

RISK: Health, Safety & Environment (1990-2002)

Volume 10

Number 3 *Risk Communication in a Democratic Society*

Article 3

June 1999

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Richard C. Rich

Robert J. Griffin

Sharon M. Friedman

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Richard C. Rich, Robert J. Griffin & Sharon M. Friedman, *Introduction: The Challenge of Risk Communication in a Democratic Society*, 10 RISK 189 (1999).

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Introduction: The Challenge of Risk Communication in a Democratic Society

Richard C. Rich, Robert J. Griffin & Sharon M. Friedman*

Modern technology presents democracy with probably its most difficult challenge. The complexity of conducting informed, reasoned deliberation about policies toward technology-induced risks has made it extremely difficult for citizens to be self-governing in this area of public life. This situation has elevated the political importance of risk communication since such communication is essential for citizens and policy-makers to understand risks well enough to conduct informed debate. To understand this challenge to democratic practice, we must examine some of the relationships among democratic politics, communication systems, and technology-induced risks.

Politics is generally considered to be a nonviolent conflict over “who gets what, when and how.” Democracy is usually defined as a means of conducting politics in which all citizens have a right to participate in public decisions about “who gets what, when and how,” citizens enjoy political equality, and decisions are based on majority rule (with protections for minority rights). In the U.S., the communication (particularly news) media often play a central role in democratic politics by informing citizens about public decisions, providing a platform for debate of issues, and serving as a “Fourth Estate” check on government and powerful interests. In fact, the First Amendment’s guarantee of press freedom reinforces the media’s centrality and critical role in a democracy.

While democratic institutions and politics have adapted to an amazing range of social, cultural and economic conditions, we struggle to extend them to the context of modern technology. Prior to the second half of the 20th Century, most political conflict concerned the

* Dr. Rich is Professor and Chair of Political Science, and Chair, Executive Committee, School of Public and International Affairs, Virginia Tech. Dr. Griffin is Professor, College of Communication, Marquette University and Director, Center for Mass Media Research. Dr. Friedman is Iacocca Professor and Director, Science and Environmental Writing, Dept. Journalism and Communication, at Lehigh University.

allocation of things people desired, or “goods.” With land, money, access to trade routes, or any other valued object or situation, it is fairly easy to determine who does and who does not have the “goods.” As a result, we can generally determine who won and who lost in political decision-making.

However, since-World War II, exponential growth in the number, variety and use of manufactured chemicals and other potentially risky technologies has created a radically new challenge for democracy. It introduced a new type of political issue — the allocation of risks, rather than goods. The task of making political decisions about the allocation of risks that arise from the application of technology differs qualitatively from the task of making decisions about the allocation of goods. Such a difference results from: the difficulties involved in identifying stakeholders; and the myriad of factors or barriers that affect citizen understanding of technological risks and, therefore, their equitable participation in public decision-making about risks.

Difficulty in Identifying Stakeholders

It is often not possible to know, with certainty, who faces a technology-induced risk and who does not. Our understanding of many of the health risks associated with these hazards is highly incomplete and it can take many years for the effects of exposures to be revealed. In addition, the task of separating the effects of a given hazard from the effects of other hazards to which people are simultaneously exposed can be exceedingly difficult. Under these circumstances, it becomes most difficult to identify the “stakeholders” in a given political decision. It is hard to determine who should have the right to participate and to which population base to apply the majority-rule principle of democracy.

A more vexing problem relates to the fact that these conditions can make it highly difficult to apply a substantive, rather than procedural, criterion to judging the degree to which our decision making is democratic. Since we have difficulty in determining who faces risk, how much, and from what source, we are often doubtful about what the outcome of a political decision making process was (or should be) in terms of risk allocation. As a result, we are frequently unable to

determine who has won and who has lost once a decision is made. We are left wondering: whether the majority was able to protect its interests with respect to this risk; whether some group not at risk was protected at the expense of an exposed group; and whether the at-risk group gave up more than it gained in order to be protected.

Barriers to Understanding Risks

Cognitive, psychological, cultural, political, and social structural barriers keep citizens from fully understanding technological risks. These barriers seriously limit citizens' abilities to respond adequately to personal risks and to participate effectively in public decisions about risks. Researching and overcoming these barriers are among the foremost tasks facing the field of risk communication.

