


Behavioural Safety

reducing workplace accidents

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Excellence in workplace safety and health

Behavioural safety is a key part of a business's journey towards ensuring excellence in workplace safety and health. Here Jill Joyce, Senior Policy & Research Adviser at the Institution of Occupational Safety and Health (IOSH) explains the process that companies can take...

Behavioural safety programmes can help to prevent work related accidents and diseases, which are expensive for companies. Research has shown that up to 80% of work related accidents are caused by employees' behaviour.[1] Behavioural safety is about identifying bad habits that could cause accidents or lead to ill health and reinforcing good habits. It's important not to confuse this approach with inspections, which are looking for unsafe conditions. Safe behaviour is regarded as a critical work related skill so unsafe behaviours can act as an early warning system for accidents and incidents. If we measure these behaviours, this provides information we can use proactively to improve workplace safety and health.

What do organisations need to do before introducing a behavioural safety programme?

If a behavioural safety programme is to be effective it must be implemented well. There are several stages to follow for a successful implementation. The first is to assess whether the company is ready culturally for such a programme. For example is there management commitment to the idea, does the company have a good internal communication strategy and is there a 'fair blame' culture? A survey could be carried out before the programme starts to measure the safety climate.[2]

It is essential to have support from both the management and work force. The best way to gain

support from employees is to involve them in the programme. A steering group needs to be set up to oversee the programme and it is important that this is representative of the whole workforce.

The next step is to train the observers how to identify critical safety behaviours, what to record and how to provide feedback. It's important that everyone is using the same criteria to judge behaviours. It is usual to compile a checklist of critical behaviours. These can be based on analysis of previous accidents or incidents. Near misses are particularly important to consider as they may give an indication of behaviours that could have led to accidents. When the checklist is ready, it is useful to establish a base line by conducting initial observations and noting the current level of safe behaviours. This enables future progress on the programme to be measured. [3, 4]

Then there follows a continuous loop of observation, feedback and review and if necessary training. It's important that feedback is phrased positively so that safe behaviours are reinforced. For example, someone who is acting safely would be praised, but someone who was not would be told how they could change their behaviour without apportioning blame to them. The data from the observation process can be used to examine trends and identify areas for improvement. Participative goals that employees help to set are more effective.[5] Rewards can be given for meeting safe working goals, for example at the London Olympic Park, these ranged from verbal praise to monetary rewards, vouchers, knock off early schemes, T shirts and fleeces etc.[6]

Visible leadership is important

Managers need to show commitment to the process and can do so by allowing observers time to conduct their observations and encouraging employees to report problems with safety and health. They should praise individuals they see working safely and ensure there are resources available if any corrective actions are necessary.

It's also important to understand why employees might behave unsafely. For example, do work deadlines mean that they have to cut corners (for example not using a mask because it is uncomfortable and a job will not take long to do)? Do employees understand the risks associated with a particular task or are there ergonomic factors that prevent them behaving safely? At the London Olympic Park construction site, employees handed out yellow and red cards to highlight unsafe behaviour. These were followed up with a discussion with the employees concerned to establish why they acted unsafely.

Behaviour based approaches work best when the physical environment and plant are well maintained and procedures are in place. The benefits of introducing a behavioural safety programme within an organisation is the opportunity it provides for the whole workforce to co-operate together proactively to continuously improve safety and health.

References

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Introduction to Behavioural Safety

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What is a 12% productivity increase worth to your company, in addition to 30% reductions in insurance premiums, around 30-70% reductions in undesired incidents, and significantly reduced operating costs for your company?

Behavioural Safety

These proven, real world results have been achieved with behavioural safety approaches over the past five decades in a wide variety of industrial and commercial sectors.

Beginning in the USA in the mid-1970's, behavioural safety came to Europe in the late 1980's, early 1990's when the British Health and Safety Executive (HSE) funded two construction research projects at UMIST with a team including Professor Dominic Cooper of BSMS, Dr Tim Marsh, Robin Phillips and others: the first sought to establish how to optimise behavioural safety for the European Culture, while the second focused on industry applications. Successfully improving safety behaviour, both projects also demonstrated the importance of people's commitment to the process.

