

# HOW THE PUBLIC CONVERTS HAZARD EDUCATION INFORMATION INTO PREPAREDNESS AND MITIGATION ACTIONS

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## **Introduction**

Research in the social sciences provides a set of empirical conclusions that have been replicated about how public educational information and household preparedness and mitigation actions are linked. This document summarizes the major (but not all) of the findings in that research record.

## **Component One: Public Education/Information Attributes**

Public educational information varies (or could be made to vary) in ways that have effects to improve the household preparedness and mitigation actions taken by the public. These factors include the following.

-Message Frequency: Messages heard multiple times work better than messages heard once or a few times (likely because multiple message receipt confirms or reinforces the message).

-Channels of Delivery: Messages heard over diverse channels of communication (e.g., TV, on grocery bags, kids coming home from school with coloring books, and so on) are more effective than messages received over a fewer number of channels (likely because receipt of the same message over multiple channels confirms or reinforces the message).

-Visual and Contextual Cues: Verbal messages increase in effectiveness if they are supplemented with observable visual cues, for example, seeing others (neighbors, governments, and so on) doing things consistent with the delivered verbal messages (likely because visual cues confirm or reinforce the verbal message).

-Message Content and Style: Messages that are consistent with each other and specific about the risk and what to do about it result in more household preparedness and mitigation actions than messages that are not consistent with each other or specific about what people should do.

## **Component Two: The Public Information “Filter”**

The public is made up of people who differ from each other in many ways. These differences act as a “filter” through which educational hazard information must pass on its way to impacting household preparedness and mitigation actions. The filter “distorts” the effectiveness of the disseminated information. For example, it keeps the information from “being heard” by some people, and it results in the

information “meaning” different things to different people. Consequently, the elements that make up this filter, and how these elements work to determine differences in what diverse people “get” and “hear” should be taken into account in the design of a public information campaign in order to maximize effectiveness, e.g., use diverse pathways in order to reach everyone and have it mean the same thing to everyone who hears it. A few examples follow.

-Race and Ethnicity: Race and ethnicity are surrogate indicators for sub-cultural traits that impact information received. For example, different ethnic groups use different information channels to receive information, speak different languages, and are exposed to different risk levels.

-Gender: The degree to which men and women adhere to traditional gender roles impacts how they process risk information. For example, men in their early 20s are inclined to take greater risks than anyone else so it is harder to convince them to do anything about it.

-Socioeconomic Status: This includes, level of educational attainment, income, and occupational prestige. People in different SES levels obtain information from different sources, view credibility of information sources differently, have access to different resources to address risk, and differ in many more ways that are salient for public education.

-Age: The young and the old are the most vulnerable to the impacts of disasters. And the old are the most resistant to change when it comes to what they think and what they do about it.

-Experience: This includes experience with prior events, for example, the impacts experienced in other earthquakes and what would, in hindsight, have been appropriate actions to ready for that experienced event.

These and other factors comprise the “filter” through which public information must pass. This filter distorts the same message into different meanings for different people, and alters the effectiveness of singular dissemination strategies at reaching different groups of people.

“Filter” factors should be taken into account when designing a public information campaign. For example, one should communicate through different channels to reach everyone, and older people need to get the message more frequently than younger people for it to become salient to them.

### **Component Three: Elements in the Basic Sequence**

Setting aside the aspects of the information itself (component one) and the public filter through which that information must pass (component two), the basic process that converts information into household preparedness and mitigation actions follows.

-Perceived Risk: Increased perceived risk (there is a problem that needs to be addressed) increases milling behavior (talking about the problem and what to do about it with others, seeking out additional information on one's own, and confirming that the problem exists and requires personal action).

-Milling Behavior: Increased milling behavior increases making one's own decisions about what to do (e.g., it's their own idea to store water).

-Owning Ideas about What to Do: Increased personal "ownership" of ideas about what to do to prepare and mitigation increase the odds of actually taking preparedness and mitigation actions.

-Preparing and Mitigating. Taking household actions to prepare and mitigate result from this process.

#### **Component Four: The Key Element in the Sequence**

One factor looms forward as the "key" factor in converting education information into household actions to prepare and mitigate. (This does not mean that a campaign that seeks to maximize its effectiveness can ignore other factors in its design, it means that campaign effectiveness would be thwarted if this one factor is not adequately incorporated into the design of the campaign.) This key factor is "milling behavior."

Said simply, what sparks households to prepare and mitigate is when people seek out more information about the risk and what to do about it, talk it over with others, and decide what to do (what mitigation and preparedness actions to take) "on their own." Consequently, milling behavior should be a prime "target" in a public education campaign, e.g., instead of just telling people what to do, spark their interest and support them in getting more information "on their own" and talking things over with others.

#### **Pulling it All Together**

The factors discussed above should be brought together into a summarizing model. The model suggests that the process by which public information is converted into household preparedness and mitigation is both "more complex" (there are many paths of influence) and "more simple" (a few paths are the most important) at the same time than the above text might have led you to believe.

(NOTE: I have to find out how to "draw" a model on a computer and insert it here. One of things the model would show is that the strongest path of influence is from message frequency and channel diversity to milling and then to taking mitigation and preparedness actions.)

The model would summarize the factors involved, the relationships between the factors, their direct and indirect paths of influence, and illustrates the most important paths of influence in the process with bold lines.

### **Putting this Knowledge into Practice**

In my opinion, the topics discussed above should be incorporated into any public education/information campaign to insure that campaign's effectiveness. This would require the following.

**USE WHAT RESEARCH HAS DISCOVERED.** Those who design a campaign should interact with those who understand the social science research findings herein reported (or read the research record) so that the campaign is based on the validated and replicated research knowledge set rather than something else.

**MANAGE THE CONTENT AND PACING OF THE MESSAGE.** Care should be given to how the campaign is designed in terms of both the content of the message, the channels that are used to disseminate it, and the frequency and pacing of the message over those diverse channels.

**MANAGE THE "CONTEXT" OF THE CAMPAIGN.** The "context" of the campaign will be decisive in determining campaign effectiveness and should be managed. Someone should catalogue campaigns by others (e.g., governments, the private sector, and NGOs), and do the work needed to coordinate campaigns to produce "one orchestrated campaign." Orchestration should address standardizing the messages that go out across all campaigns; and the spacing, timing, and sequencing of messages released across campaigns so that "impact of all campaigns becomes much more than the sum of the parts."

### **Where are the Research Findings Documented?**

I can provide references to people interested in reading the scientific publications and "seeing the data" that are the basis for the summary provided in this paper.

### **What We Don't Know Yet**

We do not know everything about this topic that it would be useful to know. Two examples follow.

-**Maintaining Readiness:** Much of what is described in this paper deals with "sparking" the public's initial preparedness and mitigation actions. We do not have a basis for knowing how to keep that interest maintained over time. For example, it would be useful to know how to keep households prepared once they have taken steps to become prepared since preparedness can decay over time.

-**Readiness Interactions:** Some "sparse" data exists to suggest that preparedness and mitigation actions may interact; that is taking one action may actually increase and/or decrease the odds of taking other

actions. For example, does the purchase of insurance decrease/increase the odds of taking other actions? Knowing about such interactions could inform future public information campaign efforts.