

Workplace Safety, Error Prevention & Risk Management



Occupational Health & Safety Authority Act

- The legal framework promotes, stimulates and encourages high standards of health and safety in places of work. It protects employees and the public from potentially harmful work activities.
- Everyone has a duty to comply with the Act, including employers, employees, trainees, self-employed.

Sources: Occupational Health & Safety Authority Act (CAP. 424); Work Place (Provisions of Health and, or Safety Signs (Amendment) Regulations, 2015 (L.N. 199 of 2015)



Employer's Key responsibilities

- Provide and maintain equipment and safe systems of work
- Ensure materials used are properly stored, handled, used and transported
- Provide information, training, instruction and supervision
- Provide a written safety policy/risk assessment
- Provide a safe working environment
- Look after the health and safety of others, for example the public

Employee's key responsibilities

Take care of their own health and safety and that of other persons (employees may be liable)

Co-operate with their employers

Not interfere with anything provided in the interest of health and safety

Further Reading Material:

- Regulations on Health and Safety
- Employment and Industrial Relations Act (CAP. 452)
- General Provisions for Health and Safety at Work Places Regulations (S.L.424.18)
- Minimum Requirements for the Use of Personal Protective Equipment at Work Regulations (S.L.424.21)
- Occupational Health & Safety Authority Act (CAP. 424)

