

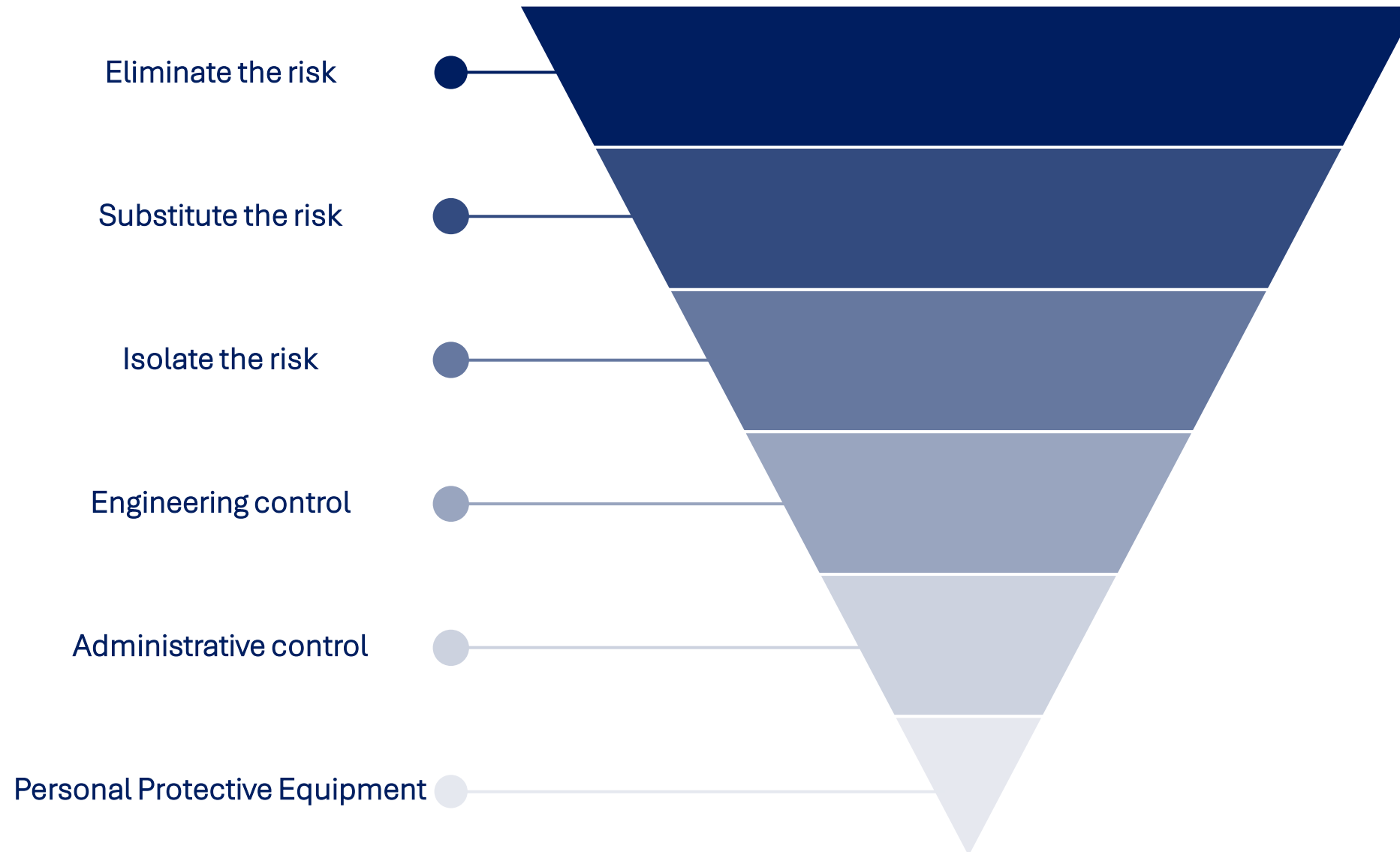
Psychological and Behavioural Aspects of Work at Heights

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HEAD OF PROGRAMME, HUMAN FACTORS IN SAFETY

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Hierarchy of Control



BP Texas Refinery Explosion

Photo downloaded from:
<https://www.csb.gov/bp-texas-city-investigative-photos/>



Safety culture leadership was the root cause of the explosion.

