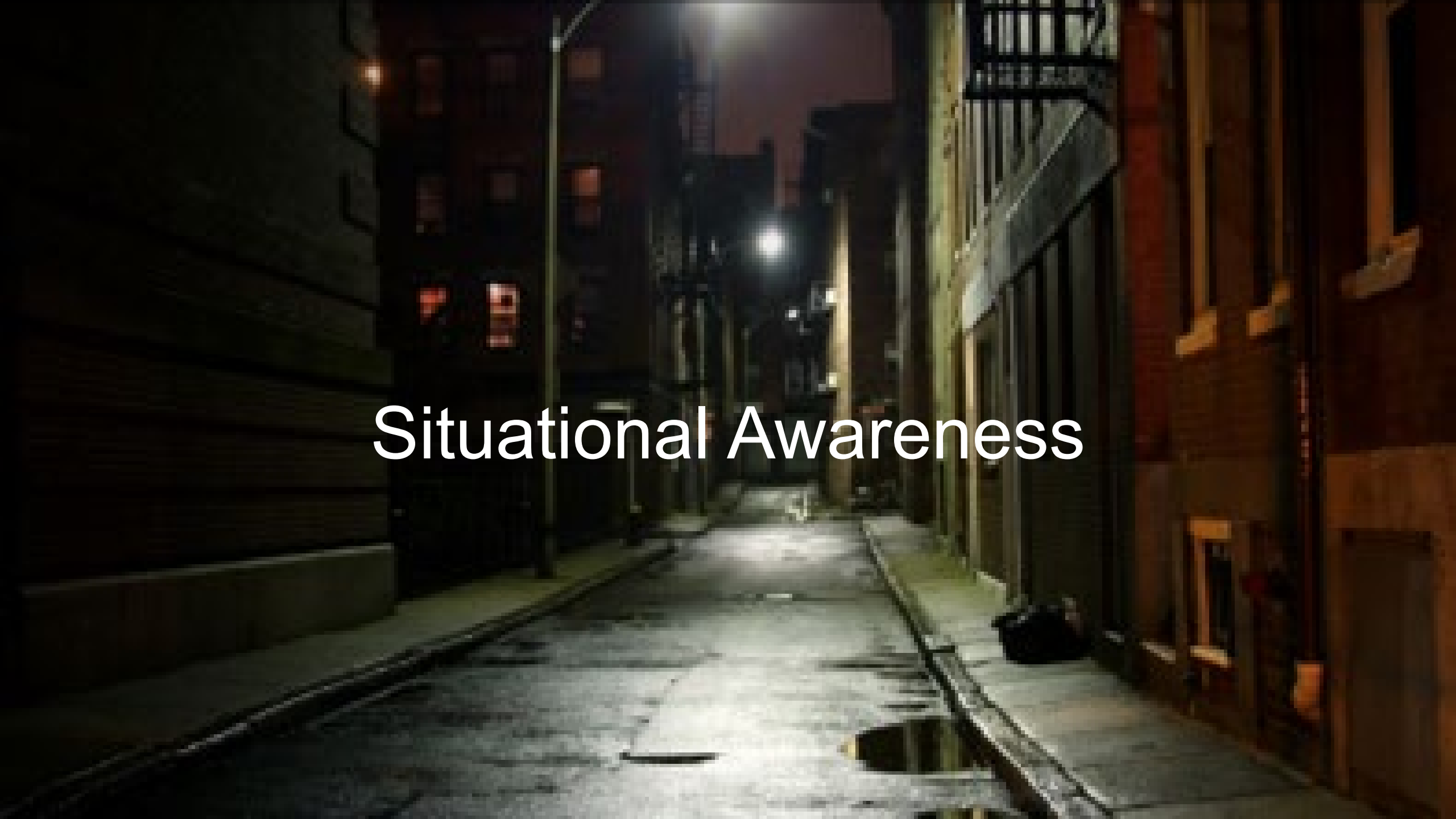

Situational Awareness

What is Situational Awareness?

“Situational awareness is being aware of what is happening around you in terms of where you are, where you are supposed to be, and whether anyone or anything around you is a threat to your health and safety.”

The Health & Safety Executive

rkmates.

Even the most experienced people can lack situational awareness – especially when doing tasks that have become routine. (See Step 2 of this toolkit > Further tools > *Human Failure*).

The following example comes from Jeff Espenship a USAF fighter pilot.

On 27th August 2006, Comair flight 5191 took off from the wrong runway.

It was early morning and still dark outside as the captain (highly experienced and trained) was taxing the aeroplane to the runway.

Instead of taking the right runway, he took a wrong turn, which led the plane onto a runway that was too short for take-off.

During take-off the cockpit is a designated quiet area to allow for concentration.

On this occasion, the captain and co-pilot were chatting, affecting everyone’s performance.

The following example comes from Jeff Espenship a USAF fighter pilot.

Allowing this talk meant that the situational awareness of the captain and co-pilot was reduced and they failed to spot that they were on the wrong runway.

Their perception of reality was different to the actual reality.

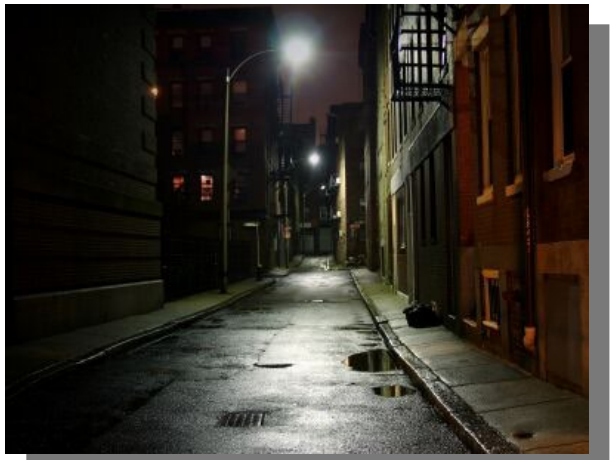
Despite the co-pilot pointing out that there were no lights on the runway it was another 15 seconds before the captain realised what was happening, by which time it was too late.

