When brain science meets public safety: What can we learn?

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Improve your understanding of the challenges of high-risk decision making.
Three MAJOR factors that influence decision making:
The Stressed brain functions differently than the non-stressed brain.
Under stress...

Your brain is on drugs!
Under stress...

Hereditary instincts kick in.
FIGHT or FLIGHT
Freeze!
Under stress...

Rational (Conscious) judgment can be challenging.
Under stress…

Intuitive (subconscious) judgment can dominate.
Long Term Memory
The capacity of long-term memory: 10 times all the information on the Internet.
You can only consciously access: 5% of your long-term memory data base.
subconscious Memory

95%

Conscious Memory

5%
Memorized vs. Novel Task
Task Performance
Recall from subconscious memory:

Can trigger the 6th sense.
Intuition
Knowing...
Without knowing...
How you know.
How do we know...

If we don’t know...

How we know?
Hair stands up on the back of your neck.

Voices in your head talk to you.

Impending feeling of doom.
Gut Feeling
Your Red Flag Warning System

Intuition
subconscious Memory

95%

Conscious Memory

5%
Your brain evolved and is adapted for survival.

Your brain is exquisitely designed to sense danger. It uses primal “trip wires” (Alarm Bells)
Attention is drawn toward perceived threats:

- Loud
- Bright
- Moving
- Proximal
Under stress...

Hyper vigilant.
Under stress...

Struggle with complex problem solving.
Human Factors:

Predictable physical and psychological impacts of stress.
Heuristics

We can create rules and shortcuts to ease the cognitive load and stress of making decisions.
Your brain can be a stubborn.

Once it locks on to something like an action plan (or .99 cents)

it can be very difficult to change direction or see alternate solutions.
Shared Awareness

When two or more people have the same understanding about what is going on.
Under stress...

Revert to behaviors based on:

- Training
- Routines
- Muscle Memory
- Habits.
Automaticity
(robotic action)
Boredom
Under boredom…

Hyper vigilant.
Under boredom...
Under boredom... Complacent
Hallucination

Reverse Hallucination
Your perceptions may not match reality. And you may not know it.
Motion Induced Blindness
What do people fear most?
Public Speaking

Source: Chapman University Survey on American Fears
Embarrassment
Ridicule
Consequence
Judgment
Multitasking
The conscious brain cannot multitask.

This includes paying attention in a dynamically changing environment.
Word Document
Email

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Helping individuals and teams understand human factors, reduce the impact of situational awareness barriers and improve decision making under stress.

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Short-Term Memory Overload
Your working memory has a very limited capacity.

We’re not good at remembering a lot of detailed information.
Your brain prioritizes incoming information.

And for the most part, you cannot control what it keeps and what it dumps.
The information overload exercise
Confabulation
Situational awareness

Ability to **perceive** AND **understand** What is happening around you…

In relation to how time is passing.

And then

Be able to accurately **predict** future events… In time to avoid bad outcomes.
Human Factors
Task Fixation (Attentional)
Auditory Exclusion
Consequence of Multitasking
Time Distortion
Short-Term Memory Overload
Sensory Conflict

Eyes A

Ears B
Hallucination

Reverse Hallucination
Handout

text samatters
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You will also receive the SAMatters monthly newsletter.
Helping your team see the bad things coming... in time to avoid bad outcomes.

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