



Three myths about

human behaviour during

emergencies

What do you think will happen if the gas warning system triggers at your plant, a fire detector raises an alarm, horns, bells or sirens go off? How will employees respond? Will they remember rules, escape routes, practiced moves even in the rush of a real event? Or will chaos ensue?

“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

Although operational safety today is better than ever, the ›human factor‹ remains difficult to calculate during alarm situations. Yet, every operational emergency plan is based on certain basic assumptions about how we respond to threatening situations. Many of these assumptions are acquired and passed on during training – and they are rarely questioned. Thus some myths about the behaviour of people during emergencies persist although they have since been proven incorrect by behavioural psychology:

Misconception

1

Employees respond to an alarm immediately.

This is true – as long as it is clearly evident to employees that there is an immediate danger to life and limb. However, alarm situations are rarely that apparent and clear, and much valuable time is often lost until those affected on site evaluate the situation correctly and act. Instead of reaching for safety as quickly as possible, people wait for additional signals, discuss with colleagues whether it might be just a false or test alarm, look for signs like smoke or flames – and thus waste seconds that in the worst case can make the difference between life and death.

For an immediate and expedient evacuation it is essential that in the case of an alarm the situation and the measures to be taken will become clear as soon as possible. This can already be supported in advance, for example by

- more practical training where employee simulate various alarm scenarios and the necessary rescue steps
- a critical examination of one’s own alarm system: Can the various signals be clearly allocated and are there clear instructions for every hazardous situation? Too many different signals are confusing and may overload people. Too few might leave room for interpretation about the cause of the danger.
- the installation of warning devices (e.g. gas detectors) with the lowest possible ratio of false alarms.



¹ auf der Heide, Erik. *Common Misconceptions about Disasters: Panic, the ›Disaster Syndrome‹, and Looting.* In: O’Leary, M. 2004. *The First 72 Hours: A Community Approach to Disaster Preparedness.* Lincoln, Nebraska, iUniverse Publishing. Source: http://www.atsdr.cdc.gov/emergency_response/common_misconceptions.pdf, Dec. 2014)

Misconception

2

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

The image of individuals out of control acting irrationally (or even: groups of people) is a vision of horror for everyone tasked with safety – and it is so familiar from news, film and TV that many consider panic to be a “normal” phenomenon during emergencies. In reality, however, panic is neither an automatic nor a particularly typical response. Especially in industrial work environments, where the risk of potential unscheduled incidents is regularly conveyed to every employee during corresponding training events, dramatic scenarios are not impossible, but remain rare. According to experts, panic only ensues, if at all, once three factors combine:

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

“Fear, despite being a powerful motivator, does not necessarily lead to panic behaviours in disaster and emergency situations.”

Paul und Ron Gantt²



At least two of those can be effectively influenced by preventative measures. The aim is to provide employees with a sense of safety even during hazardous situations, for example by

- redundancy of safety measures, e.g. by installing additional alternative escape routes.
- sufficient available and reliable personal protective equipment and training materials to train their donning in practice.
- regular training with simulations as realistic as possible.

² Gantt, P. + R. 2012. Disaster Psychology. In: Professional Safety, August 2012

Misconception

3

In the actual event everybody only thinks of saving themselves.

On the contrary: 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.

Practical observations and scientific studies also confirm that positive social behaviour dominates in collectively experienced danger situations. This applies even more if other affected persons are not strangers but familiar people, such as colleagues. Thus the “social factor” can actually become a

supporting pillar of the operational safety culture – and there are numerous approaches for positively enhancing it:

- augmenting the safety training with interactive elements and team tasks
- integrating a change of roles in training sessions: this allows employees to acquire different perspectives – for example that of a contractor unfamiliar with the safety devices of the plant
- implementation of buddy systems within the safety processes, for example, when donning personal protective equipment. Training joint action also during simulated danger situations
- defining and clearly communicating roles and responsibilities for emergencies
- promotion of an open communication about mistakes and near misses, joint analysis of causes for incidents with exercises in “How I would have dealt with it”



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