to hold others responsible for disasters and their consequences. In scenario experiments, respondents read descriptions of communities that experienced technological or natural disasters, and made judgments about the responsibility of various actors for disaster planning and mitigation as well as for compensation for disaster-related damages.

Respondents’ judgments reflected strong desires for holding human actors responsible for disaster consequences. Attributed responsibility was substantial, even for natural disasters. Government officials, especially local officials, were perceived to be highly responsible for disaster mitigation and compensation for disaster losses. The perceived responsibilities of design professionals, scientists, businesses, and community residents varied with the type of disaster and the type of activity under consideration. The results indicate the usefulness of scenario methodology for understanding public judgments of responsibility for disaster consequences.
Contextual Effects on Responsibility Judgments

Valerie P. Hans, Joanne Nigg, and Melvin D'Souza

This paper addresses judgments of responsibility in the context of natural and technological disasters. Scientific advances in identifying, predicting, and mitigating hazards are producing a state of uncertainty in judgments of moral and ethical responsibility for disaster-related losses. In the past, it has been argued that natural disaster agents—such as tornadoes, hurricanes, and earthquakes—are "acts of God" that are beyond the realm of human influence. In contrast, there has been a definite tendency to attribute human responsibility in the case of technological disasters—such as Love Canal, Three Mile Island, Bhopal, and Chernobyl. Recently, the difference between these two patterns has begun to blur. Improvements in science and technology are creating a situation in which continued losses from a natural disaster such as an earthquake may be attributed to human failure to anticipate, plan, and mitigate the impact of a disaster.

As we learn more about disaster prediction and mitigation, a greater burden is placed upon significant human actors. On both moral and ethical grounds, increased responsibility comes with the foreseeability of a hazard and the ability to mitigate its negative effects. On the other hand, there may be a countervailing tendency to explain losses as the unavoidable consequences of either natural phenomena or situations beyond human control.

The interplay between natural and technological hazards, the disasters that result from them, and the attributions of responsibility for these consequences present a
complex social phenomenon that has been little studied. Even though there is recognition that issues of responsibility are critically important, most work on disasters and hazard mitigation has failed to examine systematically the ethical and moral aspects of responsibility both before and after the occurrence of a destructive event. The public's judgments are likely to differ from those of experts and public officials, resulting in unknown consequences for science, business, and governmental policy. Both lay and expert responsibility judgments for disaster losses demand systematic study.

In our research program, we have undertaken a series of studies, funded by the National Science Foundation, that examine how people judge responsibility for disasters. Our project aims to determine how a number of different factors affect lay and expert judgments of responsibility in the disaster context. Three sets of issues are explored in the current research: a comparison between natural and technological disasters; the impact of disaster severity; and how responsibility is attributed among various actors for disaster mitigation and recovery.

Of particular interest in the current project is the distinction between natural and technological hazards. Some scholars emphasize the differences in individual perception of and response to threats from natural versus technological hazards (cf. Baum, Fleming, & Davidson, 1983; Kroll-Smith and Couch, 1990). Others point to the similarity of collective and organizational response to natural and technological disasters (Quarantelli, 1991; Quarantelli & Dynes, 1976). The general public attaches higher risks to technological hazards than to natural hazards, primarily due to the characteristics of dread and unknownness (Slovic, Fischhoff, & Lichtenstein, 1980). Our study builds on
this prior work comparing natural and technological disasters by assessing judgments of who should have the responsibility for reducing the risk of hazards and for compensation for damages stemming from both types of disasters.

Almost by definition disasters have serious consequences for a community. There is widespread belief among public officials and disaster scholars that more severe disasters create greater incentive to find someone or some agency responsible. However, systematic research in the laboratory exploring the impact of severity on attributions of responsibility has produced mixed results. Some psychological research studies have demonstrated that more responsibility is attributed to an individual whose actions lead to a severe as opposed to a mild outcome (e.g., Walster, 1966). When extreme events occur, people tend to infer that substantial causes must have been present. However, other studies attempting to replicate this early finding have failed to do so (Shaver, 1970; for reviews see Fincham & Jaspars, 1980; Karlovac & Darley, 1988). What happens in the disaster context, where the magnitude of large-scale disasters is quite extreme?

