An ear to the ground or a head in the sand?

Seeking or avoiding risk-related information in emergencies

Jan M. Gutteling and Peter W. de Vries explain why new insights into how the public responds to a crisis will help shape better risk communication to prompt resilient behavior.

A 7.5 earthquake has shaken Seattle, Washington, and a tsunami is reportedly on its way. Freeways have buckled and buildings have fallen. People are frightened and some are panicky. In Paris, a large car bomb has exploded, killing dozens and wounding hundreds. People worry that other bombs might go off. They ask: What should I do? Who can tell me?

To stimulate resilient behavior in response to the many emergencies in today’s world, crisis managers must know when individuals will either seek or avoid risk information. A recent study we conducted that was published in the Society for Risk Analysis journal, Risk Analysis, asks whether public information-seeking in acute situations, when pressure is high and time to deliberate is scarce, follows similar underlying processes as occur in relatively slow-paced adverse situations.
Technological developments have given us a 24/7 availability of risk information through the Internet, as well as increased interaction through social media and increased mobility via smartphones and tablets. Digital media thus can be instrumental in conveying information and facilitating self-reliance during a crisis. In fact, recent studies have shown that the Internet is among the most important means for acquiring information in acute situations, and people will go online for information in addition to seeking expert sources. In acute risk situations, when time to react is scarce, most citizens want authorities to deliver timely, adequate information on how to proceed. Nevertheless, what has become clear from earlier studies is that the social environment is particularly important in determining how people react in a crisis. During an emergency, people’s behavior is not a mere matter of self-preservation at all cost; rather, they often evacuate emergency locations in their social groups, consulting others to make sense of the situation before undertaking any action. The omnipresence of smart phones, Internet and social media affords even greater access to information from the social environment to help them prepare for, and cope with, emergency situations. Several recent disasters have underscored the importance of social media in disseminating disaster-related
information (about warnings, rumors, and advice to increase resilience), often criticizing and correcting official information.

A downside to the availability of diverse and sometimes conflicting information is that it may overwhelm an inexperienced and naive information seeker, or undermine confidence in his or her coping potential. Insufficient communication in the crucial stages of an emergency adds to the problem, especially when the preferred coping behavior is uncertain. Quality risk information is essential. But it is not yet clear how the appraisal of one’s efficacy in dealing with an emergency relates to information-quality judgments. An educated guess, however, is that trust, credibility, and efficacy beliefs might be interrelated.

**Risk Information Insights**

Understanding citizens’ risk information seeking may help determine how various information sources can increase public resilience. Risk information seeking is indeed an area of increasing research interest. The Risk Information Seeking and Processing model (RISP), for instance, identifies various information-seeking antecedents—namely, information sufficiency, information subjective norms, perceived information-gathering capacity,
channel beliefs, perceived hazard characteristics, and affective responses to risks. RISP has been subjected to empirical testing in several studies. The RISP model conceptualizes information seeking as a continuous “goal-oriented” activity, and postulates that acquiring knowledge is an important human motive, e.g. to acquire sufficient knowledge to deal with life’s events, or to be able to share information with relevant social groups for support or social comparison.

Another model is the Framework for Risk Information Seeking (FRIS). FRIS proposes that three so-called risk-awareness factors influence why people feel they need additional risk information. Risk perception refers to an individual’s assessment of a risk’s probability and seriousness of the consequences. Personal involvement relates to the judgment that the particular threat will be relevant to the person or important others. Finally, self-efficacy refers to the belief that one is able to successfully seek information to cope with the risk, or to take protective measures. These three factors are assumed to determine affective responses and feelings about information sufficiency (similar to these concepts in RISP), which in combination with informational subjective norms determine a person’s seeking of additional risk information. FRIS suggests that, when risk and efficacy are salient, risk perception and efficacy beliefs jointly
affect subsequent action. Given recent results, self-efficacy could be seen as a more important factor in how an audience construes risks and its subsequent uptake of risk communication efforts. The influence of self-efficacy remains an important line of inquiry in this research area. In addition, the level of perceived issue involvement has surfaced as an important factor associated with one’s intended risk information seeking behavior.

In the emergency domain no studies have been published using RISP or FRIS. As such, it was unclear whether these models’ crucial concepts would also hold for emergencies. Our current study can be seen as a first exploratory attempt to fill this gap.

The Current Study
A specialized agency interviewed 1,000 Dutch citizens via telephone. In the interview, participants randomly received short descriptions of fictitious but realistic emergency situations (e.g., either a large-scale industrial fire with potentially contaminated smoke, or a bomb-scare, or the acute contamination of drinking water). Each description briefly summarized the emergency situation and gave advice on how to deal with it. Participants were representative of the Dutch population for gender, region, and urbanization, but younger people (18–29 years) and older people (> 65 years of age) were
slightly underrepresented. Participants answered questions regarding their first response after the warning: the likelihood of their acting according to the advice, the likelihood of their seeking additional information, and the likelihood of doing nothing. Perceived communication quality (Trustworthiness), socio-demographics (Urbanization, Age, Gender, and Level of Education), and socio-cognitive variables (Perceived Risk, Social Norm, and Self-efficacy) were studied as predictors of information seeking.