They failed to stop work despite recognising a hazard (there were no lights even though it was dark).

If they had stopped work and brought their situational awareness in line with actual reality, 49 people would still be alive today!

RECOGNISING & REDUCING THE RISK

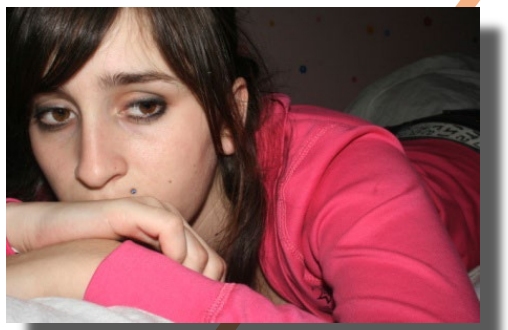
- The vast majority of criminals who commit crime are opportunists who do not depend upon careful planning but will capitalise on particular situations as they arise.
- The main way of reducing the risk to yourself from opportunists therefore, is simply by avoiding doing the very things that create the opportunities they depend upon.



THE CRIME TRIANGLE

Aggressor

RISK



Easy Target

Opportunity

THE CRIME TRIANGLE

Eliminate The Aggressor

RISK

Ha Easy Target get

Remove The Opportunity

How To Improve Your Situational Awareness

Get in the habit of regularly pausing to make a quick mental assessment of your environment.

When doing so, consider the following questions:

1. Is there anything around you that could potentially pose a threat to you and to what extent?
2. Is the threat big enough that you should stop, walk away ?
3. Is there anything you can do to safely reduce that threat in order that you can carry on working safely?

The SLAM Technique

SLAM consists of four simple steps:

1. STOP Engage your mind before your hands and look at the task in hand.

2. LOOK Look at your workplace and find the hazards to you and your team mates. Report these immediately to your supervisor.

3. ASSESS Assess the effects that the hazards have on you, the people you work with, equipment, procedures, pressures and the environment. Ask yourself if you have the knowledge, training and tools to do the task safely. Do this with your supervisor.

4. MANAGE If you feel unsafe stop working. Tell your supervisor and workmates. Tell your supervisor what actions you think are necessary to make the situation safe.

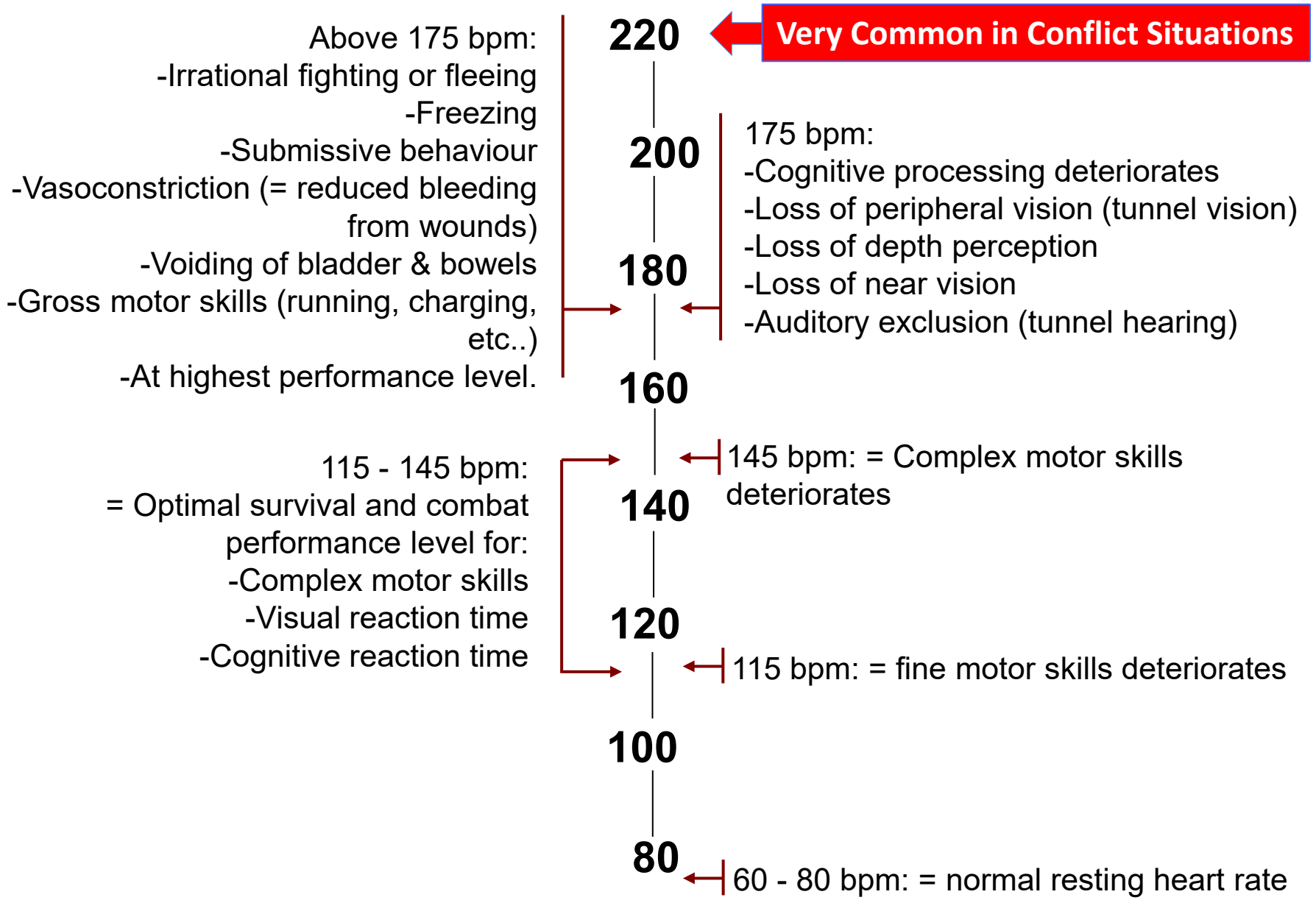
Where and When Should Situational Awareness Techniques Be Used?