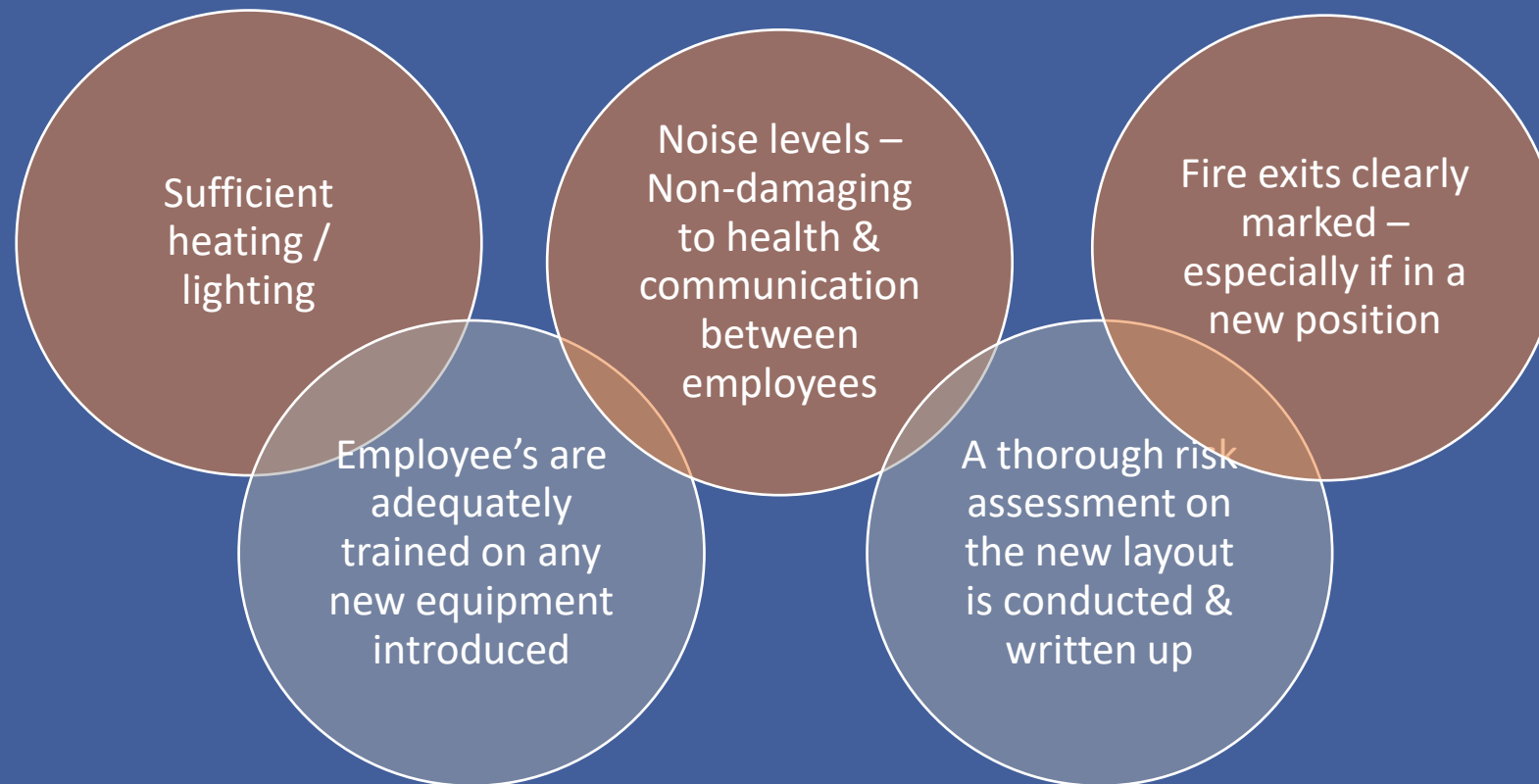
GROUP ACTIVITY



As a Consultant you are asked to re-design a shop – floor in a factory to make it more efficient.

WHAT HEALTH & SAFETY FACTORS MIGHT YOU NEED TO CONSIDER?

Examples



What is Safety Culture/Climate?
Why are they important in the workplace?