Equally applicable to both quality and productivity, the purpose of behavioural safety is to reduce the number of unwanted incidents caused either by poor management controls, and/or hazards present in the working environment: those triggered solely by 'unwanted' behaviours, or those triggered by an interaction between poor controls, hazards, and behaviours.

Defined as an 'unexpected and unwanted event', an incident refers to property damage, a quality problem, a personal injury, or a catastrophe.

Incident pyramids (shown opposite), illustrate that most incidents have a relatively mild impact, and that critical impacts (i.e. catastrophic) are relatively infrequent events. It is a matter of chance, however, whether a mild impact event may have been more serious, as the severity of the outcome cannot be controlled in the same way as the inputs.

Preventative opportunities arise, therefore, from controlling unwanted behaviours, eliminating hazards, and tightening management controls at the base of the pyramid. Behavioural safety helps to identify the issues in all of these areas. Simultaneously focusing on all of these, significantly reduces the possibility of a critical impact event, while greatly improving performance and efficiencies.

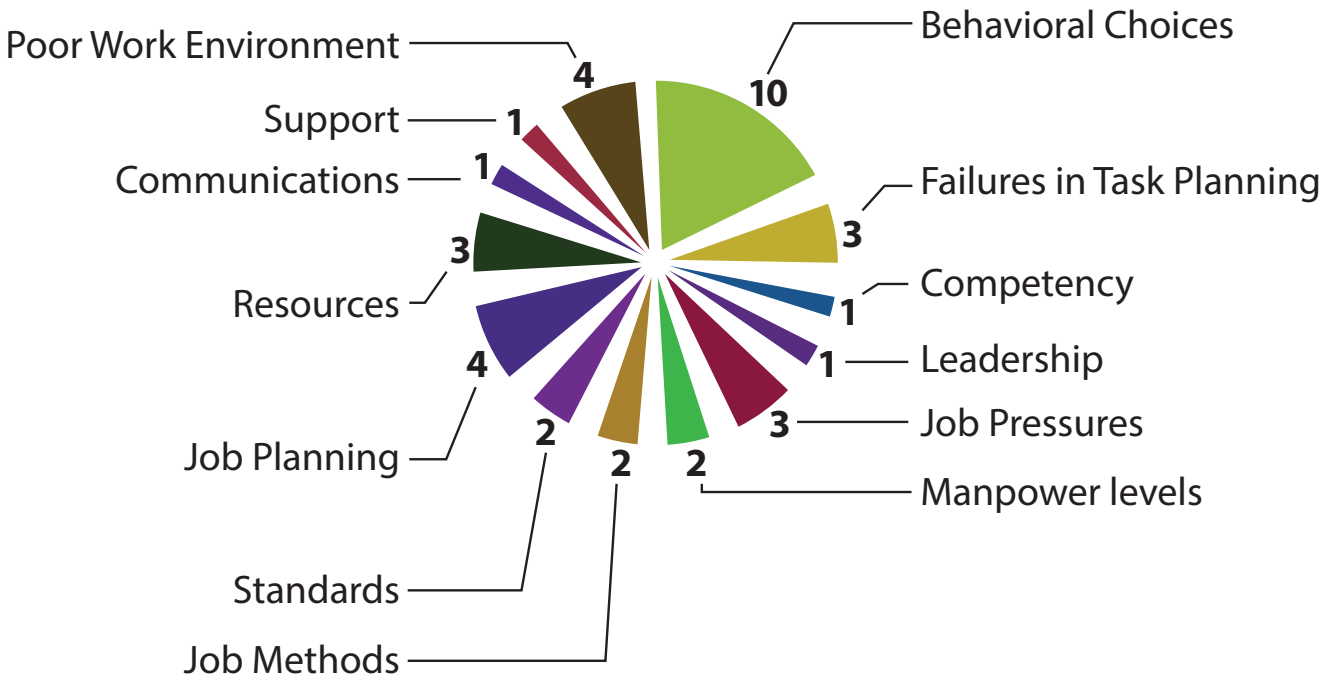
People's behavioural choices account for around 56% of all *potential* serious injuries and fatalities (SIFs), with poor management controls (i.e. job planning), and physical hazards accounting for the remainder.

Over each of the past 30 years, UK incident data reveals a stable experience average of 20,000 *actual* SIF's, while less serious reportable injuries dropped from 180,000 to 60,000 per year. This shows that existing risk control strategies are not reducing very serious injuries at the same rate as less severe injuries, and that something new is required and/or existing strategies need tightening.