In a self-defence context your situational awareness should be heightened in the following situations:

1. When you are in an unfamiliar area.
2. When out alone on a late evening.
3. When in the company of strangers or if at work, when working with new or different workmates.
4. When you feel something isn't right - Trust your instinct!

Heart Rate

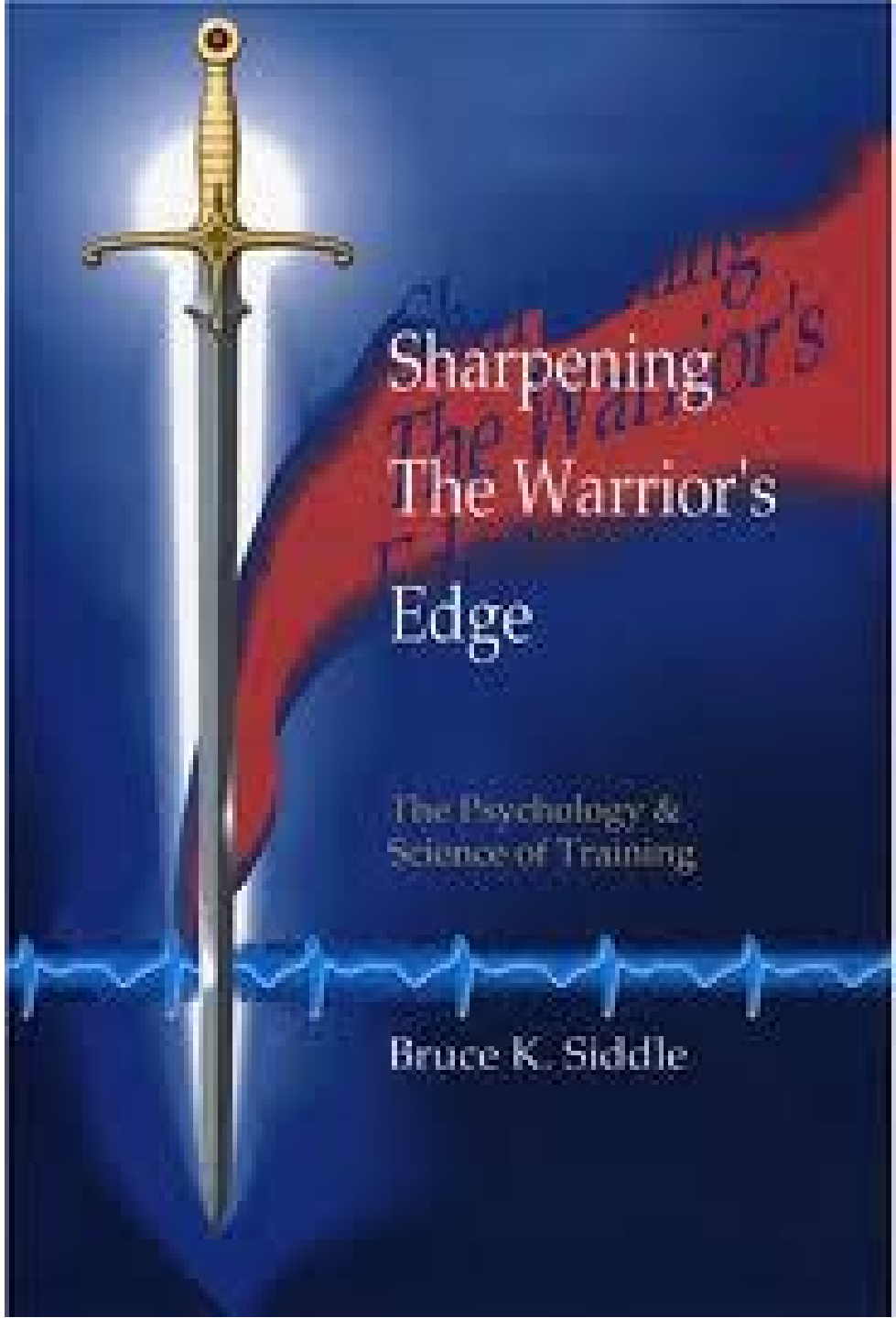
(beats per minute)



Pete Pomerleau and Don Lazzarini and law enforcement instructors in the USA associated with the BAHR Training Group, an organisation that provides law enforcement training on a large scale.

They have been replicating Bruce Siddles research by attaching heart rate monitors to law enforcement officers engaged in highly stressful combat simulation training.

Pomerleau and Lazzarini found that when the average police officer experiences a stress induced (ie., adrenaline-induced) heart rate increase in the area if 145 bpm, there is a significant breakdown in performance.



'Gunman' shot dead by police was carrying table leg in bag

by BETH HALE, Daily Mail
Last updated at 14:26 02 June 2005

The widow of a man shot dead by police who mistakenly believed he was carrying a gun wept yesterday as she spoke of her husband's last moments.

Irene Stanley was in the kitchen of her east London home when she heard the shot that killed her husband Harry just 50 yards away.

Mr Stanley, 46, was carrying a table leg in a plastic bag when he was shot by police marksmen who had received a report of a man carrying a sawn-off shotgun.

