

Helping People Help Themselves: Overcoming Resistance to Disaster Warnings

Karla Vermeulen, Ph.D.
Assistant Professor of Psychology
Deputy Director, Institute for Disaster Mental Health
at SUNY New Paltz





**"Why Don't People Listen?"
The Whole Community and
Communicating in a Crisis**
11th Annual Conference
Friday, April 25, 2014

Sponsored by the New York State Division of
Homeland Security and Emergency Services



Topics

- The warning compliance decision
- Theoretical models of decision making
- Decision making in the real world
- Emergency professionals' views of warnings
- Addressing the emotional consequences:
 - Warning is not received
 - Warning is received but ignored

What is a warning?

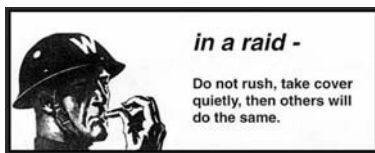


What is a Warning?

- A message about an impending threat
- A call to action, not just an indication of danger

What is a Warning?

- A message about an impending threat
- A call to action, not just an indication of danger



Warnings: The Compliance Decision

- Receiving a warning creates a decision-making situation
- Most factors in the decision will point to NOT taking the recommended action

Warnings: Compliance Costs

- Time
- Effort
- Money
- Distress



Warnings: Other Factors



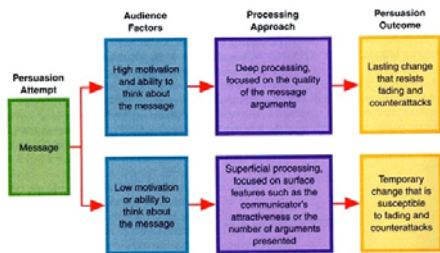
- Experience with similar hazards
- Trust in authorities
- Family structure
- Depth of information processing
- General risk aversion

Theoretical Models of Decision-Making

The Conflict-Theory Model of Emergency Decision Making (Janis & Mann, 1977)

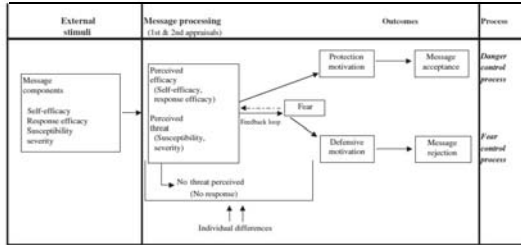


The Elaboration Likelihood Model (Petty & Cacioppo, 1986)

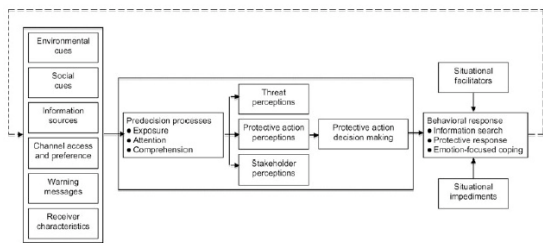


(Source: Kossik, Neuhog, & Chaiken, 2002)

The Extended Parallel Process Model (Witte, 1992)



The Protective Action Decision Model (Lindell & Perry, 2004)



Decision Making
in the Real World

Warning Reaction #1: Denial

- That the event will occur at all
- That it will have any personal impact

Denial

People in denial:

- disregard new information that reinforces the danger
- seek out reports that minimize the threat
- avoid exposure to alarming stimuli
- find ways to rationalize ignoring the warning

Denial

"I'm trusting God," said a 79-year-old woman who waited out the storm alone in her apartment in Marrero. *"I never thought it would be this bad."*

"The worst thing to see is all of the people who are trapped. *I know they told everybody to get out, but we've had all of these scares and near-misses. And a lot of people maybe couldn't have afforded to go.*"

-New Orleans Times-Picayune,
during Hurricane Katrina rescue operation

Warning Reaction #2: Hypervigilance

Hypervigilance

Causes people to:

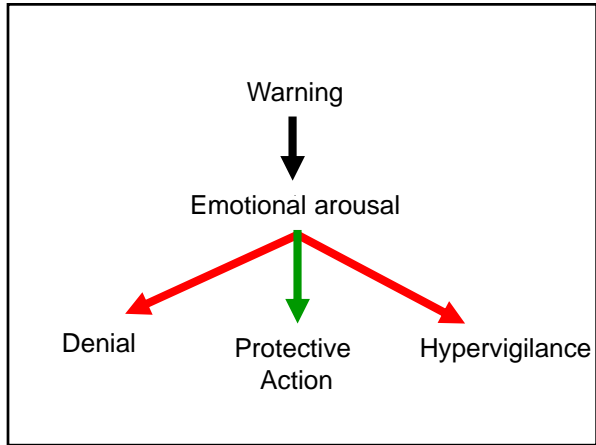
- overestimate the likely damage
- underestimate their ability to protect themselves
- blindly accept additional alarming information without questioning the source

Warning Reaction #3:
Compliance & Protective Action



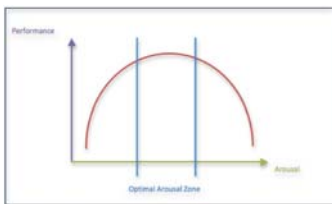
"I refuse to go through that again," said Roxanne Clayton, a photo technician at Walgreens, who was waiting in the Irish Channel neighborhood with her teenage son and 10-year-old daughter. Ms. Clayton recalled being stuck in her attic for two days during Hurricane Katrina. "I'd rather play it safe than sorry," she said, "because I know what sorry feels like."

- New York Times, 8-31-08



Warning Structure

To penetrate denial without triggering hypervigilance, a warning needs to arouse a **moderate level of alarm** –



Warning Structure

To penetrate denial without triggering hypervigilance, a warning needs to arouse a **moderate level of alarm** –

about a **controllable element** like compliance, not about the event itself

Warnings

Three **practical** tasks:

- Reach the intended audience
- Be understandable to that audience
- Arrive while the recommended protective action is still productive





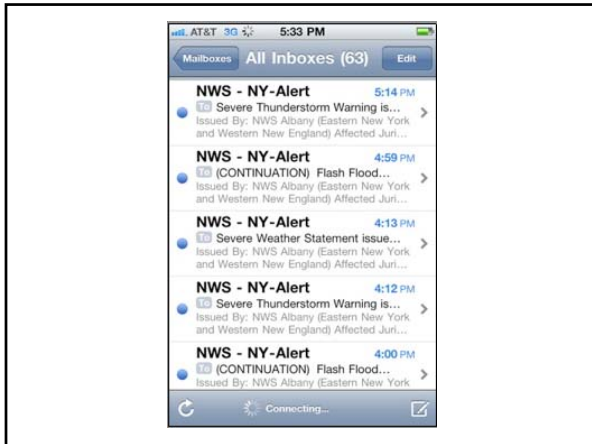
Warnings

Three **psychological** tasks:

- Arouse the right amount of fear, about the right object
- Convince the receiver that protective measures will be effective at preventing harm
- Convince the receiver that benefits of taking the protective measures outweigh their costs

Warnings and the False Alarm Effect

People tend to take the action that would have been appropriate for the last similar event. If that was a false alarm, they'll assume this will be too.



Missouri: Tornado Sirens Not Heeded

By THE ASSOCIATED PRESS
Published: September 20, 2011

Many Joplin residents either ignored or were slow to react to the first warning sirens about a deadly tornado this spring, partly because of years of false alarms, the government said Tuesday. In assessing the warning systems used in the storm that killed 162 people, the National Oceanic and Atmospheric Administration said many people waited for additional information. While officials believe residents did not respond quickly enough to sirens and warning systems, Richard Wagenmaker, leader of the assessment team, said it was unclear if the slow reaction cost lives. Also, after the intensity of the storm was clear, the resulting warnings "lacked enhanced wording to accurately portray that immediate action was necessary to save lives with this tornado," the assessors said.

Emergency Professionals'
Views of Warnings

The Pros' Take

- "Professionals' Views of Disaster Communications" - online survey conducted in Spring 2014
- 70 participants were registered for IDMH conference:
 - Emergency manager/coordinator 14%
 - Government agency administrator 14%
 - Social worker 14%
 - Psychologist 9%
 - Mental health counselor 9%
 - Student 7%
 - Academic/ researcher 6%
 - Spiritual care provider 4%
 - Nurse 4%
 - Public health worker 4%
 - Police officer/other law enforcement 4%
 - Firefighter 3%
 - Other 7%

The Pros' Take: Demographics

Sex:

- Male 32%
- Female 65%
- Prefer not to answer 3%

Years of experience in their profession:

- Still in school or being trained and have not begun to practice 7%
- Less than 5 13%
- 5 to 10 14%
- 11 to 20 32%
- 21 to 30 18%
- More than 30 15%

The Pros' Take: Disaster Experience

Have you participated in a disaster response before?

