



EFFECTS OF STRESS & FATIGUE ON AIR TRAFFIC CONTROLLERS AND PILOTS



FACTORS

❖ MAN

❖ TASK

❖ STRESS



FACTORS ...contd

MAN

- Intelligence
- Physical fitness
- Health and age
- Motivation
- Training
- Personality



FACTORS ...contd

TASK

- Physical or mental
- Degree of difficulty
- Its importance and duration
- Number of ways of completing the task



FACTORS ...contd

STRESS

- Severity
- Duration
- Suddenness of onset
- Area of application (arms, legs, eyes, ears etc)
- Interaction with other stresses.



**WHAT HAPPENS
WHEN ONE IS
UNDER STRESS?**



WHAT HAPPENS WHEN ONE IS UNDER STRESS?

- Omission
- Error
- Queuing
- Filtering
- Approximation
- Escape
- Freezing



**IN AVIATION
BEHAVIOUR
UNDER STRESS
GIVES**



In Aviation Behaviour Under Stress Gives

- Increase in error amplitude
- Unevenness of performance
- Oscillations
- Changes in phasing or timing
- Failure to detect signal
- Errors in processing information

In Aviation Behaviour Under Stress Givescontd

- Reduction in performance outputs on some tasks
- Inadvertent control inputs.
- Changes in rate of performance such as the sudden initiation of performance non-essential to the task.
- Falling off of proficiency on some tasks while maintaining proficiency on others





SOME IMPORTANT STRESSES IN AVIATION



SOME IMPORTANT STRESSES IN AVIATION

- **NOISE**
- **HEAT**
- **VIBRATION**
- **SLEEPLESSNESS**
- **FAILURE**
- **FEAR**



SOME IMPORTANT STRESSES IN AVIATION

NOISE

- Beneficial at low intensity
- Slow response
- Attention lapses and errors



SOME IMPORTANT STRESSES IN AVIATION

HEAT

- Performance decrements mainly in short term memory
- Decrement on motivation
- Decrements on vigilance performance



SOME IMPORTANT STRESSES IN AVIATION

VIBRATION

- Decrements on vision
- Decrement on psychomotor co-ordination e.g. tracking performance is vulnerable at 4-5 Hz
- Coning of attention or lack of it
- Decrement of reaction time.



SOME IMPORTANT STRESSES IN AVIATION

SLEEPLESSNESS

- On serial reaction tasks – slow responses
- In vigilance tasks – signals will be missed.



SOME IMPORTANT STRESSES IN AVIATION

FAILURE

- Performance becomes worse.

FEAR

- In aircraft situations can get panic - dynamic or static



THANK YOU FOR LISTENING

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