Dr Hadiza Bawa-Garba: What led to six-year-old Jack Adcock's death?

Junior doctor's conviction sparks outrage from medical community who raised concerns over apparent failure to consider exceptional pressures faced by NHS staff

Lucy Pasha-Robinson | @lucypasha | Tuesday 30 January 2018 17:36 GMT

Eastern Air Lines Flight 401

Took off from New York to Miami with 163 People on Board;

On Decent the pilot pulled the lever to lower the wheels.

A light that should have illuminated on the dashboard to show that the front wheel was down and secure had failed to do so.

Eastern Air Lines Flight 401

This could mean one of two things:

1. Either the wheel was not down, or

2. There was a problem with the light fitting.

The pilot had no option but to place the aircraft into a holding pattern to fix the problem

It was close to midnight.

Eastern Air Lines Flight 401

The pilot pulled the light from its fitting.

He blew on it to remove the dust.

The crew pondered if there was something wrong with the wiring.

As they circled, frantically trying to troubleshoot the problem, they failed to notice a new one: the autopilot had inadvertently been disengaged and the plane was descending.

Eastern Air Lines Flight 401

They could not feel this descent because their senses were deceived by the plane's motion.

As the plane dropped through 1,750ft, an alarm sounded in the cockpit, but the crew didn't hear this either.

They were so focused on the light that the alarm didn't register.

Eastern Airlines 401 crashed into the Everglades and 101 people were killed.

On the surface this incident may seem like gross negligence.

How could trained professionals fail to hear an alarm?

How could they fail to notice a plane descending?

Doesn’t this show that their minds were wandering?

Only when one puts oneself in the high-pressure reality of the cockpit, with escalating pressure and multiple demands arising at the same time, does the mistake become not just explicable, but predictable.

Indeed, in the 1970s a litany of accidents happened in an uncannily similar way.

In 1978 United Airlines 173 crashed in suburban Portland, Oregon, when the crew were so preoccupied with a landing gear problem that they didn’t notice that the plane was running out of fuel.

One year later a DC8 flew into the side of a mountain, killing everyone on board, when the crew became focused on a problem with the wheels.

These crews were not negligent.

On the contrary, these incidents highlighted common weak spots in human psychology.

When **cognitive load is high**, **decision-making can be compromised**.

“Situational awareness” is the term used to describe the **capacity of a crew to keep track of the multiple factors that together impinge on safety**, the various pieces of the jigsaw that collectively provide perspective.

When multiple demands are placed on an individual or a team, situational awareness can be undermined; pieces of the jigsaw **(even seemingly obvious ones like the alarm) are missed**.

Dr Hadiza Bawa-Garba: What led to six-year-old Jack Adcock's death?

Junior doctor's conviction sparks outrage from medical community who raised concerns over apparent failure to consider exceptional pressures faced by NHS staff

Lucy Pasha-Robinson | @lucypasha | Tuesday 30 January 2018 17:36 GMT

The Case of Dr Hadiza Bawa-Garba

Convicted of manslaughter by gross negligence In 2015 after the death of Jack Adcock, a six-year-old who was admitted to Leicester Royal Infirmary in 2011 with diarrhoea and vomiting.

Bawa-Garba made three key errors.

In her preliminary diagnosis, she gave too little weight to Jack's need for oxygen.

The Case of Dr Hadiza Bawa-Garba

Later, on review of the first blood results, she did not appreciate the full significance of elevated lactate.

When blood results were obtained for the afternoon handover, she did not register that the raised creatinine indicated abnormal kidney function.

On the surface these errors may seem negligent.

How could Bawa-Garba have failed to realise the full significance of the need for oxygen?

Why did she fail to appreciate the warning signs of raised lactate and creatinine?

Didn’t she care about little Jack?

Was her mind on other things?

The Deeper Analysis & A More Complex Picture

1. The consultant in charge was not in hospital that day.
2. At the trial it was explained that a diary mix-up meant that he was lecturing at a university outside the city.
3. By another quirk of fate, the registrar covering the children's assessment unit was not there either.
4. Bawa-Garba was covering for them both.

The Deeper Analysis & A More Complex Picture

5. Due to a hospital IT failure, which would strain the entire system, the senior house officer was delegated to phone for results from noon until 4pm.
6. She was covering for this colleague too.
7. She had just returned from 13 months' maternity leave and had little experience of working on a child assessment unit.

The Deeper Analysis & A More Complex Picture

9. She was also supposed to have an induction to get up to speed, which would have boosted her situational awareness, providing a broad perspective of the various wards, the patients and how to manage her workflow, and to integrate all of Jack's information into her moment-to-moment decision-making.
10. But for staffing reasons the induction didn't happen.

The Deeper Analysis & A More Complex Picture

11. Bawa-Garba also found herself covering six hospital wards across four floors, with dozens of children directly under her supervision, many who were very sick indeed.
12. Her first act on arrival on shift was to respond to a “crash bleep” as a child went into cardiac arrest.
13. This caused her to miss the morning handover (a crucial issue that would affect her situational awareness), but enabled her to save a child’s life.

The Deeper Analysis & A More Complex Picture

14. She also performed a lumbar puncture.
15. Stabilised a child experiencing epileptic fits.
16. It was also difficult to take any breaks.

The Deeper Analysis & A More Complex Picture

Every few minutes she was taking the calls of GPs, providing advice to midwives, making diagnoses, offering reassurance to worried patients and parents, attempting to sustain an overview of the pieces in a multi-dimensional jigsaw and perhaps wondering how long it would be before she could quench her parched throat or grab a bite.

The Deeper Analysis & A More Complex Picture

On the most demanding day of her career she averted multiple tragedies. Amid dozens of critical decisions she made three errors. It just so happened that all three errors, which partially fed into each other (this is sometimes called a “trajectory of error”) were focused on one patient: Jack.