Downloaded from:
<https://www.csb.gov/bp-america-texas-city-refinery-explosion/>

12.1 Root Causes

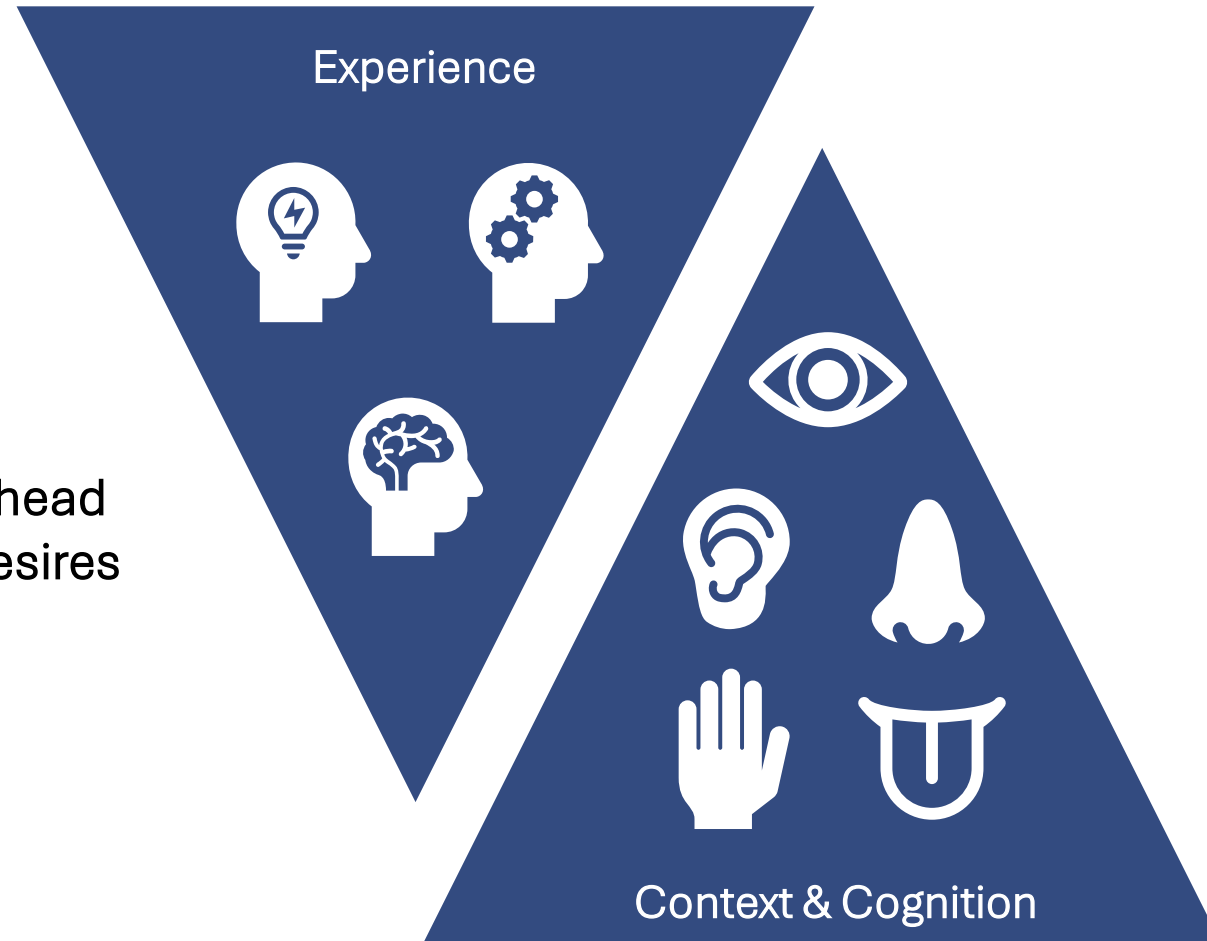
BP Group Board did not provide effective oversight of the company's safety culture and major accident prevention programs.

Senior executives:

- inadequately addressed controlling major hazard risk. Personal safety was measured, rewarded, and the primary focus, but the same emphasis was not put on improving process safety performance;
- did not provide effective safety culture leadership and oversight to prevent catastrophic accidents;
- ineffectively ensured that the safety implications of major organizational, personnel, and policy changes were evaluated;
- did not provide adequate resources to prevent major accidents; budget cuts impaired process

Top-Down Processing

- Knowledge in the head
- Expectancies & desires



Bottom-Up Processing

- Knowledge in the world
- Senses

Human adapts well to
context.

This is what happens
when the work context is
poor.

Bridger, R. (2018). Introduction to Human
Factors and Ergonomics (4th ed.). CRC
Press

