

Behaviour in Stressful Situations

It is recognized that every person involved in an emergency will feel some form of stress regardless of their age, gender, past experience, training or cultural background. This stress is not an abnormal reaction; on the contrary, stress is regarded as a necessary state to motivate reaction and action. The performance of the person in dealing with a stressful situation will depend on the task demands, the environmental conditions and the subject himself. In order to make a decision the person will process information, perceived in the environment or drawn from past experience.

Decision-making during an emergency is different from day-to-day decision-making for three main reasons. First, there is much more at stake in emergency decisions – often the survival of the person and of the people he or she values the most is at play. Second, the amount of time available is limited to make a decision before crucial options are lost. Third, the information on which to base a decision is ambiguous, incomplete and unusual, further it is usually impossible to look for more appropriate information due to the lack of both time and means to get information.

During a fire, the nature of the information obtained, the limited time to react and the assessment of danger will create a feeling of stress. It is argued that this stress will be felt from the moment ambiguous information is perceived until well after the event when the person has reached safety. During the course of the event, the intensity of stress experienced will vary as a function of the information newly-perceived and the assessment of the decision taken. The media and public in general often mentioned the potential of mass panic, imagining a crowd that suddenly wants to flee danger at all cost, even if it implies getting trampled or crushed in the process.

Although these types of behaviour are extremely rare in fires and have never been reported in highrise fires, the expectation that people will panic is very strong. This schemata is very much nourished by the media and movie industry who like to play on strong emotional images. In fact, ‘panic’ in the form of irrational behaviour is rare during fires and researchers have long ago rejected this concept to explain human behaviour in fire. From around 200 accounts of the World Trade Center survivors published in the media, panic was seldom mentioned instead many emphasized the calm and altruistic behaviour of the evacuees.

The expectation of ‘panic’ has been a favored argument put forward to delay warning of the public during emergencies. Such delays in informing the occupants have contributed to subsequent flight behaviour and crush of people who had only a few seconds left to react and escape once the situation unexpectedly got out of hand. Consequently, researchers are pleading for early warning to the public, providing occupants with as much information as possible to support them in their decision making process.

The reality of human behaviour in highrise building fires is somewhat different from the ‘panic’ scenario. What is regularly observed is a lethargic response to the fire alarm, voice communication instruction or even the initial cues of a fire. Unless very well trained, occupants are usually reluctant to leave their floor and are prepared to stay on location. Phased evacuation or a protect-in-place

approach are seen as less disruptive by occupants. Staying on location during actual fires is sometime the official fire safety plan or the chosen response by occupants.

In modern highrise buildings over 25-storeys in building height, it is neither practical nor feasible to conduct full evacuation of the building. Not all occupants have the capacity to travel down so many floors. Further, in order to obtain reasonable evacuation times, wider or multiple means of egress would be necessary which would make the building economically non-viable. Therefore, the buildings and fire safety features are designed to allow occupants to stay on location or to evacuate in sequential order.

If people believe they are not safe in highrise buildings and choose not to comply with fire safety instructions telling them to evacuate only when directed, the risk to all occupants of the building could increase tremendously due to injuries associated with uncontrolled egress. For people living and working in highrise buildings, how they perceived their risks, process information, and make decisions for their safety will impact on how engineers should design buildings and safety systems.

Tasks

Task 1. Explain the meaning of the following expressions

to motivate reaction and action

at stake

at play

to flee danger

at all cost

to get trampled

high rise fires

altruistic behaviour

to put forward an argument

flight behaviour

to get out of hand

a lethargic response

fire alarm

phased evacuation

protect-in-place approach

egress

non-viable

to comply with fire safety instructions

Task 2. Answer the questions:

1. What motivates reaction and action when people get involved in an emergency?
2. What determines the process of decision-making in emergency?
3. What is the role of ambiguous information for decision-making?
4. Is panic as the form of irrational behaviour frequent during fires?
5. What do researchers suggest doing to prevent flight behaviour?
6. Why is protect-in-place approach seen as less disruptive by people?
7. *Make up a list of fire precautions that should be undertaken to minimize the risk of damage to human lives.