The Deeper Analysis & A More Complex Picture

Given the fraught circumstances, one might ask why Bawa-Garba didn't absent herself from the hospital.

Wouldn't that have protected patients from inadvertent errors arising from system overload?

The Deeper Analysis & A More Complex Picture

After all, if a pilot arrives at the airport and decides that it is unsafe to fly, everyone goes home and no-body dies.

However, if Bawa-Garba had walked out, patients would have been infinitely more exposed because the remaining staff would have been stretched beyond measure.

By staying, Bawa-Garba put patients first. She was doing her job.

The Universal Human Phobia

What is a Phobia?

A phobia is more than a fear – it is a irrational, overwhelming, uncontrollable fear of a specific object or event.

Royal College of Psychiatrists

PHOBIA

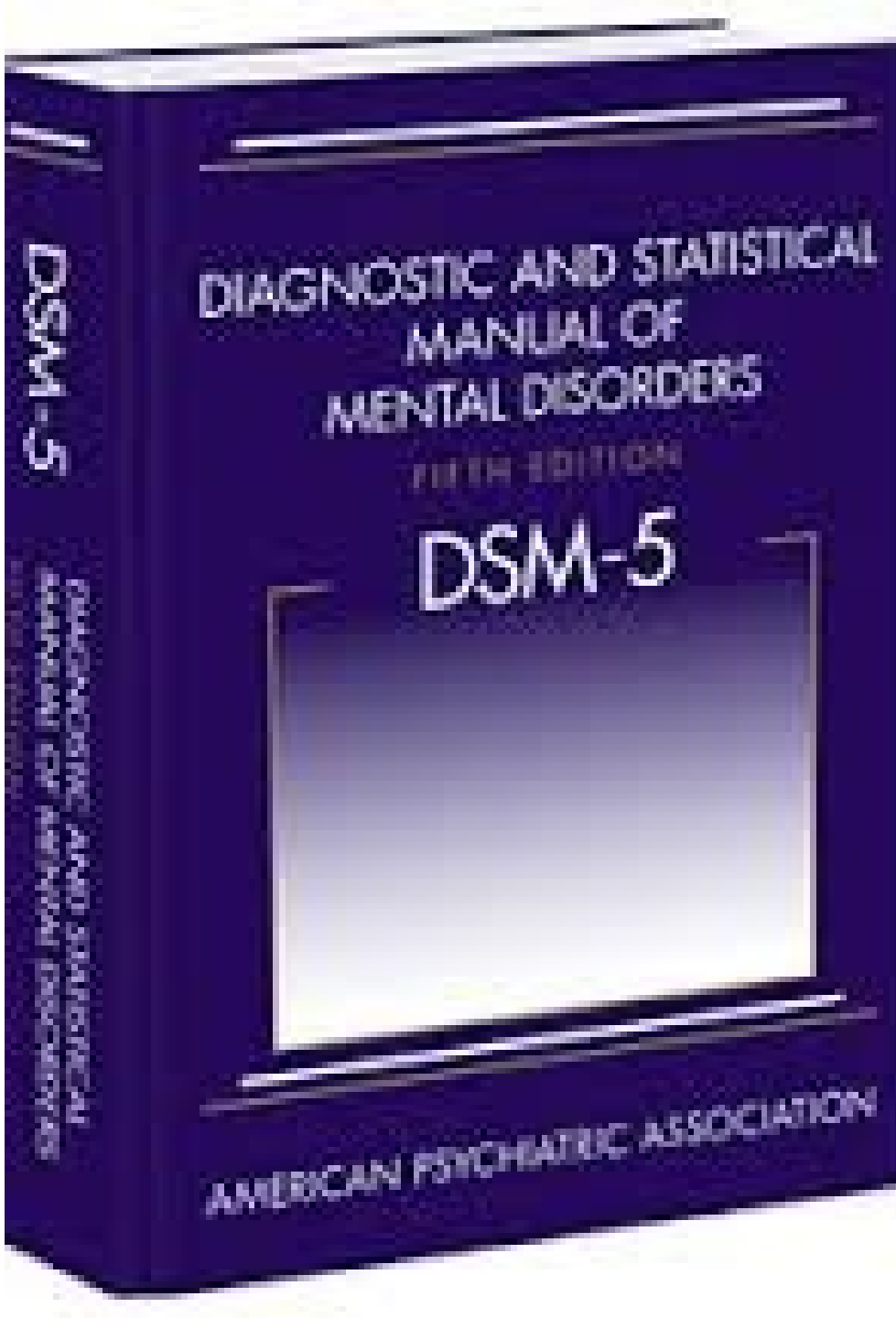
“When certain situations frighten you, you can get strong feelings of anxiety and this is a phobia. So if you have a phobia of dogs, you feel anxious when there are dogs around, but feel OK at other times. You may tend to avoid the situations that make you anxious, which can make the phobia worse as time goes on.

Your life can become dominated by your fear and the precautions you take to avoid such situations. You will usually realise that there is no real danger and may even feel silly about your phobia, but you can't control it.”

The Diagnostic and Statistical Manual of Mental Disorders (DSM) (The Bible of Psychiatry and Psychology)

"Anytime the causal factor of a stressor is human in nature, the degree of trauma is usually more sever and long lasting"

When it is another human being that causes our fear, pain and suffering, it shatters, destroys and devastates us.