87% of all *potential* SIF's can be observed during safety leadership 'walk-rounds' and behavioural safety observation tours. Subsequently recorded in PEER® software, the build-up of potential SIF's is monitored so that any underlying contributors can quickly be identified and addressed.

Recognising that safety is a social activity, where one person's behaviour can affect many, behavioural safety approaches systematically address behavioural choices, management controls and physical hazards in a proactive and planned manner. Targeting people's behaviour at all organisational levels to address these, helps to create a safety partnership between management and employees.

Cumulative breakdown of potential life-threatening SIF's by underlying issues



Behavioural Safety Leadership

Safety leadership can positively impact people's safety behaviour by up to 86%, and reduce incidents by around 35%. Leaders who set their people up for success, facilitate their follower's needs, and show they care, are very successful at positively impacting performance.

Behavioural safety leadership affords management the opportunities to be seen doing so. There is no substitute for seeing operations with your own eyes, and helping people maximise their performance. By conducting regular, twice weekly walk-rounds to observe people's behaviour and hold safety conversations, managers can demonstrate care and concern for their people's well-being, create a supportive environment, engage people in the safety improvement effort, facilitate hazard reduction, and make informed decisions to stop small problem issues escalating into major incidents; all of which helps to reduce production barriers.

Many behavioural safety leadership processes use observation cards that contain pre-defined categories of activity (e.g. access and egress, mechanical lifting operations, body positioning, etc.,). Some also include discussion categories identifying underlying contributors (e.g. poor job planning, insufficient manpower, poor communications, ineffective leadership, etc.,). Categorisation is useful, as it provides guidance on the kind of safety issues that a company can experience.

Before embarking on regular observation tours, managers are trained to identify permanent and temporary hazards related to their industry and the various types of safety behaviour to observe during their walk rounds. Training in communication and coaching skills also helps them to positively influence behaviour change, and win over people's hearts and minds to the safety cause.

Trained managers then conduct regular safety

observations, and have safety conversations with people during their normal daily duties twice a week or so. This presents every manager with regular opportunities to positively reinforce safe behaviour, or coach those behaving unsafely, while also discussing the underlying reasons for an unwanted behaviour. Cumulatively, this constant focus of attention on safety behaviour leads to higher levels of safe behaviour, and dramatic reductions in all types of incidents.

The greater the number of safety leadership observations, the greater the impact as the potentials for a SIF are reduced.

With the PEER® process, no checklists are carried during these tours, so people do not feel intimidated in any way. However, taking advantage of technology, after the interaction is complete, the results of the observations and discussions are recorded in the accompanying PEER® software.

The value of the PEER® behavioural safety leadership process is the speed of execution, as training is minimal (half-day classroom, half-day site practice), and there is a rapid impact on incident rates – one European construction project with an 800 person workforce achieved zero incidents within two weeks!

With any behavioural process, it is extremely important to regularly analyse the observation data to highlight strengths and areas of opportunity. This data is used to facilitate any corrective and preventative actions, as well as to track progress.

For example, the results can help to refocus each safety leader's ongoing observations and conversations on behaviours shown to be problematic. Similarly, they can be used to highlight and address those underlying contributors shown to be directing people's unsafe behaviours. Eliminating just one of these can significantly reduce the number of *potential* SIFs.

Widely disseminating feedback about the observation results takes place via managerial meetings, toolbox talks, posters, newsletters, etc.

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Behavioural Safety for Employees

Over the past 5 decades, employee-driven behavioural safety processes have a remarkable track record of reducing injuries, resulting in substantial economic benefits of around £1m per 100 workers per year.

IDEAL behavioural safety processes all share the following components:

I dentify unwanted behaviours.

