

The National Aviation Resilience Plan for Stress Responses in Aviation Crew

Dr. Eran Shenker

Air Surgeon, CAAI



The information presented is general and does not constitute professional or legal advice.

למידע נוסף :
RataMed@MOT.GOV.IL



What is The Most Dangerous "Weapon" in Aviation Incidents?



The information presented is general and does not constitute professional or legal advice.

2025 Israel Aviation Environment

Over a year of combat, drone clusters, and cruise missiles

The personal stress index in Israel has risen

Strengthening mental, emotional, and spiritual resilience Reduces:

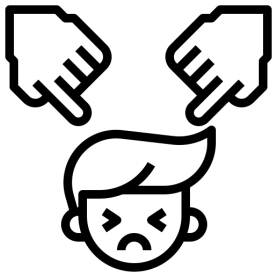
- Fatigue
- Risk of error
- Accident rate
- Safety disaster

2025 Israel Aviation Environment

- Although the stress index decline
- Due to pressure drop, load drop, winter, and general aviation activities
- NOW, maybe the highest flight safety time in 2025
- All people are on the “spectrum” - regarding flying in calm mode.

Five Key Warning Signs of Mental Stress

Guilt and over responsibility



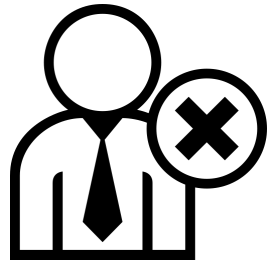
Feelings of hopelessness



Trapped or helpless sensations



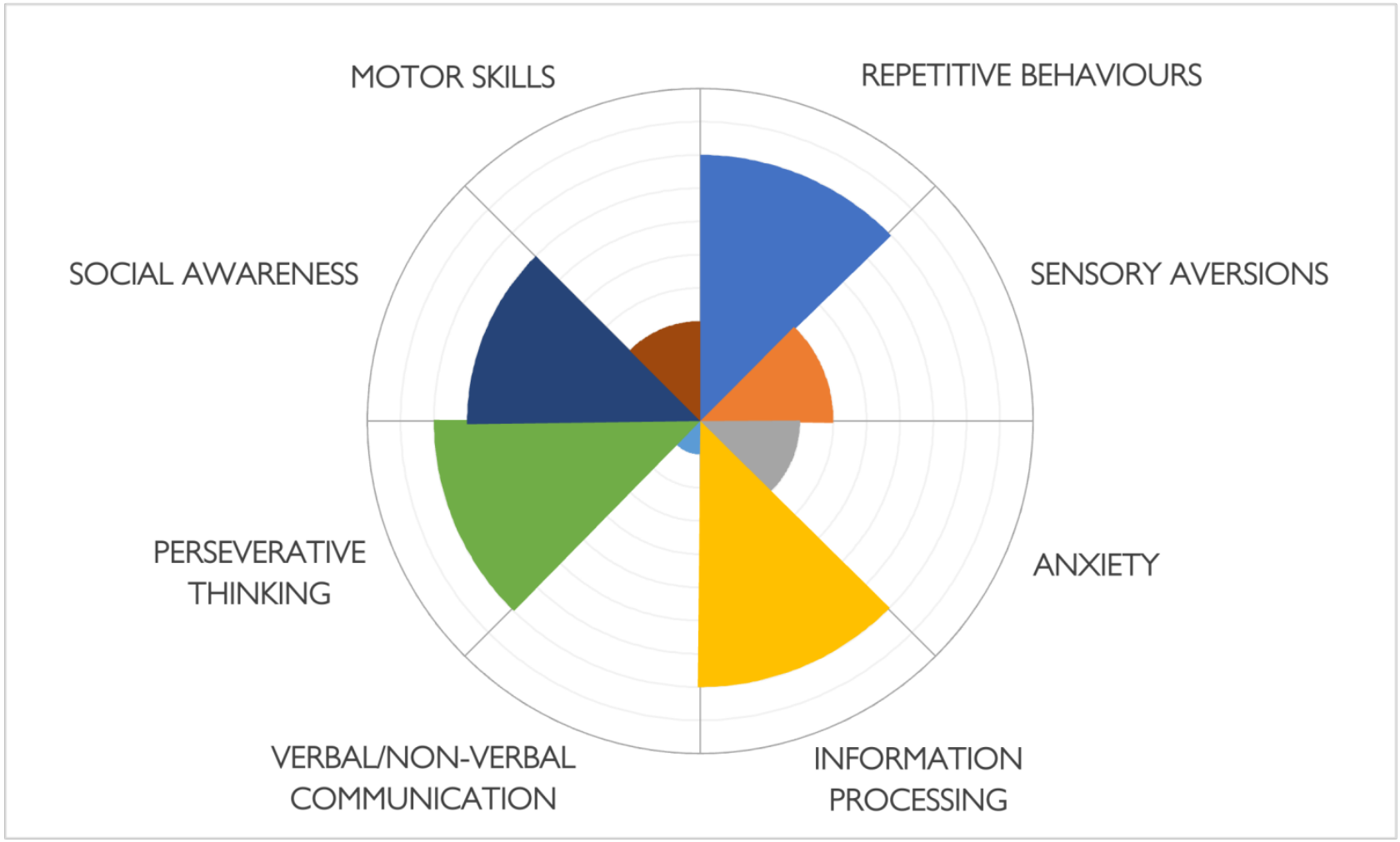
Significant behavioral changes



Sleep disturbances.



Are we all on the Spectrum?

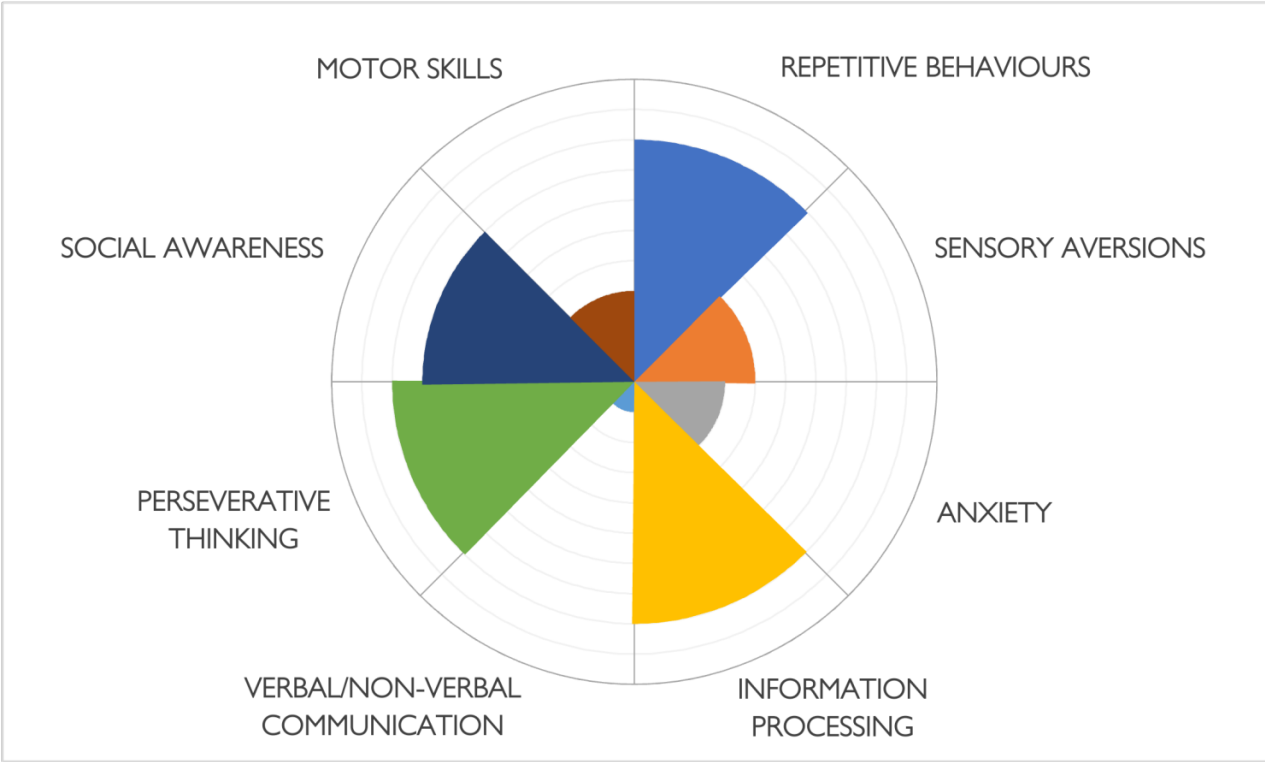


The information presented is general and does not constitute professional or legal advice.