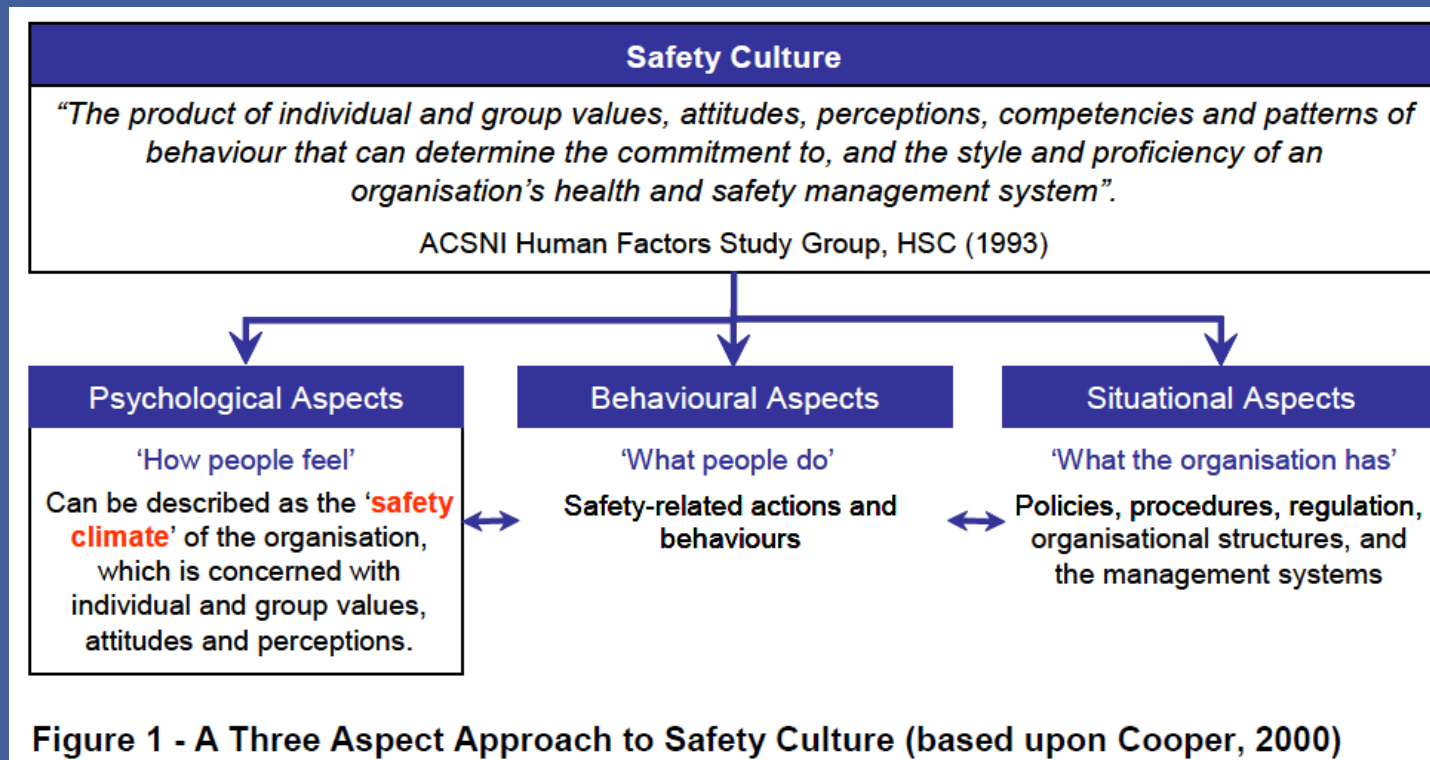
Safety Culture



Pidgeon (1991) defined safety culture as:

“a set of beliefs, norms, attitudes, roles, social and technical practices that are concerned with minimizing the exposure of employees, managers, customers and members of the public to conditions considered dangerous or injurious.”

Safety Culture



Safety Culture

- As part of the Ladbroke Grove Rail Inquiry (HSC 2001), the HMRI reviewed safety culture and safety climate and identified 5 aspects which can influence safety culture (HMRI Project Specification, 2004):
 - Leadership
 - Two-way communication
 - Employee involvement
 - Learning culture
 - Attitude towards blame

Safety Culture

Pidgeon & O'Leary (2000) suggest a positive safety culture is based upon:

- Senior management commitment to safety
- Realistic and flexible practices for handling hazards
- Continuous organisational learning
- A care and concern for hazards within the workplace

Safety Culture

Our company has a good safety culture because:

- Managers regularly visit the workplace and discuss safety matters with the workforce
- The company gives regular, clear information on safety matters
- We can raise a safety concern, knowing the company take it seriously and they will tell us what they are doing about it
- Safety is always the company's top priority, we can stop a job if we don't feel safe
- The company investigates all accidents and near misses, does something about it and gives feedback
- The company keeps up to date with new ideas on safety
- We can get safety equipment and training if needed – the budget for this seems about right
- Everyone is included in decisions affecting safety and are regularly asked for input
- It's rare for anyone here to take shortcuts or unnecessary risks
- We can be open and honest about safety: the company doesn't simply find someone to blame
- Morale is generally high

Safety Climate

Zohar (1980)

“the shared perceptions of employees about the task behaviours that are appropriate and adaptive in their work environments”

Chmiel and Talis (2013) – consensus concerned with

“an organization’s policies, procedures, and practices related to safety.” (p. 359)



Safety Climate

Three commonalities have been noted in definitions of safety climate:

- It is **a psychological phenomenon**, usually defined as the perceptions of the state of safety *at a particular time*.
- It is closely **concerned with intangible issues** such as situational and environmental factors.
- It is **a temporal phenomenon**, a 'snapshot' of safety culture and is relatively unstable and subject to change.



Safety Climate

Zohar (1980) – important dimensions

1. Workers' perceptions of importance of safety training
2. Management attitudes to safety
3. Effects of safe conduct on promotion opportunities
4. Level of risk in the workplace
5. Pace of work demands related to safety
6. Status of the safety officer
7. Effects of safe conduct on social status
8. Status of the safety committee

Guidelines for Creating A Safety Climate

Research suggests organisations should emphasise that **safety is a high priority** and **an integral part of the job** (see Weiner et al., 2012, chpt. 23).