- Yes 74%
- No 26%

How many responses have you participated in?

- 1 to 2 31%
- 3 to 5 33%
- 6 or more 37%

In what capacity? Select all that apply:

- In my professional role 86%
- As a volunteer 49%
- As a personally impacted survivor 14%

Events included multiple hurricanes, winter storms, other weather events, 9/11, Boston Marathon bombing, aviation disasters, H1N1 outbreak

The Pros' Take: Community Preparedness

Do you think disaster preparedness among vulnerable populations has improved in recent years?

- Yes 73%
- No 27%

If yes, how?

- Increased public attention to preparedness in general 74%
- Better recognition of groups with special needs 72%
- More professional training provided on how to help them 70%

What gaps do you believe most need to be addressed?

- Increased public attention to preparedness in general 75%
- Better recognition of groups with special needs 49%
- More professional training provided on how to help 49%

The Pros' Take: Community Preparedness

What do you think are the most important predictors of emergency preparedness behaviors among members of the public?

Ranking	Factor	Group Mode (n per ranking out of N=62)	Group Mean (Scale of 1 to 6, most to least important)
1	Previous experience of disaster or emergency	41	1.77
2	Connections to community	22	2.90
3	Family situation	21	3.29
4	Socioeconomic status	18	3.53
5	Education level	19	3.81

The Pros' Take: Warnings

In your professional role are you involved in creating and/or disseminating warnings or other emergency-related messages?

- Yes 51%
- No 49%

The Pros' Take: Warnings

Based on your experience, please rank the following elements for their importance in motivating citizens to comply with emergency warnings.

Ranking	Factor	Group Mode (n per ranking out of N=60)	Factor	Group Mean (Scale of 1 to 6, most to least important)
1	The individual's past experience	20	Message content	2.65
2	Message content	20	The medium used to disseminate the message (i.e., television, radio, social media)	2.87
3	Timing	21	The individual's past experience	2.92
4	The medium used to disseminate the message (i.e., television, radio, social media)	16	Timing	3.05
5	Spokesperson	22	Spokesperson	3.68

The Pros' Take: Warnings

Based on your experience, what are the most significant barriers to action that warnings need to overcome?

Ranking	Factor	Group Mode (n per ranking out of N=60)	Factor	Group Mean (Scale of 1 to 6, most to least important)
1	Psychological denial that the threat is real	25	Psychological denial that the threat is real	2.54
2	Past experience with false alarms	15	Past experience with false alarms	3.24
3	Lack of trust in authorities	12	Individual's logistical limitations (i.e., no transportation to evacuate)	3.49
4	Individual's logistical limitations (i.e., no transportation to evacuate)	12	Messages not being received or understood	3.53
5	Messages not being received or understood	16	Lack of trust in authorities	3.71
6	Individual's financial situation	21	Individual's financial situation	4.58

The Pros' Take: Warnings

- Think about the MOST effective emergency warning or preparedness message you've observed or heard about. Please describe the situation and explain what made the message so effective. (n=33)
- Think about the LEAST effective emergency warning or preparedness message you've observed or heard about. Please describe the situation and explain what made the message so ineffective. (n=33)

The Pros' Take: Effective Warnings

Spokesperson Credibility

- "What helped the most was the calmness and reassurance of the person giving the message. The message was succinct, to the point and SIMPLE directions."
- "It was spoken by a person I trusted, was clear, direct and made sense."
- "Messages from high ranking government officials especially if accompanied by local trusted officials (religious, governmental, respected local leaders)."

The Pros' Take: Effective Warnings

Clarity of Content

- "Media ads (radio, TV, automatic phone messages) with clear specific instructions."
- "Plain language, clear directions, solid timeline."
- "Warning received from phone call.... Brief & to the point... with exact instructions regarding evacuation plans."
- "Objective details, not fear or sensationalism."

The Pros' Take: Effective Warnings

Rarity of Delivery

- "Tornado warning sent directly to my mobile phone. The rarity of the that type of alert and that it went directly to my cell phone got my attention immediately."
- "Message received at my workplace (a state office building in Albany) regarding a potential active shooter situation - prompt information given at the beginning and ending of the incident, specific instructions regarding what we were to do, and the knowledge that this message would not have gone out for no good reason."