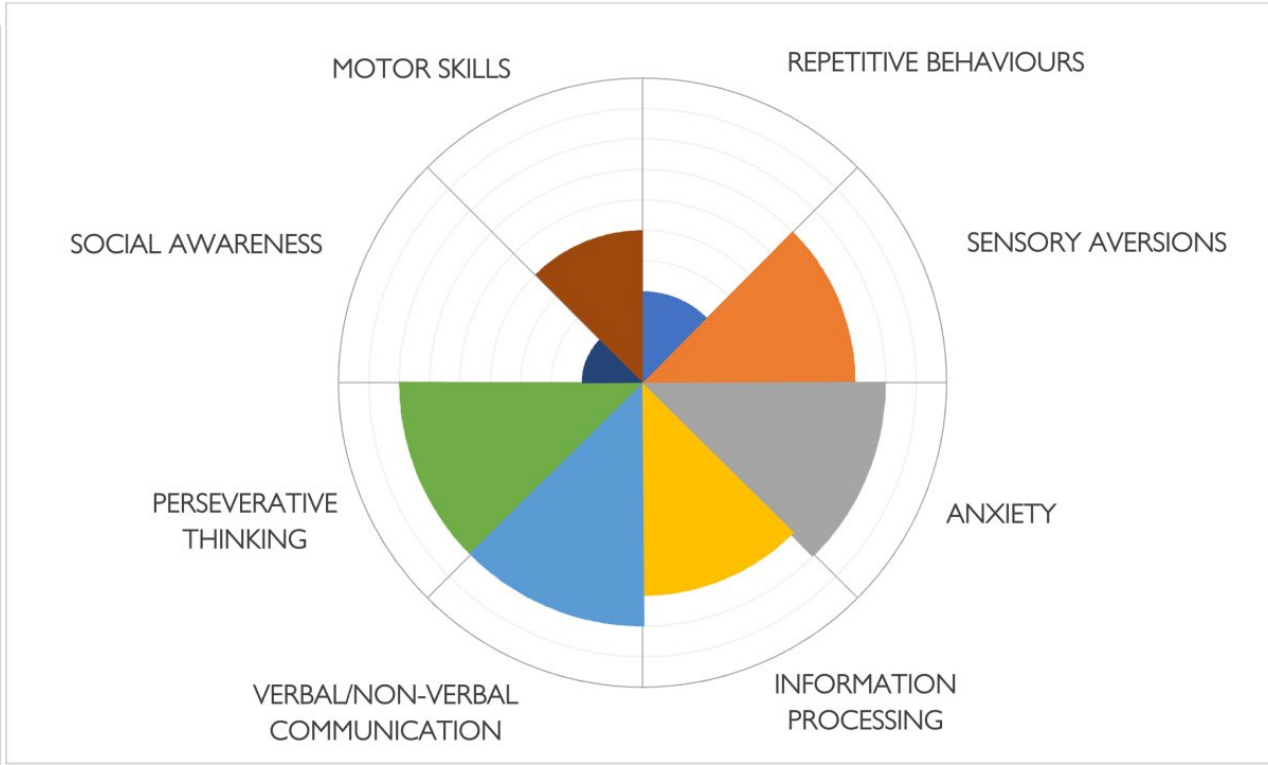
https://quietspacecoaching.co.uk/2023/06/20/were-all-a-little-autisticand-other-mistruths/

Dual Spectrum in the Cockpit and CRM

Pilot Flying (PF)



Pilot Monitoring (PM)



The information presented is general and does not constitute professional or legal advice.

https://quietspacecoaching.co.uk/2023/06/20/were-all-a-little-autisticand-other-mistruths/