Research findings on the attribution of responsibility provide the theoretical background for our study of perceptions of responsibility for disaster consequences (Fincham & Jaspars, 1980; Hamilton, 1980; Heider, 1958; Jones, Kanouse, Kelley, Nisbett, Valins, & Weiner, 1972; Karlovac & Darley, 1988; Shaver, 1985; Walster, 1966). The literature suggests that intentionality or recklessness, predictability, and controllability are key factors that people are likely to use to assess responsibility for disaster losses. However, the applicability of prior attribution research to the field of disaster studies remains to be determined. For example, much prior attribution theory and research has
focused on relatively simple cases, frequently assessing attributions about individual actors operating independently rather than within group or organizational contexts. In contrast, hazard mitigation often requires consideration of the interrelated and hierarchical roles of design professionals, government, and businesses in hazard mitigation.

Do people follow different patterns in judging the responsibility of group actors such as government agencies or businesses? These group actors are major players in hazard mitigation and central to our investigation. There is good reason to believe that responsibility attributions about group actors will differ from judgments about individuals. Governments and corporations are organized in hierarchical structures, and are populated by individuals with specialized skills and responsibilities. Observers may presume that the government and business and professional corporations, with all of their intellectual resources, can function in a more thoughtful, forward-looking way than the individual (Hans, 1990). Because of matters of scale, governments and business corporations often possess the potential to harm--or to help--a greater number of people, contributing to higher a priori levels of responsibility. Research by Hans and Ermann (1989) has found that laypersons appear to hold corporate defendants to a higher standard than individual defendants and are more likely to find corporations than individuals liable even when they engage in the same actions and cause the same harm.

Currently, there is a lively debate about the ethical responsibilities of professionals to design and construct safe buildings and systems (see generally Mayo & Hollander, 1991). One question is whether professionals have the moral responsibility to exceed government safety standards in their work if they have the technical proficiency to make
their products safer. Therefore it is of interest to assess attributions of responsibility for various professional actors who engage in disaster-related work, including scientists, architects, engineers, builders, and contractors.

The Current Studies

To examine the effects of natural versus technological hazards and a disaster's severity, and to assess how responsibility is attributed among various actors in a disaster context, our experimental research varied aspects of a disaster and assessed their consequences for attributions of responsibility within two scenario studies, using college students as subjects. We also had three groups of engineers complete one condition of our scenario study (the Severe Natural disaster) and engage in focus group discussions about ethical and moral issues in the disaster context.

Studies 1 & 2: Scenario Studies with Lay Subjects

Studies 1 and 2 varied the disaster agent and the severity of its consequences. In each study, subjects in the Natural Disaster condition received a description of an earthquake, while in the Technological Disaster condition they read about a chemical emission. Half of the subjects in each condition learned that the disaster was moderate, and the remainder received information that the disaster had severe consequences. A total of 335 undergraduate students participated, 180 in Study 1 and 155 in Study 2.

Questionnaire

The basic questionnaire in both studies began by describing the city of Santa Louisa, a fictional community in the central coastal region of California, and then providing background information about either natural or technological disasters,
depending on the experimental condition. The Natural Disaster subjects were given information that Santa Louisa had experienced several small earthquakes over the past 20 years. Similarly, in the Technological Disaster condition, respondents learned about several small hazardous materials spills or releases over the past 20 years. Residents and city officials were described as not very concerned about the possibility of a disaster and to have undertaken only a modest amount of disaster planning. Respondents then rated the appropriateness of the level of concern and preparation of Santa Louisa residents and public officials regarding potential disasters.

Subsequent sections of the questionnaire presented information about a disaster occurring in Santa Louisa, either a severe or a moderate earthquake or a toxic emission. Respondents rated the severity of the disaster and made a variety of judgments about who was responsible for disaster mitigation and post-disaster relief and recovery.

In Study 1, subjects were asked about the responsibility of scientists, local officials, plant owners, and community residents for conducting research and developing a warning system. They also gave global judgments about the responsibility of scientists, local officials, and local residents for the health and economic consequences of the disaster.

To obtain a more differentiated picture about the dimensions of responsibility that are important in a disaster context, Study 2 expanded the types of pre-disaster actions and post-disaster compensation and recovery activity presented to respondents. In Study 2, we also increased the number of potential actors who could be held responsible.

Results

Perceptions of Severity
Following a description of either a moderate or a severe earthquake or chemical emission, questions probed how the respondents rated the severity of the disaster. This served twin functions: to check the severity manipulation, and to explore whether earthquakes and chemical emissions were seen as equally severe in people's minds. The severity manipulation was successful in both Study 1 and Study 2. Respondents rate the severe versions of the two disasters as having more serious consequences than the moderate versions. However, consistent with other research showing that technological disasters are considered more negatively by the public, in both studies the respondents rate the technological disaster as more severe than the natural disaster.