The method of collecting data via telephone that we used enabled us to contact a considerable number of prospective participants and to obtain a sample that was substantially representative of the Dutch population. However, it also had its limitations. For one, it forced us to limit the number of variables to be measured, and to measure the remaining variables with a limited number of questions and concepts; hence, statistical testing of the conceptual models in their entirety fell beyond the scope of this study. Nevertheless, as elaborated below, we were able to harvest significant insights.

**Lessons Learned**

Our study’s results suggest that predicting the likelihood of inaction is not straightforward. Whereas the exploratory analyses pointed to Perceived Risk, Level of Education, and Social Norm as predictors, none of these emerged
significantly from the confirmatory analyses. A clearer picture emerged for the likelihood of search for additional information; Perceived Risk stands out as the most powerful predictor, and, to a lesser extent, Level of Education, Social Norm, and Age proved influential. In some models, following advice was predicted by the likelihood of searching for additional information, but in all models Self-efficacy stood out as the best predictor of this behavior.

The results provide a few puzzling details. The first is that information seeking in an emergency is governed by a rather small set of predictors (Age and Risk Perception). One might wonder whether this implies that socio-cognitive behavior-related factors (like efficacy beliefs) are less important motivators for seeking information in an acute situation. How should we interpret this? Are time pressure and the need to undertake immediate action reasons for a less cognitive deliberation regarding information sufficiency? Do these circumstances reduce the urgency for seeking additional risk information? Future research should address these questions.

Second, it is noteworthy that Age and Level of Education—in some of our analyses—are direct predictors of risk information seeking. These predictors were not identified in previous models, although RISP acknowledges
demographic factors as indirect predictors. Maybe this is an indication that younger and better educated people (in the Dutch context age and educational level are interrelated) are more likely to be motivated to seek additional information in these non-normal situations than older and less educated persons. We also could speculate that the immediate satisfaction of information needs has become the norm, especially for young people, because of advances in communication technology. The value of these findings should not be sought so much in theory as in their considerable practical repercussions. Emergency services’ communication strategies may have to be adapted to this.

Third, the analysis revealed that the information quality (reliability/timeliness) is a predictor of the public’s acting upon advice in an emergency; however, it does not appear to play a role in predicting information seeking. Apparently, people need reassurances about the sender or the message content to engage in risk-mitigating behavior. Many previous non-emergency risk communication studies have highlighted the importance of source reliability. Its inapplicability to risk information seeking is somewhat puzzling. Perhaps individuals are confident that they can find additional information that might verify or falsify the alert’s message, making it unnecessary to rely on the first (and only)
message. When one needs to take immediate action, however, the only option is to trust whatever message is available at the time. The first sensible reaction when someone cries “wolf” would probably be to run, rather than to think through the merits of this message or to check the credentials of the one crying out. Additional studies may elaborate on this.

Fourth and final, our data seem to support the predictive value of concepts such as Risk Perception, Self-efficacy Beliefs, and Social Norms (postulated by RISP and FRIS and previous empirical work). However, the emerging picture from our data is different than expected. The predictive value of Risk Perception for emergency behavior is rather limited, but it is a direct predictor for risk-information seeking. Self-efficacy as a predictor of taking advice (behavior) comports with existing theories. Our study did not find a direct effect of Self-efficacy on information seeking, consistent with FRIS, which postulates that Self-efficacy predicts seeking risk information only indirectly via affective reactions and information sufficiency.

The assumed predictive relevance of the Social Norm factor as a motive for seeking additional risk information (as predicted in RISP and FRIS) was only confirmed once in our data set. However, Social Norm does seem to predict
behavioral responses. An obvious hypothesis for future studies seems to be that in emergency situations risk-mitigating behavior is more systematically under control of our beliefs and expectations about other people than our information seeking.

**Beyond Top-Down Communication**

Modern theories like RISP and FRIS are important because they focus on the consequences of the evident shift from a top-down risk communication paradigm in which the lay public is heavily depending on risk information by organized sources (governmental organizations, industries, and institutions) toward a bottom-up approach in which the public has much more control over the timing and the process of (emergency) risk information seeking, and dissemination for that matter. The dissemination of risk information is no longer monopolized by a single type of source or by a single stakeholder.

Additional studies are needed to re-evaluate the role of risk perception, efficacy beliefs, and information seeking in this new context. Our data seem to suggest that—in acute situations—information seeking is predicted by risk perception, and risk behavior by self-efficacy and social norms. The notion that information seeking might be a predictor of risk-related preparatory behavior is partly confirmed. This result may have some far reaching implications for risk
communication in emergencies or acute situations; individuals may be inclined in these situations to look for additional information.

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Sources/references


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