The Next Slide is a Picture of a Snake


15%
85%

The Universal Human Phobia

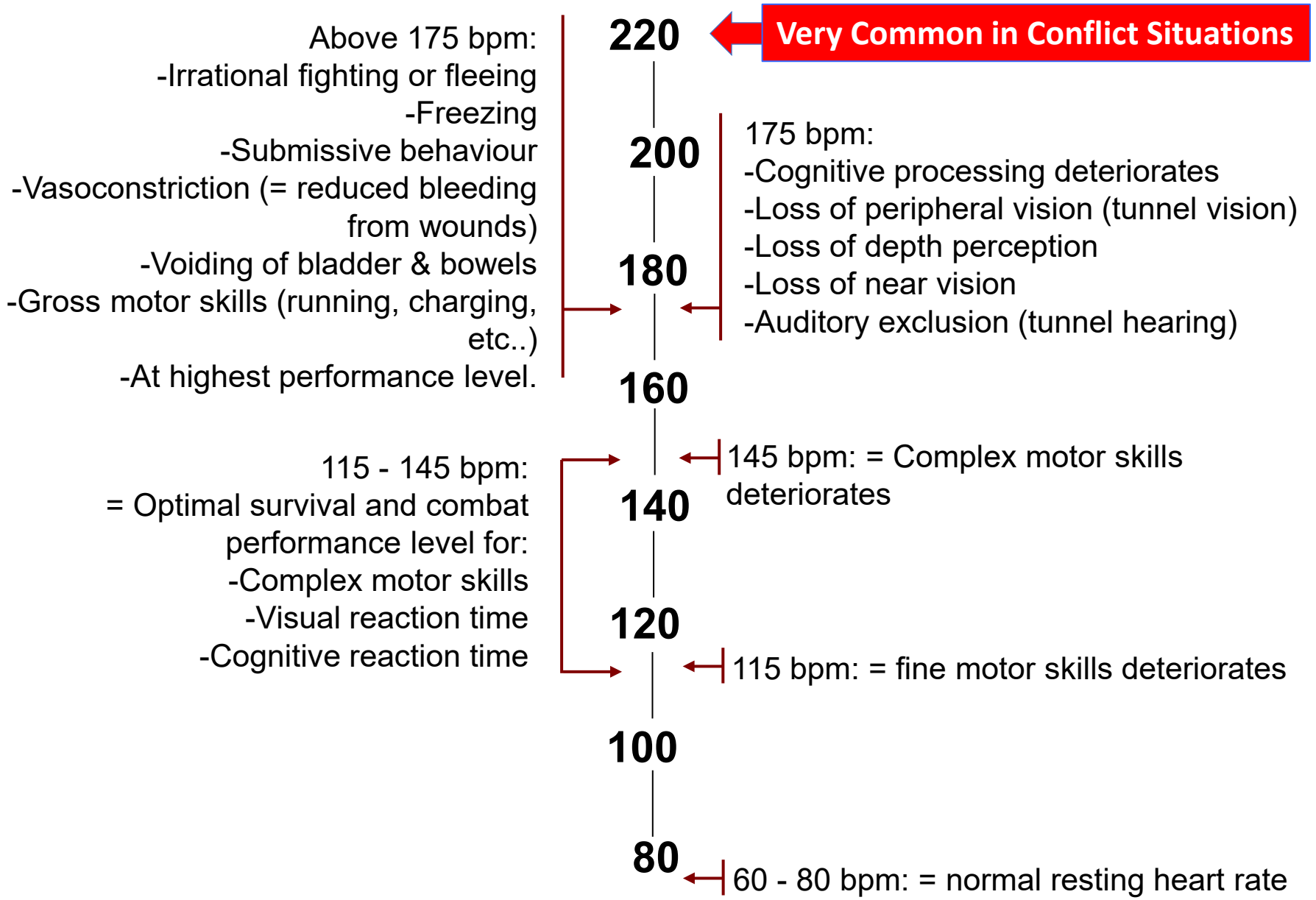

INTEPERSONAL HUMAN AGGRESSION
98%

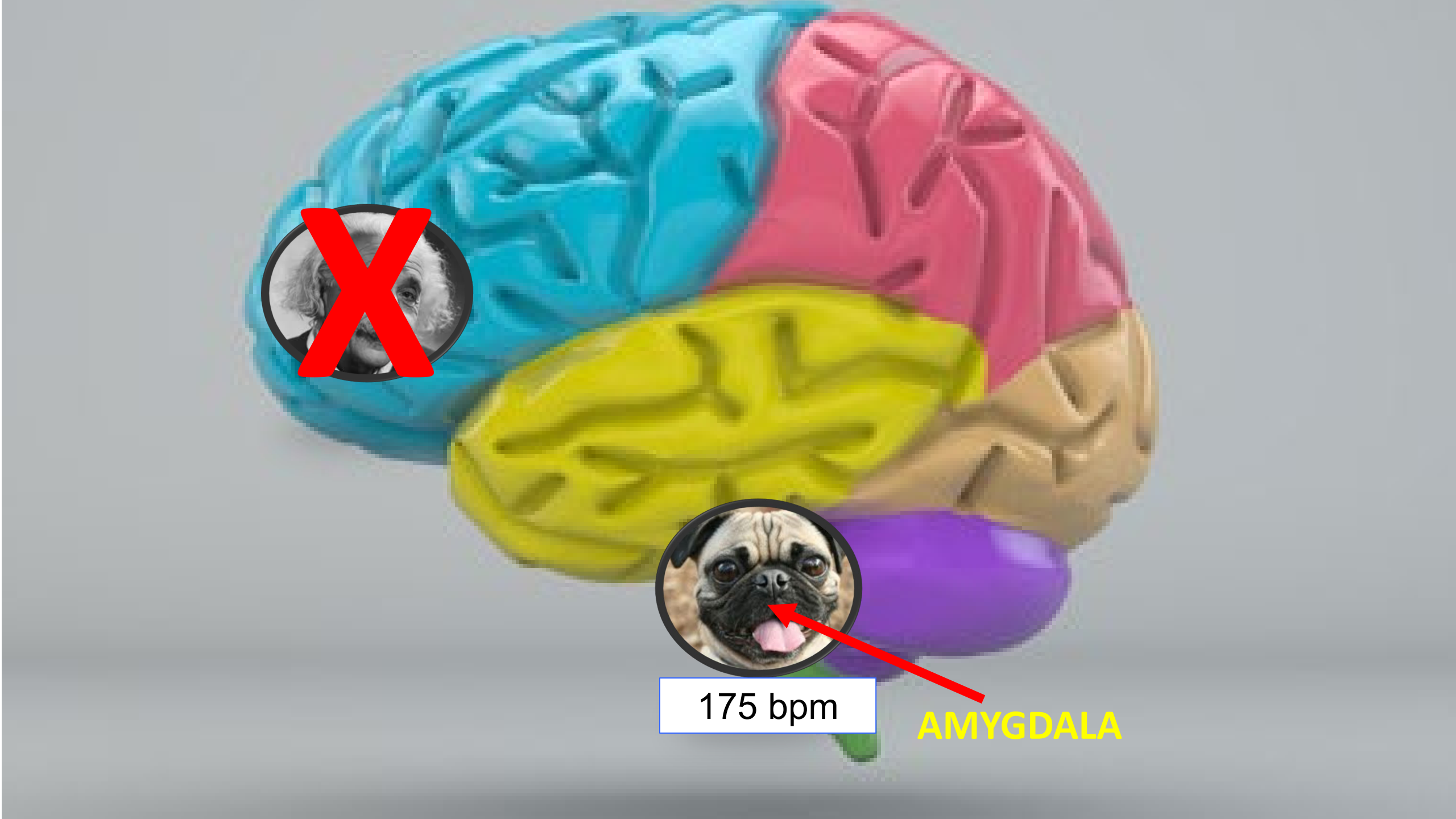
Understanding The Primitive Stress Response