**Attributions of Responsibility Before a Disaster**

In both Study 1 and Study 2, respondents learned about the low probability of the disaster and then assessed the responsibility of key agents for various activities designed to lessen the likelihood or impact of a disaster.

**Study 1.** In Study 1, respondents are more likely to think that a warning system should have been developed to alert residents about a pending event in the Technological Disaster conditions than in the Natural Disaster conditions. Subjects rated the responsibility of various parties for developing such a warning system on a 10-point scale. Local officials are given the highest responsibility for developing a warning system. Close behind them are the owners of the manufacturing plant in the Technological Disaster condition. The responsibility of scientists is rated in the middle. Owners of buildings in the Natural Disaster condition, and residents in both conditions, are given the least responsibility for developing a warning system.
Although existing research on this point is mixed, we hypothesized that actors might be attributed greater responsibility for the severe than for the moderate disasters. In addition, if technological failure is seen as more predictable and more controllable than a natural disaster such as an earthquake, then we would expect more attributed responsibility in the Technological Disaster conditions. In Study 1, the disaster's severity made a difference in the perceived necessity of scientific research, but in a direction opposite to the hypothesis. Respondents believe that more scientific research is needed about the possibilities of an earthquake or a toxic emission in the Moderate Disaster conditions than in the Severe Disaster conditions.

The severity of the disaster event had different impact on the perceived responsibilities of the plant owners and building owners in the two types of disasters. Compared to the situation of a moderate toxic emission, when there has been a serious toxic emission, plant owners are seen as more responsible for developing a warning system. In contrast, building owners are seen as less responsible for the warning system for a severe earthquake than for a moderate earthquake.

Study 2. Study 2 expanded the types of pre-disaster mitigation activities and parties and asked for judgments of responsibility.

Governmental Responsibility. Overall, the amount of local, state, and federal government responsibility that respondents perceive is quite high, particularly for local governmental officials. And the comparison of the different levels of governmental responsibility for disaster mitigation actions reveals a striking pattern: In every instance, local government is held most responsible, federal government is deemed least
responsible, and state government responsibility is in between.

There are virtually no differences in the responsibility of government officials for natural versus technological disaster mitigation. Of the 30 possible opportunities, there are only one or two significance tests that exceeded the .05 level, about what would be expected by chance.

**Professional Responsibility.** Respondents hold professional actors, including scientists, architects and engineers, and builders and contractors to relatively high levels of responsibility. In all but a few instances, attributions of responsibility to the professionals are above the midpoint of the scale.

Respondents also sensibly differentiate between the responsibilities of scientists on the one hand and the other professional groups on the other. Scientists are given the most responsibility for developing a warning system, conducting a risk assessment, conducting a vulnerability assessment, and educating the community. Respondents do not differentiate much between architects and engineers versus builders and contractors, the two groupings that we presented. These groups are seen as more responsible than the scientists for strengthening and enforcing building codes, requiring older plants and buildings to be strengthened, designing and building new structures that would lessen the likelihood of disaster damage, and purchasing insurance.

In marked contrast to the responsibility of governmental agents, where the nature of the disaster appears to be unimportant, the type of disaster influences several judgments about the responsibility of professionals. In a number of instances, responsibility is higher in the Natural Disaster conditions. Builders and contractors are
seen as more responsible for undertaking a scientific risk assessment when the danger is an earthquake than when it is a toxic emission. A similar pattern is observed for the vulnerability assessment. Likewise, architects and engineers are seen as more responsible for doing a vulnerability assessment for earthquakes than for toxic emissions.

Other measures show greater responsibility attributions in the Technological Disaster condition. In a pattern that is opposite to that of the other professionals, scientists are seen as more responsible for the vulnerability assessment in the Technological Disaster conditions than in the Natural Disaster conditions. Scientists’ responsibility is perceived to be higher in the Technological Disaster condition for requiring older plants to be strengthened than in the Natural Disaster condition for requiring older buildings to be strengthened. Scientists’ responsibility for educating the community is seen as greater in the Technological Disaster condition than in the Natural Disaster condition. Finally, architects and engineers as well as builders and contractors are all seen as more responsible for developing a warning system for the Technological disaster than for the Natural disaster.