Cognitive. Perhaps the primary cognitive barrier to informed citizen participation relates to the fact that most citizens lack the scientific training (e.g., in chemistry, toxicology, epidemiology, ecology, probability statistics) to fully understand technological risks, or even to accurately judge expert claims about the risks they encounter in the mass media and other communication channels. The public tends to rely on the media as its source of risk information, yet most news reporters lack similar training in statistics and the sciences. Technical experts often have trouble translating risks effectively for media practitioners and lay audiences. Even specialized science and environmental journalists sometimes find it difficult to interpret risk and risk claims for lay audiences.

The simple fact that much of the information needed to make informed assessments of risk is not collected, or made available to citizens or the media complicates cognitive constraints. For example, the much referenced *Toxics Release Inventory* mandated by federal legislation covers only some of the many potentially harmful chemicals and only presents data on amounts of chemicals released into the environment. It does not contain information on population exposure, relative toxicity, chemical interactions, or other factors that go into creating actual health risks from emissions. Even the most diligent citizen or journalist cannot expect to be adequately informed. As a

¹ See 42 U.S.C.A. § 11023 (1995).

result, citizens may bring confusion and misunderstanding to the dialog about public policy related to risks.

Psychological. The psychological barriers include the natural tendency to discount distant and uncertain dangers in favor of attention to more immediate and certain threats. It is often difficult to motivate citizens to invest the time and energy needed to become informed and actively participate in political deliberations about the allocation of risks which may or may not affect their lives and, if they do, will have their effect only years into the future. Democracy fails to serve when people who have a stake in the outcome do not take part in the political process, or when they participate with highly limited or inaccurate information.

Cultural. Cultural barriers to informed participation include an organization of work life and a consumer culture that so absorb our energies as to leave little time for learning about complex issues of risk. Entertainment, news and advertising industries flood us with so many messages that it becomes difficult for citizens to attend to any specific message about a risk that is not presented as often and as effectively as commercials. In particular, the preference of news media for highly visual, dramatic stories can work against citizens gaining the detailed technical information they need to judge questions of health risks from chemical or other exposures.

Political. The political barriers include the fact that policy making generally proceeds in a timeframe that does not allow citizens to become fully educated about highly technical issues. Nor does the policy making timeframe allow for the research necessary to provide complete information on technological risks required for meaningful debate. Additionally, well-funded interest groups dominate the deliberation of most technical issues in our "hyperpluralistic" political system, and often stand to gain from limited public involvement in those decisions. Moreover, political authority is often organized along both geographic and functional lines that do not relate to the distribution of risks. As a result, no appropriate forum truly exists for debating specific risks.

Social Structural. Akin to political barriers are the social structural factors that affect the informal distribution of power in society and, with it, the possession and control of information in society.

Democracy requires political equality among citizens. Yet based on their location in the social structure, many citizens may lack ready access to the information required to participate equally in democratic processes, while others may hold and manage distribution of that information.

For example, the highly technical and uncertain nature of many technological risks, coupled with our society's deference to scientific knowledge, bestows very unequal social and political influence on those who are viewed as "experts" and those who can afford to enlist the aid of such experts in arguing their case. Those who have the relevant technical knowledge are in a position to define, at least, some aspects of the "reality" within which political decisions originate. For example, they can generally decide what chemicals are present in what quantities, and at what doses those chemicals pose a hazard to human health.

Another structural factor relates to the location of individual citizens in the social hierarchy of the community. Higher status individuals (i.e., those with higher income and education) often tend to acquire information more readily and rapidly than their lower status counterparts as the media infuse information about a given issue into the community. Thus, when risk issues become present on the media agenda, those who are low on the economic/educational hierarchy can also be less informed as compared to higher status citizens. On its face, this knowledge differential can constrain lower status citizens from meaningful participation in public decisions about risk. In cases where lower status groups might also bear unequal or unfair exposure to risks, serious questions of justice arise.

Structural factors can even affect the extent to which local news media play a critical or "watchdog" role on government and powerful interests in their communities. For example, news media in smaller communities often tend to hold back from publicizing information that might reflect badly on the community and its power structure, including information that might link a local industry to health or safety risks to citizens. Therefore, a likely result could be that average citizens in these communities would not have easy access to information about such local risks, even though powerful community members may be fully informed.

Without true political equality, the task of honoring the principle of majority rule becomes impossible. Political equality requires that citizens have at least equal access to relevant information and a voice in the channels of debate about decisions. There are serious communication-based constraints on political equality in the risk arena.