What Happens at 175 bpm?

Heart Rate

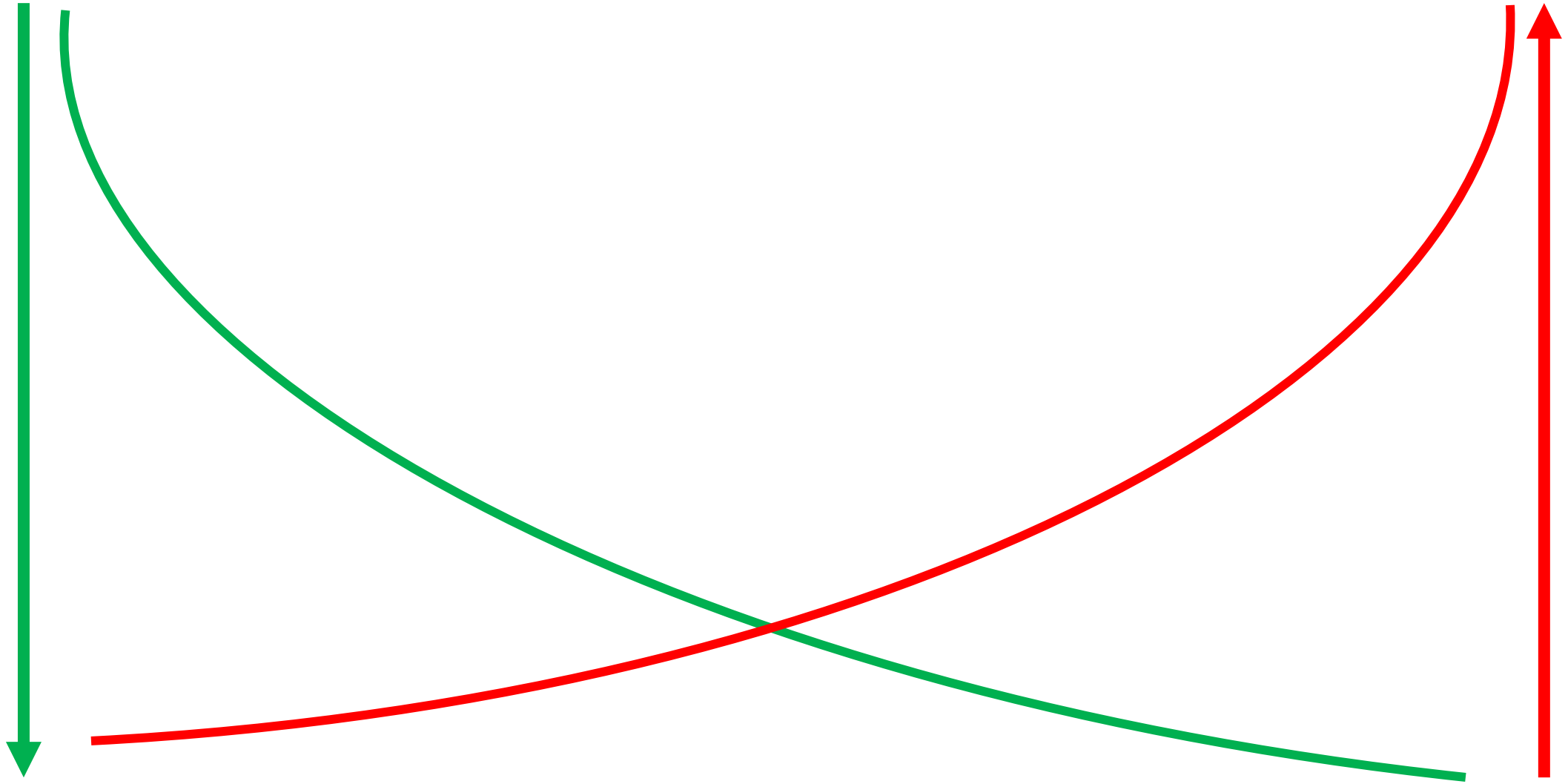
(beats per minute)