Post-Disaster Judgments of Responsibility for Damages and Losses

Study 1. In Study 1, global judgments of responsibility for disaster damages and losses were obtained. Not surprisingly, in the Technological Disaster conditions, the plant owners and operators are seen as the most responsible parties. Next in the Technological Disaster conditions are local officials, who in turn are considered the most responsible agents in the Natural Disaster conditions. The attributions of responsibility of scientists, building owners, and residents are lower and very similar to each other.
Whether or not the disaster is natural or technological affects the global judgments of responsibility in Study 1. Both scientists and local officials are more likely to be held responsible for technological disasters than for natural disasters. However, for judgments of the responsibility of scientists, the severity of the disaster interacts with the type of disaster. Scientists are attributed higher responsibility in severe as opposed to moderate toxic emissions, but in the Natural Disaster conditions the scientists are attributed less responsibility for the severe as opposed to the moderate earthquake. The responsibility of residents is perceived to be about the same in all experimental conditions, and is quite low.

Study 2.

Injury Compensation. Judgments of responsibility for various parties for compensating those who are injured in natural or technological disasters reveal several interesting patterns. First, governmental officials at all levels are perceived as responsible for injury compensation—even for natural disasters. All responsibility judgments for the government officials in both conditions are well above the midpoint of the scale. In the Natural Disaster condition, no other group is attributed much responsibility for compensating for personal injuries; judgments range from a low of 2.69 to a high of 3.82, all well below the midpoint of the scale.

Quite a different pattern emerges in the Technological Disaster condition. The owners of the chemical plant are held most responsible for compensation of personal injuries. Surprisingly, the plant operators are ranked fifth in responsibility for injury compensation. Their attributed responsibility is actually less than that of local, state, and
federal officials. Thus, even for injuries stemming from a private business disaster, government is seen as having a fair degree of duty to compensate the injured.

Federal government officials are held more responsible for compensating for personal injury in the technological as opposed to the natural disaster. Scientists, architects and engineers, and builders and contractors are all seen as more responsible for injury compensation after a technological compared to a natural disaster.

The disaster's severity affects judgments as well. Again we find that, contrary to predictions, no group is attributed significantly greater responsibility for compensation after a severe as opposed to a moderate disaster. In fact, community residents and local government officials, the "small fish," are seen as more responsible for injury compensation following a moderate disaster than a severe disaster. It may be that because severe disasters produce such a great amount of personal injury, no group is expected to fully compensate the injured.

**Governmental Responsibility for Post-Disaster Relief.** Recovering from a disaster, of course, requires a range of relief activities. Who is responsible? Once again, the perceived responsibility for government is quite high. After natural disasters, local, state, and federal government officials are held responsible for assisting business, restoring public and private buildings, and cleanup efforts. The same hierarchy of responsibility for disaster mitigation, in which local government is seen as more responsible than state government, which in turn is seen as more responsible than federal government, is also observed in the post-disaster relief judgments.

The perception of governmental responsibility after technological disasters is even
higher. Government is seen to be liable for monitoring the health consequences of the
disaster, assessing soil and water contamination, cleaning up the contamination, assisting
business and agriculture, and restoring public and private property. These responsibilities
too are highest for local government, least for federal government, and in between for
state government.

**Professional Responsibility for Post-Disaster Relief.** A very different picture
emerges in the attributions of responsibility to professionals. The majority of
responsibility judgments are well below the midpoint of the scale. The professional
groupings of architects and engineers and builders and contractors are not seen as very
responsible for post-disaster assistance. Even for the restoration of public and private
buildings following a disaster, a type of activity that might be viewed as the purview of
the building trade, the highest rating is only 5.82.

Scientists are seen as playing a more essential role in the post-disaster work
following a technological event, however. Determining soil and water contamination,
cleaning up the contamination, and monitoring the health of residents after a chemical
emission are all seen as the responsibility of scientists. They are seen as playing a more
critical role following a technological as opposed to a natural disaster. For those types of
activities we were able to compare across types of disasters (assistance to business, and
the restoration of public and private property), the scientists are held more responsible
for assisting after a technological disaster. In contrast, builders and contractors are seen
as more responsible for helping to restore public buildings after a natural as opposed to
a technological disaster.
Impact of Severity. In Study 2, we hypothesized that the severity of the disaster would influence responsibility judgments. Yet, except for a few instances of injury compensation when results are opposite to predictions, there are no main or interaction effects of Disaster Severity on attributions of responsibility for post-disaster relief.