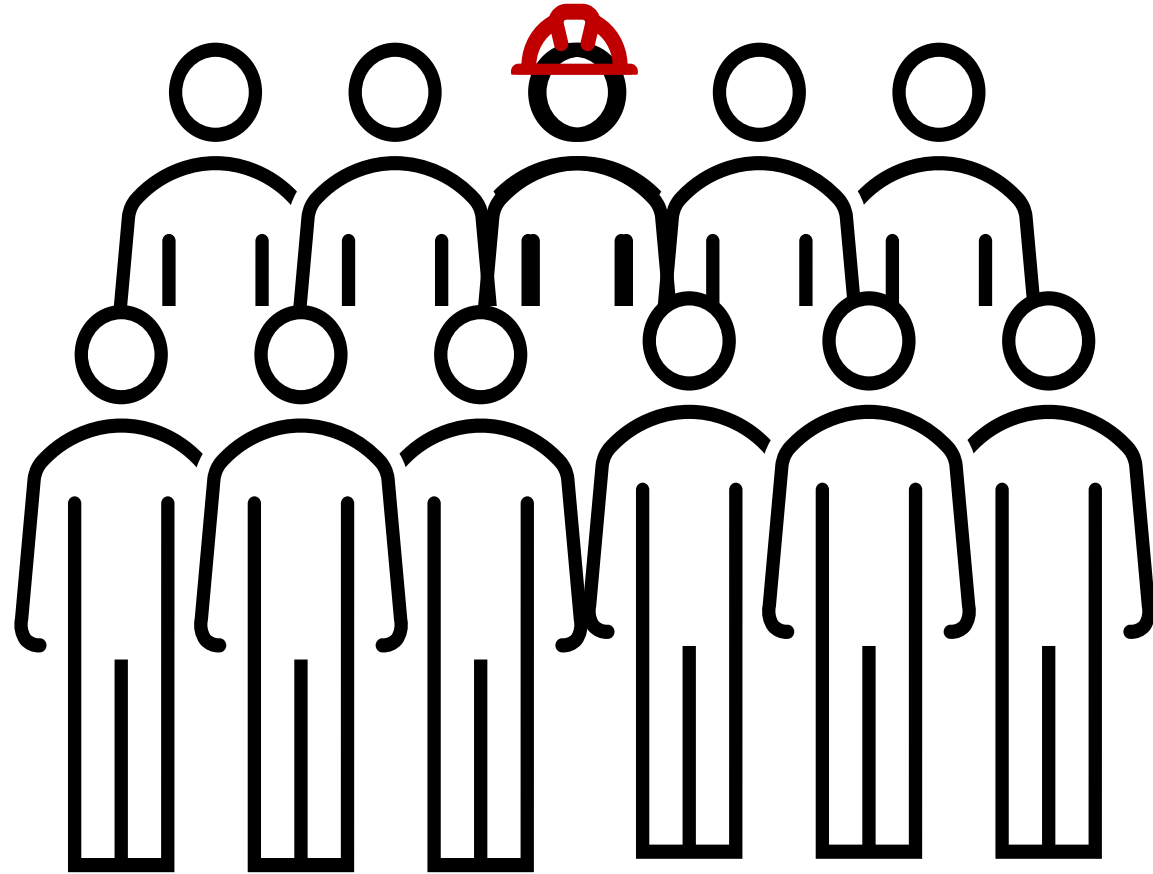


What are the group
norms in your
organization?

Social Norms Theory

It is the misperceptions of peer norms
which drive behavior.

Perkins, H. W., & Berkowitz, A. D. (1986)



“Decision makers can satisfice either by finding optimum solutions for a simplified world, or by finding satisfactory solutions for a more realistic world.”

- Herbert Simon, Nobel Prize Winner, 1978 -

Same ride,
different
experience &
emotion



Be interested in
their experience
and perspectives



There are many
psychological
measurement tools
available.

Chardonnet, Jean-Remy & Di Loreto,
Cédric & Ryard, Julien & Housseau, Alain.
(2018). A Virtual Reality Simulator to
Detect Acrophobia in Work-at-Height
Situations. 747-748.
10.1109/VR.2018.8446395.



Measurement tools at the organisation level.

Download from:

<https://www.tal.sg/wshc/resources/e-tool/self-help-tool/culturesafe-self-help-tool-kit>

Attribute	Description
A1: Leadership and Commitment	Extent to which management emphasises WSH commitment as a core or personal value.
A2: Governance	Explicit WSH policies and objectives that are applied appropriately to business decisions and operations.
A3: Work Management System	Responsiveness and flexibility in addressing WSH concerns in day-to-day operations.
A4: Competent and Learning Organisation	Competency as a key requirement for staff recruitment and promotion, with emphasis on continuous learning.
A5: Ownership and Teamwork	Motivation and empowerment for all stakeholders, from the CEO to the last worker, to contribute proactively towards WSH.
A6: Communication and Reporting	Presence of effective communication channels that address WSH concerns in a timely manner.

The CultureSAFE Index

The CultureSAFE index is used to score your company on a scale of one to five, based on the attributes listed in the CultureSAFE Model.

WORK AT HEIGHT Simulator

Learn **interactively** and **safely**



Experience can be shaped through training.

Video of a WAH simulator



Safety can be
made
appealing.



Summary

Ownership

- Everyone plays a role in safety.
- Be interested in your colleagues and their safety

Measure

- Obtain insights of employee's experience and attitudes
- Measure psychological and behavioral aspects of safety

Shape/Nudge

- Implement training targeted at the root causes
- Make safety measures appealing



**Looking to further your
competency with a
degree?**

How about learning to look at
workplaces with
Human Factors Lens?

THANK YOU

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