Guidelines for creating a safety climate based upon Wilson-Donnelly et al. (2005) and Chmiel and Taris (2013) are:

1. Make people believe in safety and start at the top
2. Send appropriate signals that safety matters
3. Encourage discussion and documentation of errors
4. Examine all levels when searching for solutions
5. Prepare people thoroughly through training



Safety Management

- Safety Management is partially (but not exclusively) about error management:
 - avoid errors;
 - trap errors;
 - and/or mitigate the consequences of errors.



Nine Principles for Safety Management

- Senior management's commitment to the management of safety.
- Effective safety reporting.
- Continuous monitoring.
- Sharing Information.
- Investigation of safety occurrences.



Nine Principles for Safety Management

- Sharing safety lessons learned and best practices.
- Integration of safety into all training for personnel.
- Effective implementation.
- Continuous improvement of the overall level of safety.



Safety Management Programmes

Reason (1997) suggested safety management programmes may be either:

- Reactive
- Proactive
- Predictive

Ergonomic and Human Factors

What do you think the study of ergonomics and human factors involves?

Why do you think ergonomics and human factors are important in the workplace?



Definition

”

“Ergonomics is a science-based discipline that brings together knowledge from other subjects such as anatomy and physiology, psychology, engineering and statistics to ensure that designs complement the strengths and abilities of people and minimise the effects of their limitations.”

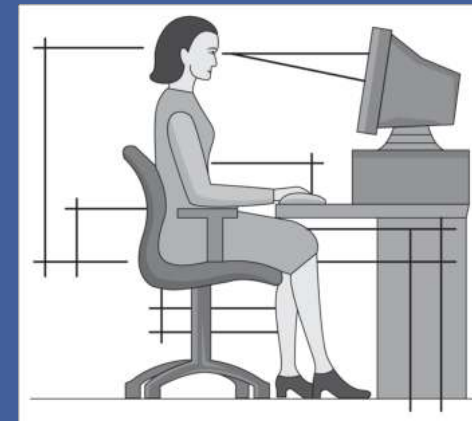
Chartered Institute of Ergonomics and Human Factors



Ergonomics and Human Factors

Involves the assessment of factors such as:

- Design and use of tools
- Design and layout of the work environment
- Posture and movement
- Repetitiveness of a task
- Physical strength required to complete a task