Study 3: Engineers’ Judgments

In the long run, we hope to examine how those who are involved in disaster planning and relief operations make judgments about their ethical and moral responsibility for disaster activities. These can usefully be compared to the data on public judgments. As in the literature on risk perception among lay and expert decision makers, comparative data may provide insight into the overlapping and distinct factors that affect lay and expert judgments.

We held three focus group discussions of engineers, in which they completed one condition of the Study 2 scenario experiment (the Severe Natural Disaster condition), and engaged in a wide-ranging discussion of the scenario they had just read and the ethical and moral issues of responsibility confronting them in their practice. The group discussions were audiotaped for later analysis. A total of 13 engineers participated.

The engineers are highly experienced, with an average of 20 years in practice. Most are civil/structural engineers. Three-quarters are currently involved in design work, with half saying they have "a great deal" of design experience.

The engineers report that they found the scenario depicting a severe earthquake and its consequences to be quite believable. We undertook exploratory analyses of the responses of the 13 engineers to the scenario items, comparing them to the student
respondents in the same condition of Study 2. We were hampered in our statistical analyses by the small sample of engineers, but nevertheless several interesting patterns emerge. One difference is that, compared to the engineers, the lay sample has significantly more trust in public agencies to respond to a disaster, and attributes higher levels of responsibility for disaster mitigation and relief to government, especially local government. The two groups also differ on the rated importance of different actions that could be taken to mitigate disasters. Engineers, for example, think it is more important to build new earthquake-resistant structures and to educate the community, while the student sample is significantly more keen on developing a warning system for earthquakes. Engineers are generally more likely than the lay sample to hold private enterprise, including business owners, to higher levels of responsibility for disaster mitigation and relief.

The focus group discussions provide some fascinating glimpses into the ethical and moral dilemmas that engineers face in their work. One overarching issue is the strong link evident in the engineers' minds between what is considered to be ethical and moral, and what is "legal." Both existing building codes and the threat of potential litigation are reported to be important factors in decision making. Interesting ethical dilemmas were discussed, including the apparently common one of working for a client who is very concerned about the bottom line and who does not want to go beyond the bare minimum specified by building codes. Engineers discussed the efforts that they engage in to educate the client about potential problems that could be avoided if "designing above the code" was followed. One engineer stated:
I think that’s implied or actually explicitly stated in your engineering registration that you shall protect the public. The code is merely just a minimum, kind of a compendium of things that have gone wrong in the past. If you know something new that’s going to happen in the future, then you’re, as an engineer, obligated to design that into your structure.

[A1, Group 2]

But another engineer argued:

If the cost factor comes into play, you have an obligation to at least point it out to the owner. Now he can get you off the hook if he doesn’t want to do it. You obviously work for him...If he insists not doing it, he takes over the responsibility and liability for it. [A7, Group 2]

As one engineer observed:

It’s going to be harder to design greater than the code because the owner’s looking at dollars. How much is it going to cost him per square foot. He has to go to code, but to go beyond that, it’s going to be very difficult to convince him. [A2, Group 1]

Engineers also discussed how the concern about potential liability affects their work lives. They were conscious of the possibility of being sued, and in considering ethical questions they often brought up the likelihood of being sued, which they perceived as substantial.

With all the litigation and the tremendous number of attorneys looking with the attitude that everything that happens is somebody else’s fault and therefore there’s some money to be made on it, I think we’re going to
definitely going to be getting into that consistently more until, I don’t know where it’s gonna go. [A3, Group 1]

The ways in which threats of liability and the existence of codes affect engineers’ reasoning about their own moral responsibilities, and their interactions with clients over cost control and design, are intriguing and deserve greater attention and analysis.¹

Discussion

The scenario studies have yielded some interesting data on the factors that influence responsibility judgments in disaster contexts. First, although we made strenuous efforts to describe comparable natural and technological disasters, people differentiate between them. Before learning about the actual impact of the different disasters, the respondents rate the technological disaster as producing more severe consequences than the natural disaster. They express more worry about the technological disaster. In Study 1, even after learning that the impact of natural and technological disasters is approximately the same, the technological nature of a disaster influences the subjects’ judgments of responsibility for disaster losses, with greater responsibility attributed to the plant owners, local officials, and even scientists for technological disaster losses. This differentiation of natural and technological disasters is quite consistent with prior

