

Creating a Health-Conscious Culture: Understanding How Behaviour Can Affect Occupational Ill-Health



The HSE's health and safety statistics report (2022/2023), identifies that there are:

1.8 million

people suffering from a work-related illness (new and long-standing)

672,000

workers suffering from a new case of work-related ill-health (in 2022/23)

0.5 million

work-related musculoskeletal disorder cases (new and long-standing)

12,000

lung disease deaths each year estimated to be linked to past exposures at work

19,000

Estimated new cases of breathing or lung problems caused or made worse by work each year

Tackling Occupational Ill-health in the Construction Industry

In recent years, there has been a vast reduction in the number of injuries to construction workers, but what is less recognised is the number of occupational health issues that are still prevalent across the sector. Occupational ill-health refers to any health condition that is caused or made worse by a workplace environment or conditions. In the construction industry, workers are often exposed to hazards, such as dust, fume, vapour, noise & manual handling risks, which can lead to short or long-term health conditions.

To put this into perspective, for every death caused by an accident at work, 90 people die from a disease caused or made worse by their work.
- HSE Statistics 2022/23

Occupational ill-health and the behaviour of construction workers are closely linked, because poor behaviour can increase risk. This whitepaper explores how we can influence behaviour in order to minimise hazard exposure.

Examples of How Behaviour Can Lead to Occupational Ill-health

Whether it is a conscious decision, or one based on a lack of training and knowledge, the behaviour of workers can influence hazard exposure.

For example, exposure can happen by:



Using contaminated tools (e.g. a paint brush with a contaminated handle).



Failing to switch on an extraction system, or failing to position the capture hood correctly.



Standing downwind of an exposure source rather than on the opposite side.



Not following hygiene guidelines, such as removing protective clothing, or washing hands before eating.



Handling a material vigorously instead of carefully, generating more airborne vapour or dust.



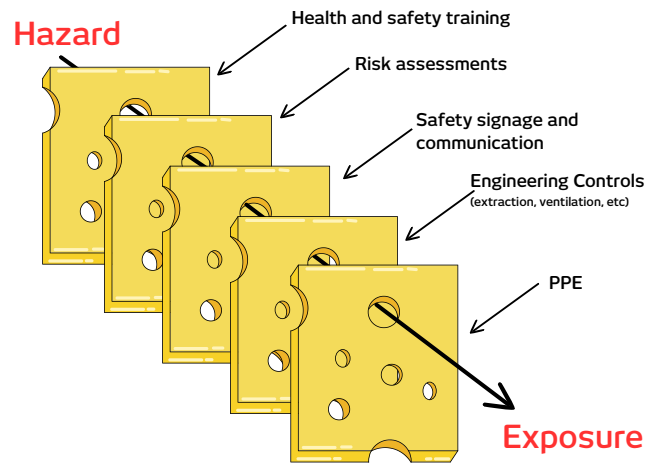
Inadequate use of personal protective equipment (PPE), such as taking a dust mask off before a task is complete.

Multiple Failures Will Increase Risk of Exposure

The "Swiss Cheese" model is a way of visualising how exposure to hazards can happen. It compares the multiple layers of protection that prevent hazards from causing harm to workers, to slices of cheese with holes in. Although many layers of protection are between the hazard and risk of exposure, there can be unintended flaws in each layer (represented as the holes). It shows that when a failure occurs in each layer simultaneously, the holes can align, and it allows the hazard to pass through and cause harmful exposure to workers.

Examples include:

- If a worker is not wearing PPE, if it is being worn incorrectly, or if it does not fit.
- If a worker does not conduct regular maintenance of an extraction system to check that it is operating at full capacity. Another scenario is if a capture hood is not placed correctly.
- If the site team do not attend regular health and safety training to keep up-to-date with hazard exposure guidelines and procedures.



If worker behaviour creates a 'hole' in a few of the protective measures, it is not always a cause for concern, as exposure could still be controlled by the remaining layers of protection. However, if every layer of protection has a 'hole', and fails at the same time, a worker could be over-exposure to a health hazard. The above diagram illustrates why workers should not 'pick and choose' which protective measures to follow, as it is only when the measures work together without errors, that the risk of exposure is fully controlled. The swiss cheese model shows, that even with plans, procedures and systems in place to avoid 'holes' in defence layers, people can, and do, make mistakes.

Understanding the Psychology Behind a Behavioural Decision

Consequences that are 'soon, certain and positive' tend to be prioritised over those that are 'late, uncertain and negative'. This is why a worker might make a bad decision, because it is based on an immediate benefit, rather than a potential consequence in the future.

The Antecedent Behaviour Consequence (ABC) Model is a strategy used to understand negative behaviour. See below an example of what might influence negative construction worker behaviour.

A

Antecedents - this is anything that might influence or motivate a worker's behaviour.

Example: A worker is wall chasing, but is finding the dust mask uncomfortable to wear.

B

Behaviour - this is what the worker says or does, it is an observable act which can be seen and noticed by colleagues and managers.

Example: The worker removes the dust mask and carries on with his task which is creating an excessive amount of airborne particulate.

C

Consequences - this is what happens after the behaviour. It is these consequences that determine whether the worker is inclined to repeat the behaviour.

Example: The manager sees that PPE is not being worn, but turns a blind eye. After completing the task, the workers feels fine and does not experience any immediate ill-health or injury, so they feel that no harm has been done.

Why is the ABC model relevant? Once we understand the ABC model we can adapt our leadership style to motivate, instigate and maintain positive behaviour. It's important to note, in order to embed positive behaviour and see a real culture change, we must look beyond simple transactional systems such as reward and recognition schemes, which might only achieve short-term wins, and not achieve the long-term 'mind-shift' we are looking for.