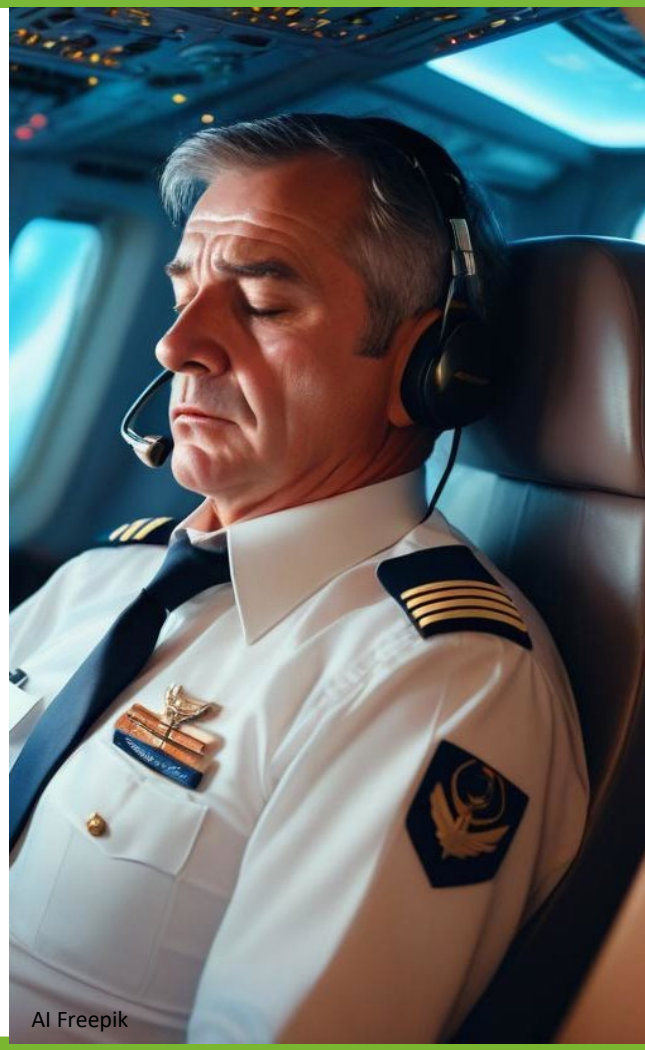
Fatigue in Flight Safety

- Decreased alertness
- Lack of concentration
- Slower reaction time
- Increased minor errors
- Poor communication
- Poor understanding

ICAO

EUROCONTROL

FLIGHT SAFETY FOUNDATION



AI Freepik

* Fatigue Manifestations (OGHFA BN) https://skybrary.aero/articles/fatigue-manifestations-oghfa-bn)

The information presented is general and does not constitute professional or legal advice.