¹In response to a question asking whether the public expects more of engineers and design professionals now than in the past, one group discussion emphasized the public's lack of knowledge about the profession and how that might affect perceptions of responsibility:

A3: I think the engineering and design features of our economy are basically hidden from the public. I don’t think that a lot of the public realize the architectural and engineering business, what they should expect of them, or what they even do.
A4: Because all they're looking at is the finished product....
A1: The public is totally uneducated. It's our fault when we're not telling the public what we do....
A1: They always hear the failures, you know. Engineers aren't out there enough blowing their own horns on how great it is that all these buildings are standing up. [Group 1]
research literature showing the distinctive reactions people have to technological hazards.

Although we were successful in describing disasters of different severity, the variation of a disaster's severity had only modest effects on responsibility judgments. Intuition, and some research, suggests that more severe disasters may create greater demand for accountability. No such pattern was found in the current study. Indeed, in several instances, judgments of responsibility went the opposite direction. For example, scientists are held more responsible for moderate earthquakes than for severe ones. (Judgments of responsibility for technological disasters, it should be recalled, do not follow this pattern.) Even though we presented the same information about the low predictability of the event in the Moderate Disaster and Severe Disaster conditions, subjects may have believed that more moderate natural disasters were to be anticipated and that it is the responsibility of scientists and others to be prepared for moderate natural disasters. Severe natural disasters, in contrast, may have been viewed as so unusual and extreme that they could not be prepared for—almost like an Act of God rather than an event whose consequences could be mitigated by human action. Another factor to consider is that even our moderate event is quite severe. The degree of a disaster's severity might play a role in responsibility judgments at lower levels, but once it reaches a certain threshold it may no longer affect attributions of responsibility. In subsequent research we will have to explore this possibility.

Throughout their responses, subjects reflect a strong desirability for controlling the likelihood and impact of disasters. Even for the natural disaster, attributed responsibility is substantial. Especially notable is the high responsibility attributed to local, state, and
federal governments for both disaster mitigation and post-disaster relief and compensation. The chemical spill was caused by a private, for-profit business, yet all three levels of government are expected to undertake activities to lessen the damages of such spills in advance, and to compensate and help those who were injured as a result of the spill.

As a general rule, local government is seen as most responsible for mitigation and post-disaster assistance, federal government is viewed as least responsible, and state government is in between. Local government's responsibility is reduced somewhat in the face of a severe disaster. One might have expected, as is often the case in actual disasters, that state and federal government would be attributed more responsibility for severe disasters because the extent of the destruction would exceed the capacity of the local government for relief and compensation. However, no greater responsibility for these broader levels of government after severe disasters was found. We suggest that the judgment that local government is most responsible reflect our respondents' sense that, whatever the financial realities, local government has the moral imperative to provide guidance in rebuilding the local community after a disaster.

Judgments of responsibility for the professional groups varied across specific types of disaster-related activity. In general, for all three groups of professionals, scientists, architects and engineers, and builders and contractors, there is a fairly high amount of responsibility attributed for disaster mitigation. The professional groups are seen as culpable for lessening the likelihood and impact of disasters. However, their responsibility for helping the community to rebuild after a disaster is judged to be only moderate. Only
judgments about scientists in the Technological Disaster condition show a different pattern. Scientists are expected to contribute to the community’s recovery after the chemical spill. In the respondents’ minds, scientists are part and parcel of the technological problems related to the spill, and they have the responsibility to be part of the solution. Our data thus reveal a link between technological disasters and the role and responsibility of scientists.

The comparative data from engineers show that, like risk perception, lay and expert judgments of responsibility are likely to differ in significant ways. The focus group discussions of the ethical and moral dilemmas in engineering indicate that engineers consider law as they attempt to mediate between design considerations and financial constraints. The manner in which legal requirements influence and perhaps even limit ethical decision making by professionals in the disaster context is of enormous interest and deserves further analysis.

These early studies provide evidence that a systematic approach to examining judgments of responsibility for disasters can be quite informative. In future work we hope to expand the populations we study to include members of the general public and a wider array of professionals involved in disaster planning and relief efforts. We are also interested in discovering how other aspects of disasters, especially the predictability and controllability of the agent and its consequences, affect judgments of responsibility, and are developing new variations of scenario components for testing. Finally, we plan to complement these experimental studies with further exploration of how professionals resolve real-world ethical dilemmas in the disaster context.
References