175 bpm
AMYGDALA

Situational Awareness

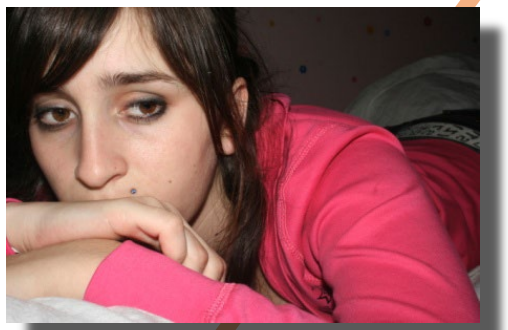
Stress / Pressure / Workload



THE CRIME TRIANGLE

Aggressor

RISK



Easy Target

Opportunity

THE CRIME TRIANGLE

Eliminate The Aggressor

RISK

Ha Easy Target get

Remove The Opportunity

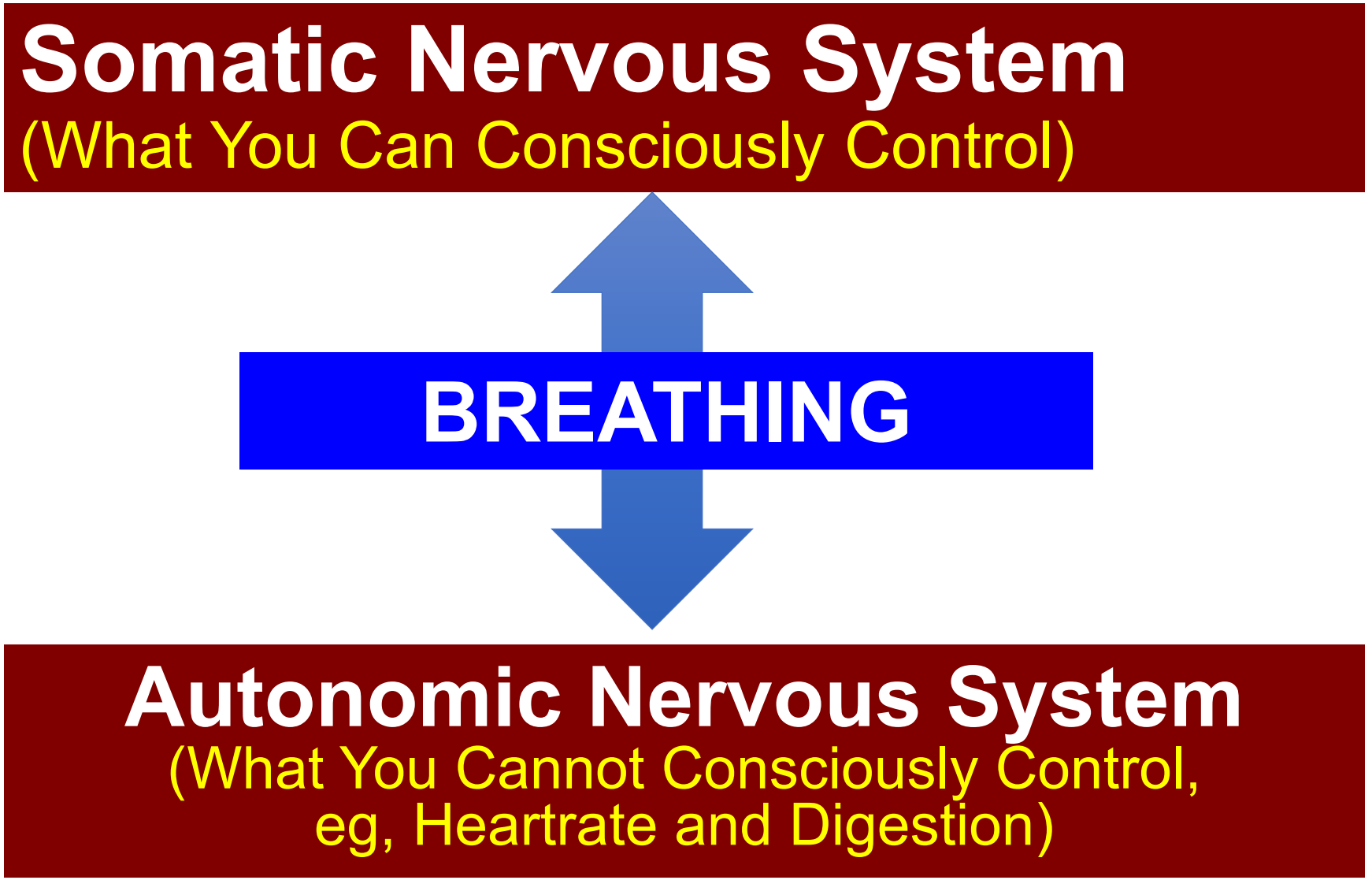
How To Increase Your Situational Awareness

- ✓ Be aware of your environment and surroundings;
- ✓ Look around regularly and check your surroundings;
- ✓ Walk with purpose;
- ✓ Don’t wear headphones when walking or running;
- ✓ Don’t have valuables on display;
- ✓ Trust your instincts;
- ✓ If you are unsure, turn around and go back the way you came;
- ✓ If you feel scared or threatened go to a public place and call someone or phone the police;
- ✓ Learn to control your breathing.

Tactical Breathing Technique

- ✓In through the Nose to the Count of 4
- ✓Hold to the Count of 4
- ✓Out through the Mouth to the Count of 4
- ✓Hold to the Count of 4

Rinse and Repeat 3 Times


Somatic Nervous System
(What You Can Consciously Control)
BREATHING
Autonomic Nervous System
(What You Cannot Consciously Control,
eg, Heartrate and Digestion)

Autonomic Nervous System

(What You Cannot Consciously Control,
eg, Heartrate and Digestion)