Fatigue: A Major Safety Concern

Fatigue contributes to over

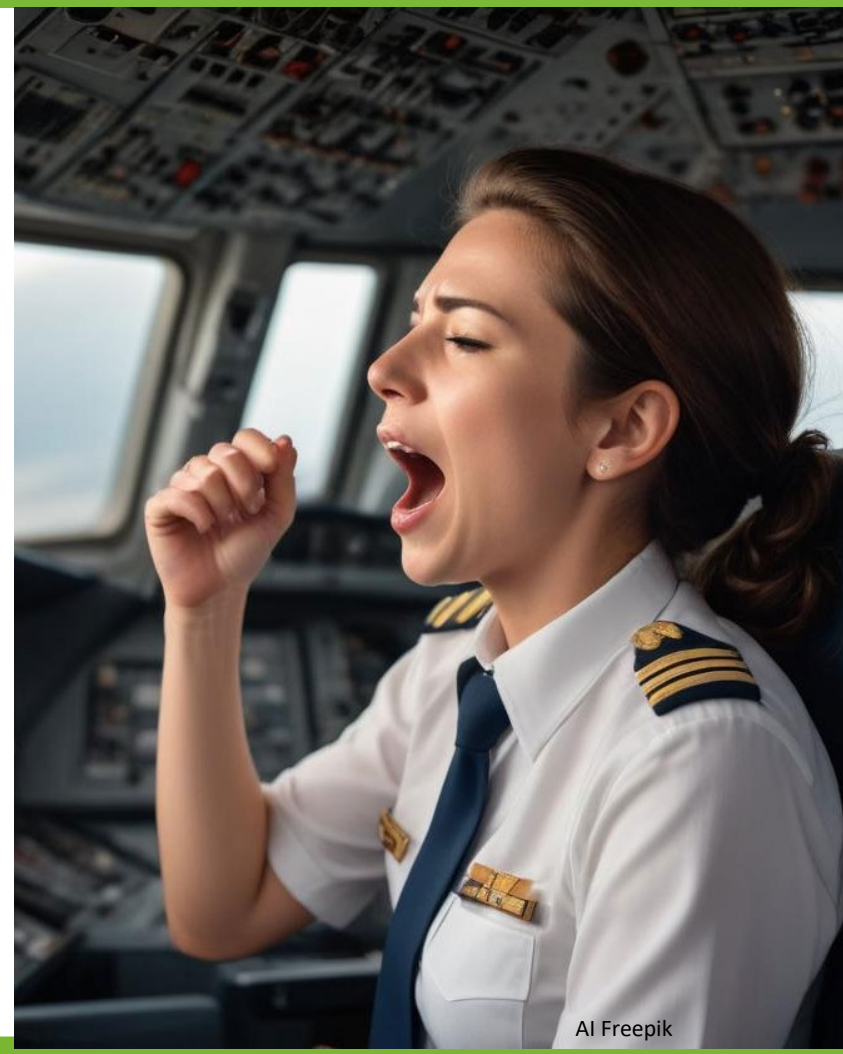
20%

of aviation safety incidents

Work/rest balance is essential.
Proper fatigue management is critical

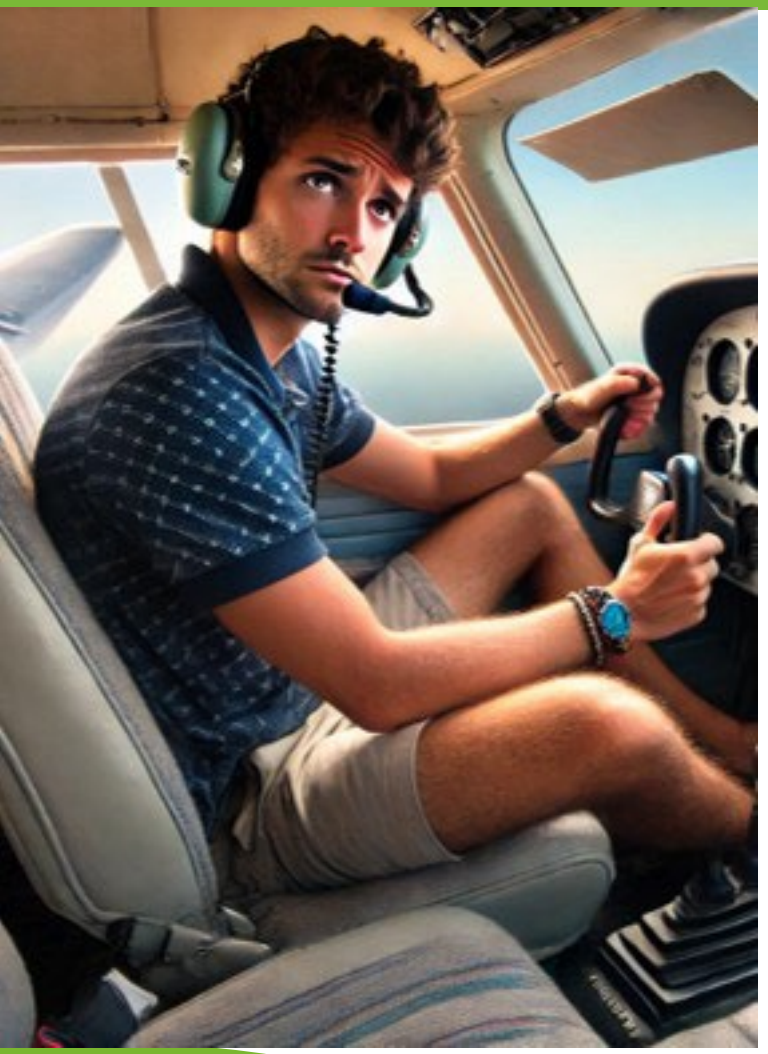
ICAO EUROCONTROL FLIGHT SAFETY FOUNDATION

* Putting profit ahead of safety as to be balanced


AI Freepik

* Fatigue Manifestations (OGHFA BN) https://skybrary.aero/articles/fatigue-manifestations-oghfa-bn)

The information presented is general and does not constitute professional or legal advice.



Fatigue: A Major Safety Concern

Fatigue contributes to over

20%

of general aviation safety incidents

Work/rest balance is essential.
Proper fatigue management is critical

ICAO | EUROCONTROL | FLIGHT SAFETY FOUNDATION

* Putting profit ahead of safety as to be balanced

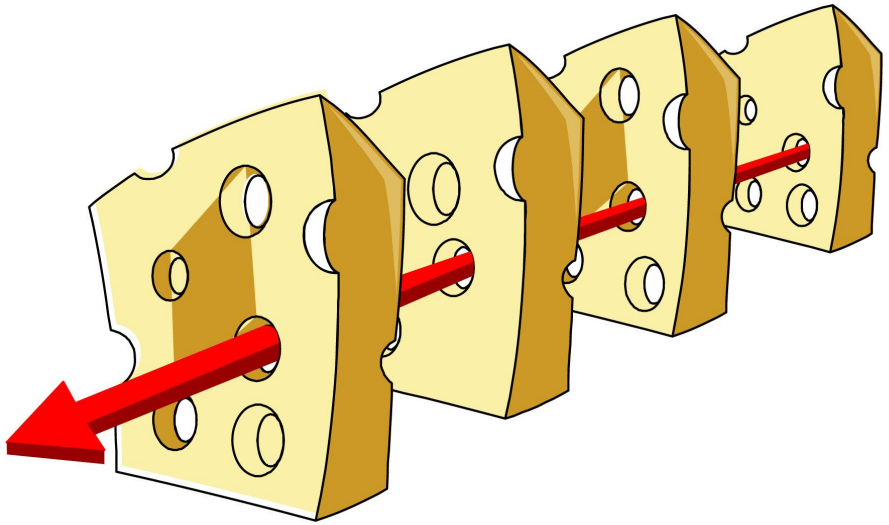
AI Freepik

* Fatigue Manifestations (OGHFA BN) https://skybrary.aero/articles/fatigue-manifestations-oghfa-bn)

The information presented is general and does not constitute professional or legal advice.

