



UNIVERSITY OF
MARYLAND
Department of Fire Protection Engineering




The Effect of Fires on People

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Learning Outcomes:




- Describe the basic idea of human behavior in fires, including what human behavior in fire is NOT
- Identify the types of behaviors that are performed in fires, giving examples of each
 - Incidents
 - Case studies
 - Experiments
- Applications of these ideas to improve safety in buildings

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Course Requirements



- Short discussion papers will be assigned for each weekly module. The topics for discussion will be included in each presentation. The intent of each discussion paper is to permit students to apply material learned in each module and conduct a little research to further explore the topic. At least 1 outside reference should be cited in each paper.

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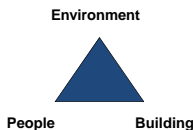
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What is Human Behavior in Fire?

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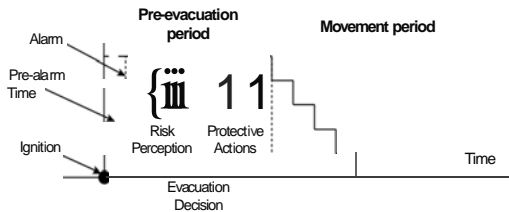
The Elements of a Building Fire

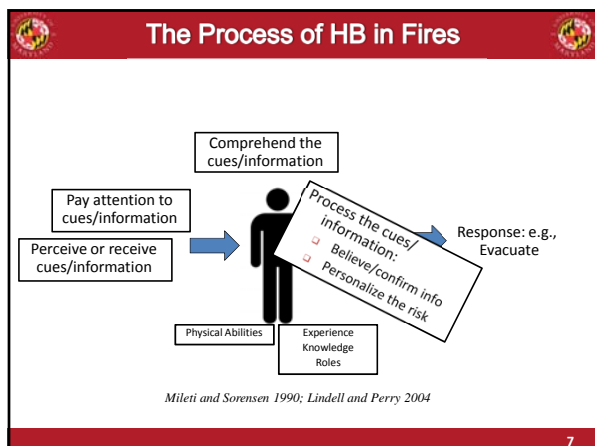
- What is involved in a building fire event?



- Behavior of the people – as they interact with the environment, building, and others during the fire

Phases of a Building Evacuation





Additional Notes about the Process

- If uncertain about any question in the sequence – information seeking
- Feedback loop – anytime the individual receives additional information, the process starts again
- Process could be quick or lengthy
 - Information seeking (and this takes time!!)

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Additional Notes about the Process

- Process could be messy, too
 - Little information or no information: Filling in the gaps based on their biases, previous experience in disasters, training, etc. OR continue information seeking
 - Also, if finds/obtains inaccurate information – can act upon that

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What People do During Fires

- As a result, people can...
 - Ignore cues; don't hear, see, smell
 - Misinterpret cues, misunderstand instructions
 - Perform a variety of different actions NOT related to evacuation to safety
 - Search for information; milling
 - Search/rescue others
 - Non-movement or other activities (continue working)
 - Return to their office or their apartments

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  Cues --> Perception["Perception / Attention"]
  Perception --> Interpretation
  Interpretation --> DecisionMaking["Decision-Making"]
  DecisionMaking --> Action
  
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Additional Key Behavioral "Facts"

- Differing physical / cognitive capabilities – response is not uniform
- Social groupings will be present or may form – people are not just ball-bearings
- People may perform high risk behavior (intentionally or unintentionally)
- People are likely to move to the familiar
- People are likely to respond to authority figures and information provided (role matters)

Summary

- A building fire event is made up of the environment, the building, and the people
- Human behavior occurs throughout the entire building evacuation (all phases)
- Behavior during fires is the result of a process – by which people receive cues/information, process that information, and then respond