Ergonomics and Human Factors

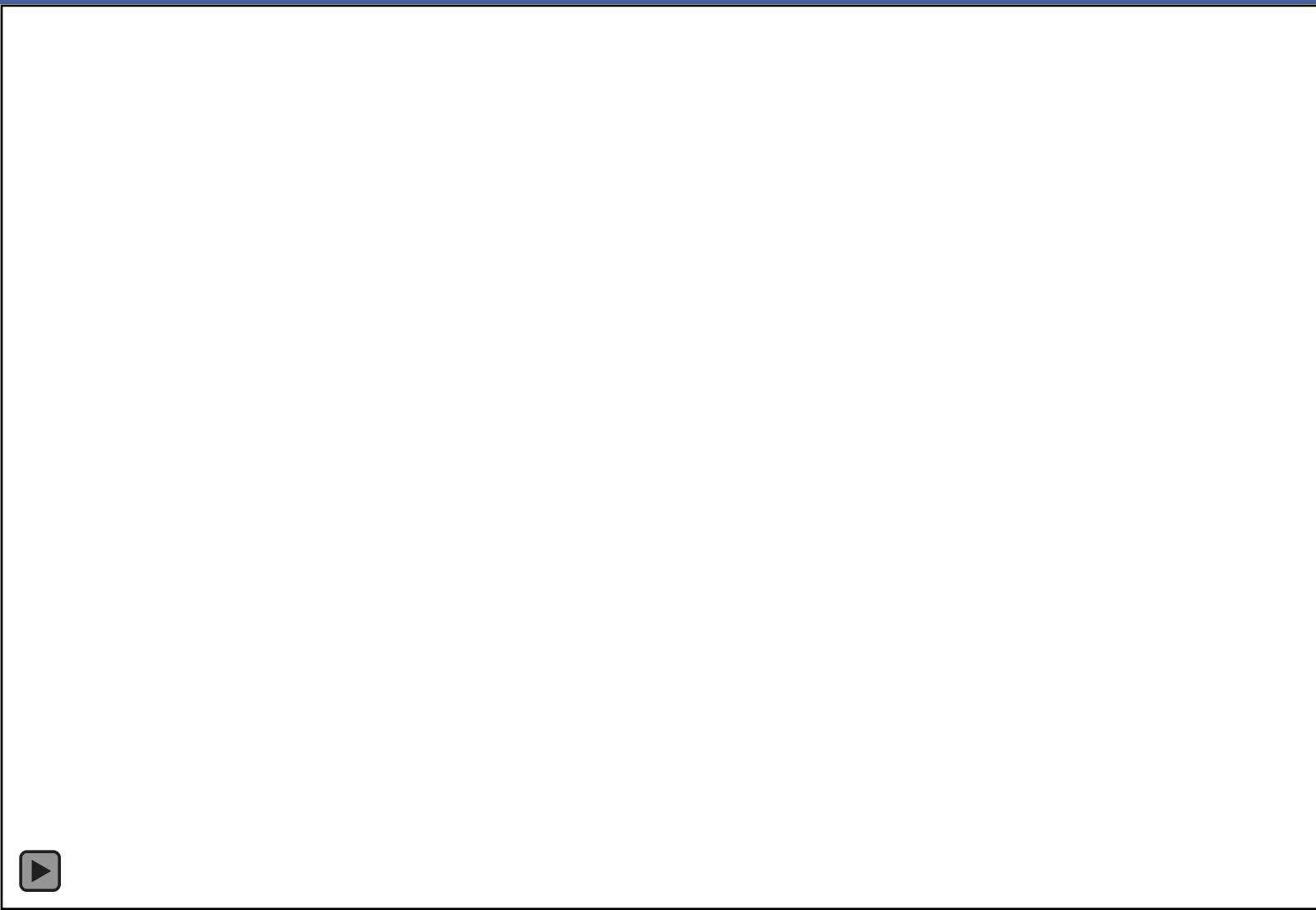
Aims to:

- Reduce the likelihood of **accidents** at work
- Improve **health and safety** in the workplace



The Physical Work Environment Assessment

- There are three primary methods of assessing how humans respond to their work environments:
- **Subjective methods** - Rating scales such as those from 1 (completely dissatisfied) to 5 (completely satisfied)
- Easy to carry out
- **Objective methods** - Direct measures of a persons response such as their body temperature, and levels of vibration experienced by the individual when carrying out a task
- **Behavioural methods** - Assessing a persons change in posture when conducting a job as well as making adjustments to the environment so that they can work more quickly and more efficiently.
- Requires the observation of the behaviour by a trained observer
- Health and Safety Legislation



The logo for 'Learning Outcomes' features the word 'Learning' in a bold, black, sans-serif font with a yellow outline. A small red apple with a green leaf is positioned above the letter 'i'. Below 'Learning' is the word 'Outcomes' in a larger, bold, black, sans-serif font with a yellow outline. To the left of the text is a blue graduation cap with a tassel.

Learning Outcomes

- Health and Safety Act.
- Safety Culture vs. Safety Climate
- Safety Management
- What is involved in Risk Management?
- The aim of ergonomics and human factors
- What ergonomics and human factors involve
- The four main areas of ergonomics



for
Lecture 8
Designing Jobs
&
Work Environments