The Swiss Cheese Model of Risk Management

Multiple risk factors aligning can lead to aviation incidents.
Identifying and mitigating risks at multiple levels.



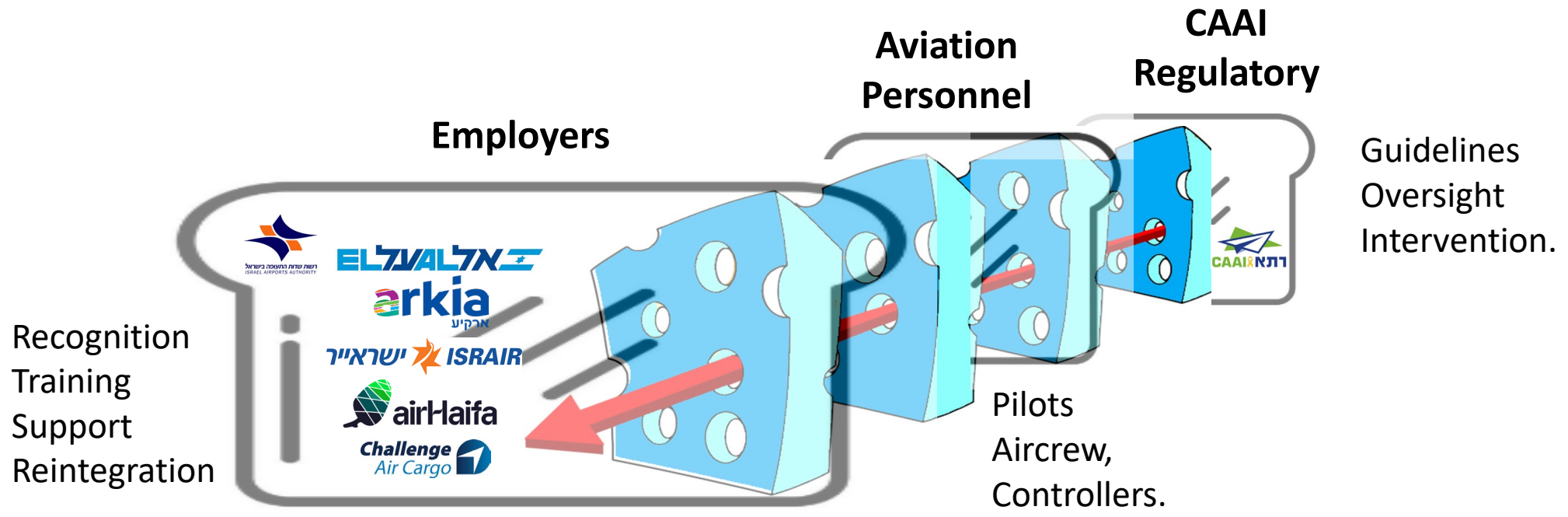
Aviation Safety Event

* A comprehensive review of the Swiss cheese model in risk management. Shabani, T., Jerie, S. & Shabani, T *Saf. Extreme Environ.* **6**, 43–57 (2024).

The information presented is general and does not constitute professional or legal advice.

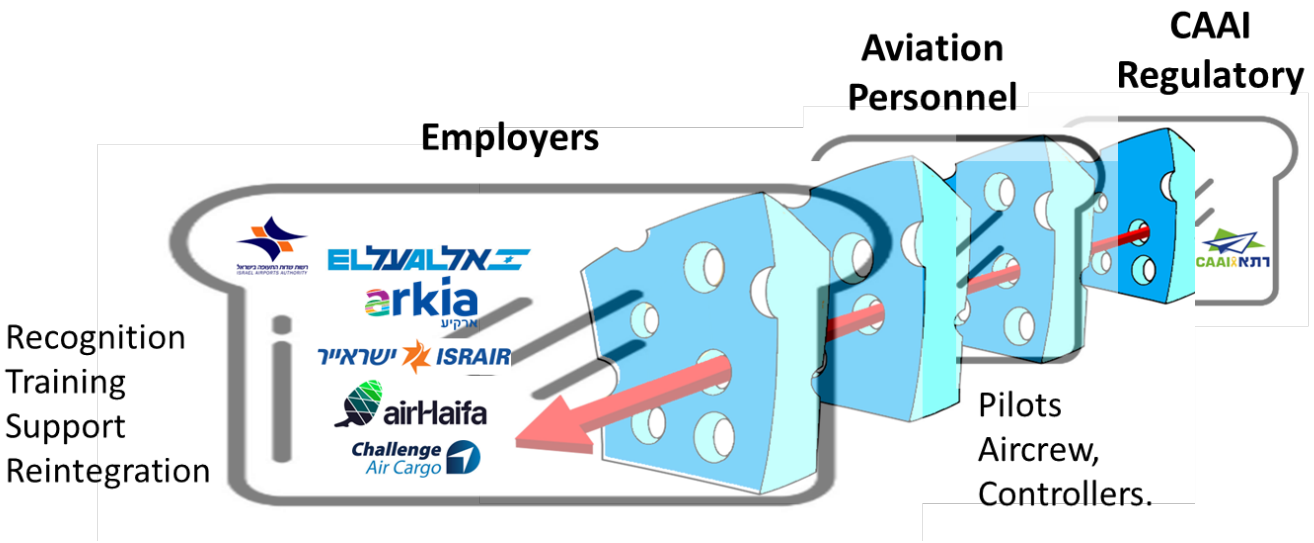
The Blue Cheese Model of Risk Management