An Ethical Dilemma

The failure of democratic procedures to guide decision making in the area of technological risk tends to be quite significant. This is because the allocation of these risks: may profoundly affect the health and well-being of a great many citizens, and is a necessary byproduct of our material lifestyle (since so many of the things we enjoy are manufactured using potentially risky technologies). If we cannot reach decisions about the allocation of risks democratically, our society faces a serious ethical dilemma.

Basically, that dilemma is simple. If the risks associated with the production of benefits are not distributed through open, democratic processes that reflect the "consent of the governed," then some groups benefit from others' unwitting or unwilling exposure to risks. This theory violates most Western standards of basic fairness. Moreover, it means that even if we successfully distribute society's "goods" by democratic rules, we cannot be fully democratic until we distribute risks by these same rules.

Role of Risk Communication

What role does risk communication play in this complex problem? Clearly it cannot erase any major impediment to democratic decision making with respect to technological risks. However, given the political will to extend democracy into this arena, risk communication can assist citizens and public officials in overcoming or limiting the impact of those barriers. Because we cannot expect all citizens to become experts in technological risk assessment, effective risk communication that allows citizens to participate fully in decisions about those risks is essential to democratizing our society's allocation of risks.

What role does risk communication research play? Certainly more knowledge is needed about communication as it relates to the various

barriers that affect citizen participation in public decision-making about risk. Relatively little research has thus far addressed the workings of risk communication in this more public, democratic sphere. In fact, to become more useful for the science and practice of risk communication, risk communication research must continue to expand beyond its conventional moorings in risk perception to explore cultural, social structural, and political processes, including a wider array of behavioral, psychological, and cognitive factors in communication. Much could be gained if risk communication researchers would begin to incorporate into their studies more of the body of theory and research from the field of communication itself. Communication studies, which have evolved over many years, present rich insights that could be applied to risk communication situations. Unfortunately, however, risk communication research has often ignored this body of knowledge, conceptualized risk communication merely as a stimulus to some effect, and has been basically atheoretical.

This Special Issue

Each of the articles in this special issue make a contribution toward a broader, more useful understanding of risk communication, as it relates to public participatory processes. Studies of mass, interpersonal, and organizational communication are brought to bear. Multiple methods are represented, including survey, experimental, ethnographic, focus group, and content analytic techniques. All of the articles suggest exciting ideas for further research which would expand or reconceptualize ideas of risk communication.

The first four articles emphasize an often neglected audience-based approach to researching risk communication and public participation. Clark, Stamm and Eblacas lead off with "A Process Model of Risk Communication: The Case of Global Climate Change," a report of a sample survey that examines how media use by the public relates to different stages of public awareness and concern about a risk issue. Scherer, McComas, Juanillo and Pelstring in "Promoting Informed Decision-Making: The Role of Message Structure" explore how message composition facilitates critical thinking about risk issues by the audience is analyzed via two experiments. Citizen responses to a

commonly used risk message technique, the risk comparison, are examined through exploratory focus group research conducted by Johnson and described in his article "Risk Comparisons in a Democratic Society: What People Say They Want and Do Not Want." Word, Harding, Bilyard and Weber use ethnographic analysis of a focus group discussion between scientists and laypersons to study risk communication not as conveyance and reception of information but as an information exchange or transaction in "Basic Science and Risk Communication: A Dialogue-Based Study."

The final three articles offer welcome, fresh and engaging perspectives on organizational actors involved in public participation about risk issues. Friedman, Fitzpatrick and Egolf use content analysis to examine whether the news media fulfill their responsibility to offer people information they can use for decision-making in a democracy in "The Media and EPA's Draft Dioxin Reassessment Report." In "Organizational Responsiveness to Risk Stakeholders," Chess proposes a possible model designed to spur further research into how the relationship between the risk management and risk communication functions in organizations can affect the ways organizations relate to risk concerns of their stakeholders. Finally, Kunreuther and Slovic offer thought-provoking insights into how public decisions might become biased by stigmatization of technologies, products and places in "Coping with Stigma: Challenges and Opportunities." They also suggest solutions that should encourage some innovative research.

The editors of this special issue hope that it offers new perspectives into the roles of communication in managing risks in a democracy, provokes further studies, and serves as a catalyst for expanding both the practical usefulness and theoretic base of risk communication research.