How to Encourage & Embed Positive Behaviour

Behavioural intervention uses the principles of learning to modify negative behaviour. It is dependant upon what happens right before (antecedents) and after the behaviour (consequences). Behavioural intervention can be planned in three stages as follows:

1. Motivation: Firstly it is important to motivate workers to get them to want to change their behaviour. This is influenced by previous experiences such as their:

- Opinions about the side-effects of exposure to hazards.
- Thoughts about the performance and capabilities of control measures.
- Established ways of working (health and safety culture).

2. Instigation: Once workers are motivated to change, they need to be supported both physically (having training, PPE, etc) and socially (receiving feedback from managers).

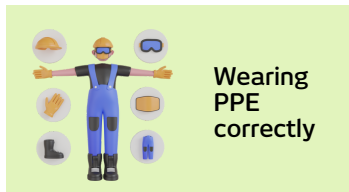
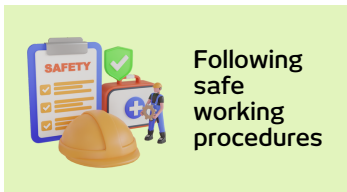
3. Maintenance: When a behaviour has successfully been changed, it's imperative that it does not revert back. It is important to focus on antecedent factors such as maintaining relevant training and high levels of awareness. However, the most important factor is reinforcing the positive consequences of the change.

Creating a Health-Conscious Culture

When a pattern of behaviour becomes widespread within an organisation, it can be perceived as the organisation's culture. Culture and the behaviour of workers are linked, because once a behaviour is embedded in the organisation's culture (positive or negative), it can be hard to change. It would be very difficult to encourage an individual worker to change their behaviour if their colleagues continue to behave differently. Peer pressure could revert that worker to the cultural norm, even if it is not best practice.

A positive occupational health culture on site encourages behaviours that minimise incidents and exposure to risks. By using the ABC model and behavioural intervention to create values and safer behaviour, it can achieve positive culture change and a health-conscious workforce. Examples of how to encourage a health-conscious workforce include:

What a health-conscious culture looks like



Further resources:

[\(click to find out more\)](#)


[Browse specialist engineering controls >](#)

[Download free poster: Don't gamble with your health >](#)

[HSE health and safety at work statistics 2022/23 >](#)

Actions For Positive Culture Change:

A good starting point is talking to the workforce to identify weak areas within the organisation's culture.

Ask workers the questions in the HSE's [Human Factors Toolkit](#) to get an understanding of the current safety culture. 

Organisations have had very positive results from focusing on specific issues such as safety leadership, competence, or procedures.

Get workers involved - by assembling a safety committee or consider implementing a 'Health & Wellbeing Maturity Matrix' as recommended by the [Health in Construction Leadership Group](#). 

Make everyone accountable for their actions: They should know their responsibilities in terms of health and safety and understand any consequences of non-compliance.

Enforce daily site inspections, safety meetings and training frameworks.

Ensure training is engaging. E.g. consider using symptom simulation. Ask workers to march on the spot while breathing through a straw to represent the reduced airflow and breathing difficulties that someone with COPD would have.

A Psychologist's Perspective

In 2023, Dr Jennifer Lunt appeared as a Keynote Speaker at the Action on Site Health Summit. Dr Lunt gave a psychologists perspective on why some workers might make snap decisions based on convenient immediate benefits, rather than making decisions with their long-term health in mind.

Dr Jennifer Lunt offered 3 psychological biases that tend to impact our decision making:

- Hyperbolic discounting, which is a psychological bias where people prioritise immediate benefits over future benefits.
- Cognitive bias, which is caused by the human brain trying to simplify the thought process based on previous experience or personal preference.
- Optimism bias, which causes someone to believe that they are unlikely to experience a negative event. It is also known as 'unrealistic optimism', because a person will assume "I'll be ok".

When you combine hyperbolic discounting, cognitive bias and optimism bias, you begin to see a clearer picture as to why workers tend to willingly overlook long-term health consequences for a quick win. For example, a worker might think "this dust mask is uncomfortable" so they remove it, thinking about the immediate relief from wearing the dust mask. Rather than thinking, "I need to continue wearing this dust mask to prevent dust inhalation, which could lead to me developing a serious lung disease such as COPD or cancer in the future".

So, how can we reduce the latency gap and ensure that hazard exposure is at the forefront of site team's minds? Dr Lunt offered some suggestions:

1. Share personal testimonials from people who are already suffering from long-term health issues from over-exposure to hazards in the workplace.
2. Identify early warning indicators by carrying out health surveillance and gathering employee feedback.
3. In training sessions with site teams, use symptom simulation to allow workers to experience what it feels like to have a long-term health issue, such as a chronic obstructive pulmonary disease (COPD).



"Biases aren't all bad; they help us make snap decisions in emergency situations, but they also help to explain why health tends to get under prioritised compared to safety." - Dr Jennifer Lunt

Dr Jennifer Lunt
University Of Derby

Psychology: The Facts

Hyperbolic discounting can result in poor decision-making, because it incentivises impulsivity and immediate benefits.

Cognitive biases are flaws or distortions in judgment and decision making.

Cognitive biases can be caused by many things, such as social pressures, and emotions.

Optimism bias refers to an unrealistically positive outlook where an individual assumes that though negative events occur, they can never happen to them.

In order to change behaviours, it is necessary to understand and then address the factors which influence behaviour.

Bio: Dr J. Lunt

Dr Jennifer Lunt is a lecturer in Health Psychology and holds a Professional Doctorate in Health Psychology. Dr Lunt is also registered as a Practitioner Psychologist with the British Psychological Society, and has previously worked as a Principal Psychologist within the HSE.