TOAST: Three-Layered Approach



© Schenker Eran, 2024
The information presented is general and does not constitute professional or legal advice.

TOAST: Three-Layered Approach



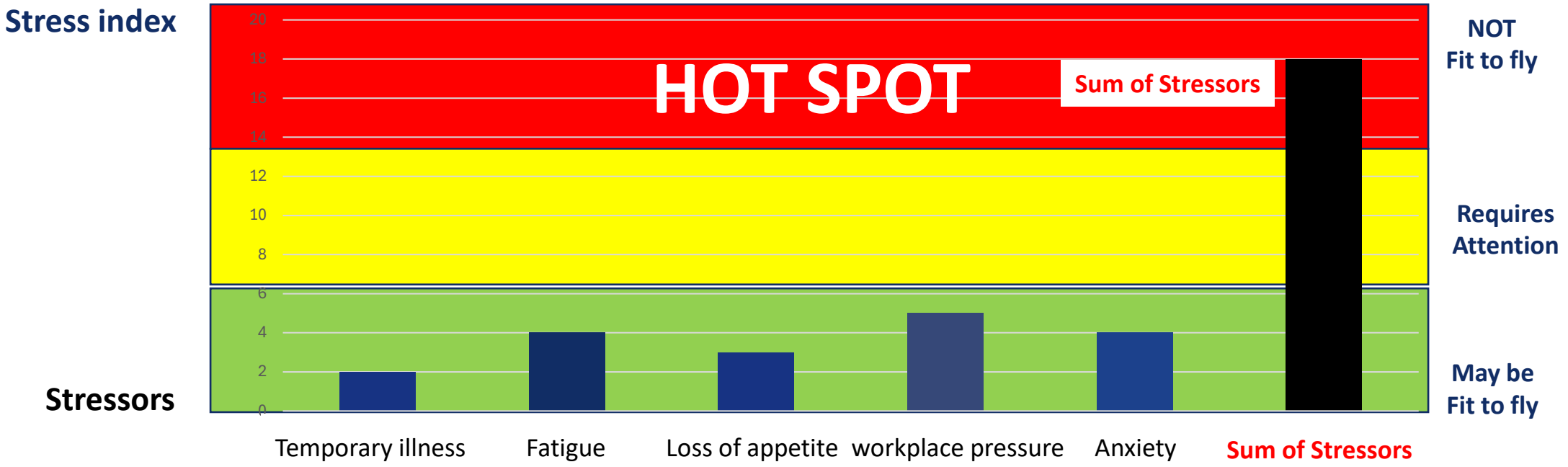


© Schenker Eran, 2024
The information presented is general and does not constitute professional or legal advice.

Effects of Life Criss on Flight Safety

Each stressor on its own can often be controlled independently

When stressors come together over time, they can cross the safety threshold



Schenker Eran @ 2024
The information presented is general and does not constitute professional or legal advice.

