HUMAN FACTORS
AFFECTING SITUATIONAL AWARENESS

Glendale Fire Training
THE TWO ERRORS

#1 Underestimating hazards, and using inadequate safety measures.

#2 Failing to notice changing conditions and adjust tactics accordingly.

Each of these errors arises from human nature:
1. Optimism:
2. Inertia:

How do we make decisions?
- “Recognition-Primed Decision Making”

Tragedies occur when:
1. You pick the wrong slide
2. Conditions change, but your slide stays the same.

But why does this happen?
- Nearly every fatality came with numerous clear early warnings.
- Some barrier blocked our ability to notice them.
THE SEVEN BARRIERS

1. Inexperience
2. Getting Too Comfortable
3. Distraction From Primary Duty
4. Priorities Out Of Order
5. Social Influences
6. Stress Reaction
7. Physical Impairment
1 - Inexperience

- Don’t have the “slides.”
- Don’t know where to focus attention.
- Don’t recognize the severity of warning signs (haven’t developed “gut reactions”)

Think nothing bad will happen.
  - “It’s always worked out fine in the past.”

Get used to an activity - brain goes on **autopilot** and you become **less attentive**.

Key terms:
  - False sense of security
  - Complacency
  - Normalization of risk, mindlessness
You can focus fully on only ONE thing at a time.

You can only juggle about FIVE things in your brain.

When you try to track more, vigilance suffers.

Distractions can be:
- External
  - (e.g., heavy radio traffic, panicking public, etc.) or
- Internal
  - (e.g., conflicts, personal concerns, etc.)
Priorities Out Of Order

- We have all kinds of priorities, desires and motivations. Safety is one of them. Other motivations include:
  - Accomplishing the mission
  - Ego
  - Saving acres, structures or dollars.
  - Staying comfortable, not letting people down
  - Thrill seeking.

- Unconsciously, our motivations move up and down on our mental priority list throughout the day.

- It is easy for other priorities to get ahead of safety when the pressure is on.

- Saving structures and not letting others down

- Motivations and desires affect what we focus on.
5 - Social Influences

- Our brains pick up on clues and hints about what other people are thinking.
- We “pick our slides” based on what others seem to be thinking.
- We do most of this without realizing it.
- Usually this works well - if what other people seem to be thinking *is really* correct. But not always.
- One form of social influence is peer pressure.
  - **Groupthink** - The group mind locks onto a slide. In groupthink situations:
    - Group members stop thinking for themselves
    - Group cohesion takes priority over other objectives
    - Group members don’t notice warnings that contradict the group’s slide.
    - Members explain away warnings they do notice.
    - Groups have an illusion of invulnerability, and take irrational risks.

- This isn’t to say that all group decision-making is dangerous. Groupthink is just a way that group decision-making can go wrong.
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Stress triggers our fight-or-flight survival mechanism.

This is a physical, chemical change in the body and brain.

Heart rate and breathing speed up as you get ready to respond immediately to threats and challenges.

As the stress reaction builds:
- The rational “thinking” part of the brain shuts down
- The emotional “reacting” part takes over.

When this happens:
- Your mind locks into a course of action and you fixate on a goal.
- You lock into trained behaviors and block out new information.
- Communication breaks down.
This extreme stress reaction is powerful if you have to react quickly and fight hard or run fast.
- It’s not helpful for thinking clearly or seeing the big picture.
- It can cause you to do things that “don’t make sense.”

Key terms:
- Getting too focused
- Tunnel vision
- Action tunneling
- Mission fixation
7 - Physical Impairment

- Physical factors like:
  - Fatigue
  - Carbon Monoxide
  - Heat stress
  - Alcohol or drugs

- Bog down and interfere with your ability to perceive, think, and respond.