The Pros' Take: Effective Warnings

Medium of Dissemination

- "I find the messages on the radio or TV that interrupt normal broadcasting as most effective in getting my attention."
- "I think the big computerized road signs on the Thruway and other major roads in NYS really help get the message across, esp. in weather emergencies - I have been driving on the road by myself in bad weather numerous times and these warnings have helped me to decide to get off the road to a safer place or to use alternate routes. Sirens or horns used on some campuses are also good as is Emergency Management's Reverse 911 system, to notify people in a certain area of pending emergency."
- "Text messaging/email via a NY Alert system. A wide-spread message goes out regarding accidents, weather complications, and much more directly to my phone and email account. It's effective because I get the message right away and have multiple ways of getting that information. Not everyone has the luxury of a mobile phone or computer access though."

The Pros' Take: Ineffective Warnings

LACK of Clarity

- "Ambiguous message, language was too technical, language not meeting language needs of populations (non-English speakers); no guidance on facilities for special needs."
- "Vague warnings without specific action steps or without the ability to carry out the action step (e.g., order to evacuate but no means of transportation)."
- "In my experience the least effective messages were ones that contained inaccurate information or information that was of no use. Examples during Sandy when locations were given for housing or hot meals and the information was outdated as the locations were closed. Or phone numbers were given to call for information and the calls were "dead ends." Communications and coordination among the various levels of responders was often disjointed and incomplete."

The Pros' Take: Ineffective Warnings

Lack of Urgency

- "Email about a winter storm warning. Email was vague and easily ignored, it did not carry a message of urgency."
- "Winter storm warning in western NY a few years ago - nothing in particular to distinguish it from the many such warnings in an average winter until the Thruway was closed and all travel was banned and I was stranded in a hotel and not allowed to leave."
- "The repetitive message from the National Weather Service that provides no new information. Redundancy can be good, it can also be overdone."

The Pros' Take: Ineffective Warnings

False Alarms

- "Repeated false alarms or over-hyping a threat regardless of media used."
- "Mayor Bloomberg talking about evacuations and Sandy. No one believed the situation was going to be so bad since Irene sailed by. It's hard to come back after messing one up."
- "Twelve alerts for a simple local thunderstorm warning... I stopped reading them and just deleted them. If the message body had changed I would not have known."

The Pros' Take: Ineffective Warnings

Media Sensationalism

- "Local weather alerts by "News" stations. They sensationalize and over-report to attract viewers and advertisers. Frequently wrong and reporters standing on a boardwalk with microphone in hand desensitizes viewers to the real dangers."
- "Generally the information given by news/weather personnel/ anchors on local news stations is pretty sketchy. They seem to sensationalize so much that it is difficult to take their messaging too seriously and yet that is probably where most people are going to get their information."
- "Local news station advertising the warning as a show marketing device. The TV personality does not hold credibility and does not offer adequate instruction to a specific community. All disasters are local and individuals need to be able to trust the messenger as well as the message!"

The Pros' Take: Ineffective Warnings

Limits of Technology

- "Text message warning of a tornado with direction to evacuate. The text alert had far too little characters to convey accurate information like location, where to evacuate to, timing, etc., causing either panic or folks to dismiss."
- "I think reliance on social media and Internet communications do not elicit the kinds of action responses intended by the messaging. I think there is a great deal of distrust and misinformation associated with info conveyed over the Internet."
- "Internet, cell phones, social media does not reach vulnerable populations or people in poverty who do not have access or skills to use it."

Emotional Consequences
When Warnings Fail

Emotional Consequences

If no warning was received, survivor may:

- Feel stunned
- Be unable to process experience immediately
- Look for someone to blame for lack of warning
- Feel vulnerable about future events

Emotional Consequences

If someone was warned about an impending disaster and failed to heed the warning:

- Guilt
- Self-blame
- May resolve never to ignore again



www.newpaltz.edu/idmh
idmh@newpaltz.edu
845-257-3477

Karla Vermeulen, Ph.D.

Assistant Professor of Psychology & Deputy Director,
Institute for Disaster Mental Health
SUNY New Paltz
vermeulk@newpaltz.edu

Learn about our new Advanced Certificate in
Trauma and Disaster Mental Health Counseling:
<http://www.newpaltz.edu/idmh/grad.html>