Fatigue

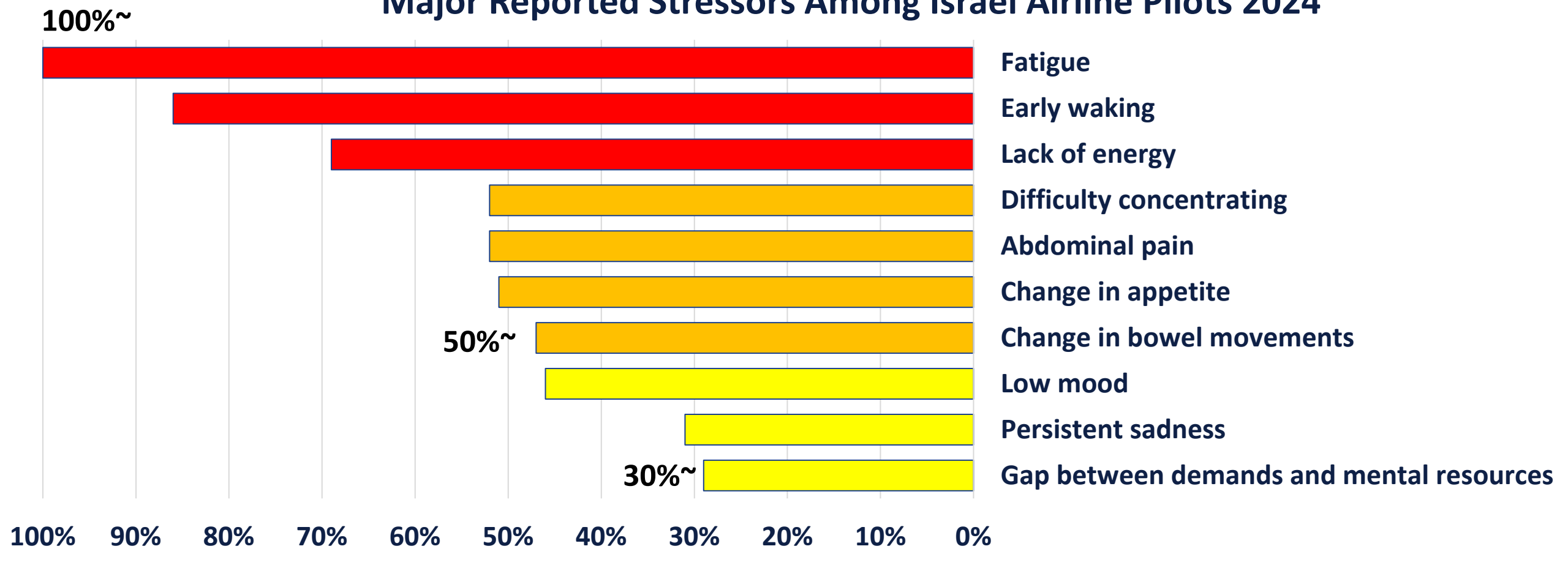
- Israeli airline pilots identify **fatigue** as the leading safety risk
- Surveys confirm the impact on aviation performance
- Putting profit ahead of safety as to be balanced
- Proper work/rest scheduling and good sleep hygiene



* Fatigue Manifestations (OGHFA BN) https://skybrary.aero/articles/fatigue-manifestations-oghfa-bn)

The information presented is general and does not constitute professional or legal advice.

Major Reported Stressors Among Israel Airline Pilots 2024



N=70

The information presented is general and does not constitute professional or legal advice.

Airline Captain:

"I was surprised when the wheels touched down on the home runway at Ben Gurion Airport after a long and tiring night flight.

I must have been staring blankly at the crucial seconds of its landing..."

Absent



* Fatigue Manifestations (OGHFA BN) https://skybrary.aero/articles/fatigue-manifestations-oghfa-bn)

The information presented is general and does not constitute professional or legal advice.

Causes of biological clock disruption

- High number of time zones crossed
- Successive night flights

Long layovers cause sleep loss in aviation

- Night flight
- Early morning flights
- Short nights
- Poor sleep quality



https://skybrary.aero/articles/fatigue-manifestations-oghfa-bn

The information presented is general and does not constitute professional or legal advice.

Physical and mental manifestations of fatigue

- General feeling of tiredness
- Reduced alertness
- Uncontrollable need to sleep
- Accidental napping
- Slowed reaction time

Mental manifestations of fatigue

- Difficulty memorizing information
- Lack of concentration
- Periods of inattention
- Slow comprehension
- Bad mood
- Poor decisions
- Tendency to forget information and actions



https://skybrary.aero/articles/fatigue-manifestations-oghfa-bn

The information presented is general and does not constitute professional or legal advice.



Ways to reduce fatigue :

- Avoid alcohol or caffeine 3-4h before bed
- Avoid a heavy meal right before bed
- Avoid exercise 2-3 hours before bed
- Avoid sleeping pills



The information presented is general and does not constitute professional or legal advice.





What is The Most Dangerous “Weapon” in Aviation Incidents?

Avoid looking at your screens / phone before bed !





Conclusion:

- National Resilience Plan for Aviation Stress.
- Key focus on managing fatigue.
- Ensuring aviation safety through proactive interventions
- Avoid looking at your screens / phone before bed