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Society for Risk Analysis

Disaster Near-Misses Can Produce Sense of Security, Study Shows

Emergency Responders, Insurers, Communicators Must Factor Overconfidence into Disaster Preparations

Washington D.C. – Past random good fortune can lull a person into a sense of security when it comes to buying flood insurance or deciding whether to evacuate from a hurricane, according to new research. Studies of both professional risk experts and the general public showed people who had experienced a “near-miss” event related to flooding or a potential hurricane, instead of taking extra precautions when faced with possible future disasters, actually behave less protectively.

The analysis, entitled “Why Near-Miss Events Can Decrease an Individual’s Protective Response to Hurricanes,” appears in the March issue of the journal “Risk Analysis” published by the Society for Risk Analysis. The authors include Robin Dillon and Catherine Tinsley of Georgetown University in Washington, D.C., and Matthew Cronin of George Mason University in Fairfax, Virginia. The research was sponsored by the National Science Foundation and the University of Southern California’s Center for Risk and Economic Analysis of Terrorism Events.

Examples of natural environment near-misses cited in the article included: a random tree location pattern saving one’s house from a mud slide, shifting weather conditions saving a home from a wildfire, or an impending hurricane failing to produce the winds predicted or the track turns at the last moment, missing a major metropolitan area along the coast. Man-made disasters cited included terrorist events: for example, by chance, a bomb fails to go off quickly enough, allowing time for nearby individuals to intervene and disrupt the attack.

The research showed people having experienced a near-miss event perceived a lower amount of risk, despite being presented with information suggesting a high risk situation. In the first part of the study, researchers compared participants’ choices about purchasing flood insurance after some had experienced a near-miss with flood damage, while others had not. Both participants from the general public and experts in the fields of risk analysis and natural disasters who had experienced a near-miss chose less insurance than people who had not experienced a near-miss – and, in some cases, chose no insurance.

In the second part of the study, participants drawn from the same general public/risk analyst pools were queried about whether to evacuate from a hurricane. The same findings emerged: if they previously had escaped disaster by chance, they were less likely to be willing to evacuate when faced with potential hurricane weather. “Although the chance-dependent nature of near-misses may be acknowledged, these good outcomes may come to be seen as more of a sure thing for those who have experienced a near miss,” according to lead author Robin Dillon of the McDonough School of Business at Georgetown University.

“Our research shows how people who have experienced a similar situation but escape damage because of chance will make decisions consistent with a perception that the situation is less risky than those without the past experience,” she said.

The findings have implications for how people respond to, and prepare for, natural disasters and may be of interest to emergency responders, insurers, decision-analysts, and communications experts. “Those who educate the public about natural disasters need to realize that the same objective facts about the costs and statistically calculated risk of an impending hazard will be interpreted differently by people based on their own prior experience,” according to the authors. People may need to be “explicitly taught to counteract their gut feelings... The narrative or story that accompanies these facts is important, as is the salience of prior good versus bad outcomes.”

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