



## Risk Communication Research at the University of Maryland



**TERROR PLOTS. SUPER FLU. CONTAMINATED FOOD. GLOBAL WARMING.** With increasing frequency headlines warn of new threats to our health and safety. Behind every headline are corporate leaders, government officials, and healthcare providers who need effective communication strategies for controlling and preventing public risk. Risk communication research helps to provide these strategies. The study of risk communication is a multi-disciplinary endeavor that

applies the methods of psychology, public health management, and communication studies to better understand how people process and respond to risk messages. Investigators at the University of Maryland's Center for Risk Communication Research are producing pioneering work on the public's perception, evaluation, and reaction to risk. Results from recent projects are improving the ways in which health, security, and food safety threats are communicated.

Monique Mitchell Turner examines how emotions, such as anxiety and anger, affect our ability to process, retain, and act on information about health risks.

Linda Aldoory's work indicates how reactions to terror threats reported in the news can be influenced by social, cultural, and geographic factors. Robert Feldman explores risk communication from a cross-cultural perspective and examines how risk messages are received and distributed by non-English speaking groups.

Torsten Reimer studies how people process and respond to information when time is limited. His work with "Fast and Frugal" reasoning models offers insight into how risk messaging can be improved for high-pressure situations.

### **Center for Risk Communication Research - [www.riskcenter.comm.umd.edu](http://www.riskcenter.comm.umd.edu)**

#### *Anxiety's Effect on Risk Information Processing*

Monique Mitchell Turner's work has demonstrated that anxiety significantly affects how people perceive and process documents on health risks. Her results challenge previous assumptions about how people seek, consume, and retain health information.

In a recent study, Turner and her colleagues asked subjects to fill out a health history questionnaire. Some subjects were then told they had a high risk for diabetes, while others were told that their risk levels were low. The experiment then induced subjects with different levels of efficacy. Some subjects were told that they could control and prevent diabetes, while others learned that there was not much they could do to affect the disease. Turner then measured how the different groups accessed and retained information about diabetes.

Former studies predicted that people with high levels of risk anxiety (high risk, low efficacy) would avoid seeking information. Turner found the opposite. Highly anxious people seek and process the same amount of information as those with low anxiety, but they retain far fewer of the important facts. This research indicates that anxious people skim texts for anxiety-reducing information, skipping over information that does not directly address these feelings.

Turner's research has important implications for how physicians communicate health risks. If doctors want patients to retain important information, patient anxiety needs to be addressed first. Turner also investigates the effect of anger on message processing. In the future, Turner will explore the role of emotion in security and food-safety risk messaging.

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## ***How Citizens Respond to Bioterror News***

In the event of a bioterrorism attack, citizens will likely turn to news outlets for information about the threat. With funding support from the Joint Institute for Food Safety and Applied Nutrition (JIFSAN), Dr. Linda Aldoory conducted a study to better understand the variables that affect how people will receive, process, and respond to media accounts of bioterror attacks on the food supply.

Aldoory assembled focus groups and exposed them to constructed news accounts of a bioterror attack on soy-based products. Participant responses revealed that geographic proximity, demographic similarity with victims, and the likelihood of exposure each affected how viewers engaged with information. An unexpected result was the complicated role of “shared involvement”: Participants were more attentive to information that might affect people close to them, but they also felt more secure if they knew that neighbors, friends, and local officials were involved in the same problematic situation.

These findings will help guide further refinements to risk communication models, allowing risk communicators to better predict how the public will respond to food-safety and security threats.

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## ***Communicating Risk in Multicultural, Multilingual Contexts***

Robert Feldman studies health communication and disease prevention from a cross-cultural perspective. He is interested in how cultural factors, like ethnicity, economic status, and language, affect the reception and application of health messages. His research has important implications for how health officials reach traditionally underserved groups.

In one recent study, Feldman and his colleagues evaluated a smoking cessation program for Latino immigrants in the United States. Smoking is prevalent among immigrant workers, a population that often has limited access to health information and health care. This program incorporated smoking cessation messages into occupational safety seminars taught in Spanish.

Feldman’s analysis indicated that the benefits of the program were significant and widespread. Not only did the participating workers improve their knowledge of smoking risks and strategies for quitting smoking, but they also shared this information with peers and family members who did not participate directly. These results suggest that existing cultural networks can be used to achieve broad distribution of risk messages to at-risk groups.

Feldman is currently in Costa Rica collecting new data on health communication in Latin American contexts.

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## ***Models for Understanding Risk Decision Making***

Torsten Reimer’s work applies cognitive models of decision making to the contexts of persuasion and group dynamics. His work with Fast and Frugal heuristics (surprisingly accurate mental “shortcuts” for decision making) informs how people process messages under time constraints. Understanding these heuristics can influence how risk communicators write and distribute messages for pressured times.

Many models of cognition assume that people always rationally consider every aspect of a situation before making a decision. However, the converse is more often true, especially when time is short or when the costs of searching for information are high. In these situations, people often make decisions based on Fast and Frugal heuristics. For example, the “Take the Best” heuristic can activate when information searching is required but time is in short supply. Information seekers will process information quickly, but also selectively, retaining only what they perceive as the best information until an external cue indicates it is time to stop searching and take action.

Having worked at the Max Plank Institute with the pioneers of the Fast and Frugal concept, Reimer now applies these heuristics to unstudied contexts, like risk situations. For example, the Take the Best heuristic could kick in after an immediate food safety threat, like produce contamination. Consumers might stop buying a particular vegetable, because they are acting on the best information they could process before a trip to the grocery store. By understanding the underlying cognitive mechanisms of decision making, risk communicators can create messages that exploit or circumvent these heuristics.

In the future Reimer hopes to apply Fast and Frugal heuristics to group decision-making processes, another important context in which people make choices about safety threats.

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