



Annual Report

Human Behaviour Challenges

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Contents

1. Introduction
2. Behaviour
3. Panic
4. Misconceptions
5. Decision making
6. Reaction during emergencies
7. Conclusion
8. Recommendations



Introduction

The outcome of an emergency is largely determined by the behaviour of the people involved. To improve the safety of buildings and to increase the effectiveness of response procedures and training programmes it is often necessary to predict human behaviour in emergency situations.

“It is more effective to find out how people normally respond to an alarm and then base an emergency plan on that than to design a plan and expect people to follow it.”

Erik auf der Heide¹

Behaviour

- Human behaviour refers to the way humans act and interact. It is based on and influenced by several factors, such as genetic make-up, culture and individual values and attitudes.
- Organizational behavior is the study of human behavior in organizational contexts, with a focus on individual and group processes and actions. Hence, it involves an exploration of organizational and managerial processes in the dynamic context of the organization and it's primarily concerned with the human implications of such activity.

Factors influencing human behavior during emergencies

- Characteristics which include the occupants profile such as age, mobility, knowledge, experience, the condition of the person at the time of the event, personality and decision-making styles, and finally, the occupants' role in the building can explain different responses.
- The building characteristics that encompass types of occupancy, the architecture of the building, the activities happening in the building at the time of the fire, and finally, the building fire safety features.
- The fire characteristics that is heavily intertwined with people's perception and interpretation of the situation.
 - For example, perceiving a smell of smoke will initiate a different response than directly seeing the fire. The concept of commitment that is described as people to be committed to their ongoing activity even when realized there is a fire outbreak may be another cause.

Panic

- Reaction involving terror, confusion, and irrational behavior speeded up by a threatening situation
- Behavior encompassing selfish competition uncontrolled by social and cultural constraints
- Four elements of panic:
 - hope to escape through dwindling resources:
 - contagious behavior
 - aggressive concern about one's own safety
 - irrational, illogical responses

MISCONCEPTIONS

Employees respond to an alarm immediately

In the event of an emergency people wait for additional signals, discuss with each other whether it might be just a false or test alarm and thus waste seconds that can make a marked difference between life and death.

As soon as people discover that an alarm is for real, they will panic

Panic only ensues, if at all, once three factors combine:

- *the perception of a great danger for oneself or other relevant persons,*
- *the belief that rescue is possible but escape routes and options are limited and cannot be followed without restrictions,*
- *a feeling of helplessness and inability to avoid the danger in other ways.*

In the actual event everybody only thinks of saving themselves

Especially during extreme situations humans manifest themselves as fundamentally social beings. People who have experienced emergencies or catastrophes all report overwhelming solidarity, readiness to help and generosity between those affected.

Decision-making during a fire incident

Decision-making during a fire incident differs from day-to-day decision-making. Under emergency and stressful situations, the person usually senses that the decisions must be made quickly while the available information, based on which he/she needs to make the decisions, may be very limited or overwhelming. Therefore, behavior such as **flight** that might look disorganized to the observer, but might actually be the most rational, logical, and correct response to the threatening stimulus perceived

~~Hammond (Hammond, Hamm, Grassia, & Pearson, 1984)~~. Because critical decisions made at the fire ground are frequently measured in seconds, it seemed unlikely that fire ground decisions would be characterized by the consciously deliberated processes most frequently described in the decision-making literature.

During a fire evacuation, once an individual perceives cues from a fire event, they must interpret them to assess the new situation and determine whether action is required. It is proposed that this assessment and action selection can employ either an automatic or reflective processing system depending on the nature of the situation and the experiences of the individual involved.

General reaction during an emergency situation

T1

Factor	Relative Important Index	Rank
Ask neighbours regarding if there is a fire (Investigate)	84.33%	1
Try to put the fire out	79.67%	2
Ignore the fire alarm completely	74.17%	3
Help others during the evacuation process	69.83%	4
Get Kids and Leave	64.37%	5
Leave the building immediately	62.39%	6
Wait until help come from others	58.43%	7
Get belongings	57.36%	8
Call Police/ Fire Station	43.22%	9
Warn others	19.92%	10
Other (Please specify)	6.07%	11

Conclusion

- Panic may be regarded as a very rare happening and not a typical response to people perceiving a danger.
- There is not much concrete evidence on mass panic in emergencies or any selfish behavior. Instead, risks associated with crowds are usually as a result of physical constraints and lack of information rather than their inherent selfishness.
- Based on the various aspects of the information we must learn how to devise human performance objectives that are compatible with the goals that people normally try to pursue in the event of a building fire. We must also learn how to integrate human performance objectives into a holistic representation of how building fire prevention and protection systems including building layouts, both active and passive fire protection systems, occupant characteristics, and designed procedures work hand in hand to achieve high level design objectives.
- During emergencies we who have the responsibility for the safety of our communities must provide truthful and accurate information to the people who need to make life-saving decisions.
- It is more effective and practical to learn what people tend to do actually and naturally in emergencies and plan around that rather than design your plan and then expect people to conform to it.

Recommendations

- Supplement safety training with interactive elements and team tasks. Practical & realistic training exercises
- Integrate and change roles in training sessions: this allows employees to acquire different perspectives
- Implement a buddy systems within the safety processes, for example, when donning personal protective equipment. Training joint action also during simulated danger situations
- Define and clearly communicate roles and responsibilities for emergencies
- Promote open communication about mistakes and near misses, joint analysis of causes for incidents with exercises in “How I would have dealt with it”

Also read

- <http://www.sussex.ac.uk/affiliates/panic/index.html>