



RESEARCH BRIEF SERIES

# MITIGATION MATTERS

## AWARD RECIPIENT

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**AWARD AMOUNT:**  
\$2,500

*FEMA defines mitigation as the effort to reduce loss of life and property by lessening the impact of disasters. Effective mitigation requires that we all understand local risks and invest in long-term planning to reduce risks and enhance community well-being.*

## RISK COMMUNICATION TO MOTIVATE FLOOD AND HURRICANE RISK MITIGATION

### SUMMARY

At-risk individuals can take steps to mitigate hurricane and flood risks, but many choose not to do so. This study developed and tested risk communication messages intended to encourage mitigation measures, such as purchasing flood insurance and installing water barriers, using social norms and coping appraisals. Social norms are a social group expectations of how members should behave (e.g. one should protect oneself from flood risk), while coping appraisals are the process in which an individual determines if a behavior is effective and if it can be implemented (e.g., a person thinking about purchasing flood insurance will consider if effectively reduces their risk, as well as if they can afford it). Messages based on social norms and coping appraisals were evaluated using online experiments in flood- and hurricane-prone states (N = 5,027). Results indicate that social norm-based messages effectively encouraged at-risk individuals to undertake risk mitigation. However, there was no evidence that coping appraisal messages were effective.

### KEY FINDINGS

- **Social norm messages strongly encouraged intentions to undertake mitigation.** These social norm messages included injunctive norm messages (i.e., whether the social group commonly approves or disapproves of a behavior) using preferred information sources, such as weather forecasts (e.g., weather forecasters telling people that they should mitigate). Social norm messages also included social disapproval rationale messages (i.e., messages describing the social consequences of not taking mitigation measures). Both



**! Over 10 million Florida residents have purchased flood insurance.**



*Mock Facebook posting used as experiment stimuli. Image credit: JungKyu Rhys Lim.*

- injunctive norm message and disapproval rationale message increased mitigation intentions. However, descriptive norm messages (e.g., telling people that their neighbors took mitigation measures) did not increase such intentions.
- **Coping appraisal messages were not effective.** These coping appraisal messages included “why” or explanation message ( e.g., why people should mitigate), a “how” or instruction message (e.g., how to perform mitigation), a cost message (e.g., ways to mitigate without investing much money or time),

and “can” or verbal persuasion message (e.g., indicating the mitigation measures should be performed). Such messages actually decreased behavioral intentions.

- **Vicarious experience messages were effective in some cases.** Vicarious experience messages show social models who are similar to the audience performing a behavior. Using vicarious experience messages with a narrative format and matched characters were effective only in some cases.

## POLICY IMPLICATIONS

- **Use trusted messengers (such as weather forecasters) to communicate the need to protect themselves from hurricanes and floods.** Using injunctive social norms in risk communication can help motivate individuals to undertake mitigation behaviors. Specifically, find the audience’s preferred disaster information sources—such as weather forecasters, neighbors, or firefighter, police, etc.—and use them to help communicate the injunctive message. For example, organizations could communicate that weather forecasters believe individuals should take flood and hurricane mitigation measures. These preferred information sources can be spokespeople, narrators, or actors in such communication.
- **Communicate the social consequences that will result from not taking mitigation measures.** Unlike behaviors that potentially cause harm (e.g., smoking, drunk driving) or environment (e.g., recycling, re-using hotel towels), people may do not believe engaging disaster risk mitigation behaviors will have strong social consequences. Unless people can easily think of how their engagement in behaviors (or not) can result in harm to themselves and others, and thus have social approval or disapproval, people may not think they have to engage in the behaviors. Thus, to effectively tap on social norms, or perceived social expectations, for disaster risk mitigation, it is important to communicate social disapproval messages describing why at-risk individuals should perform these measures and the social consequences of not doing so (e.g., their damaged home can harm others’ homes and lower their community’s property values).
- **Be cautious when sharing coping appraisal information alone, especially in a fact sheet format.** Government or nonprofit organizations may need to communicate why and how to take

mitigation measures, describe cost effectiveness of such behaviors, and encourage individuals to engage in those behaviors. This research, however, found that providing coping information in a fact sheet format may not have a direct positive impact, and in fact could decrease intentions to mitigate.

- **Use models similar to your target audience and a narrative or story format.** Using vicarious experience messages can be effective in some cases (e.g., flood insurance). As people see the models that are like them and listen to their stories, they become responsive to risk mitigation communication and more likely to engage in mitigation behaviors.

## STAKEHOLDERS

Stakeholders who may find this work of use include federal, state, and local agencies, and nonprofit organizations working on hurricane and flood risk mitigation.



Water barrier with rescue workers in background. Image credit: Shutterstock, 2021.

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