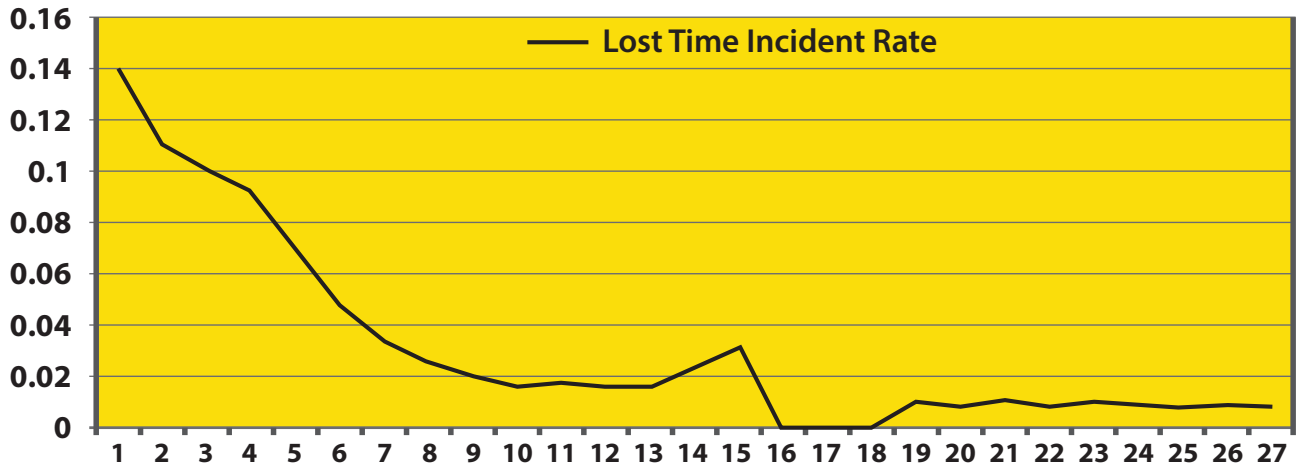
D evelop observation checklists targeting unwanted behaviours.

E ducate everyone by briefing everyone; Train process facilitators, champions, & observers.

A ssess & monitor actual behaviour via regular observations.

L imitless feedback provided to all – verbal, graphical and written.

In practice, two basic behavioural safety processes exist: those focused on the behaviours of everyone in a workgroup, and those targeting individuals using a one-on-one, peer-to-peer approach. Regardless of approach, all facility personnel should be informed about the process, what it means to them, and how it will operate, *before* proceeding to establish buy-in and support.



Workgroup Focused Approaches

Recognising that safety is a social activity, the workgroup approach harnesses existing social dynamics to re-set the group's safety norms.

To identify problem behaviours, trained project teams examine their facility's recorded incident history. Ideally, specific unwanted behaviours of all facility personnel are identified, including any undesired safety leadership behaviours. This includes the behaviour of people directly impacting the safety of operations (e.g. purchasing and supply, finance, etc.,); the operational safety behaviours of front-line workers (e.g. filling product tanks); and, the behaviours of those responsible for corrective actions, management of change procedures, etc., to ensure these systems function as intended.

Once completed, the triggers (e.g. unavailable equipment) driving any unwanted behaviour(s) (e.g. using improvised tools), and what factors are maintaining them (e.g. getting the job done to meet deadlines), are identified so appropriate corrective actions can be taken.

Worded positively so they focus solely on the safe way to do work, a maximum of 20 safety behaviours are placed on checklists for each workgroup or department. Some checklists can be used across different shifts or locations where people undertake the same activities. Before use, drafts are approved by those who will be observed to obtain their agreement on the behaviours.

One or more trained workgroup observers monitor and record their colleague's behaviour for 10-20 minutes every single working day. Verbal feedback is immediately provided to the observed. Each day's observation is entered into a database to be collated, so results for the entire week can be printed and discussed at weekly workgroup meetings (e.g. Shift meetings, Toolbox Talks). The first one or two weeks observations are used to calculate a performance baseline for each workgroup, so they can use it to set an improvement target, and compare their performance over a period of time (usually 5-6 months).

To refresh the process and avoid observer fatigue, colleagues rotate into that role every so often; this way, everyone eventually becomes an observer. Each observer rotation triggers an update of the observation checklists to ensure a continuing focus on relevant safety behaviours. Trained project teams (a project champion who is a senior site manager, and an employee facilitator) are required to oversee the entire process and help drive and guide it to success.

Although, more complicated to set-up than a single person approach, the workgroup approach is known to triple the impact on incident rates. For example, BSMS used this approach to help one construction project achieve 121 million man-hours worked without a lost-time injury (out of 240 million hours) with 47,000 workers (at peak) from 64 different nationalities.

Peer-to-Peer Focused Approach

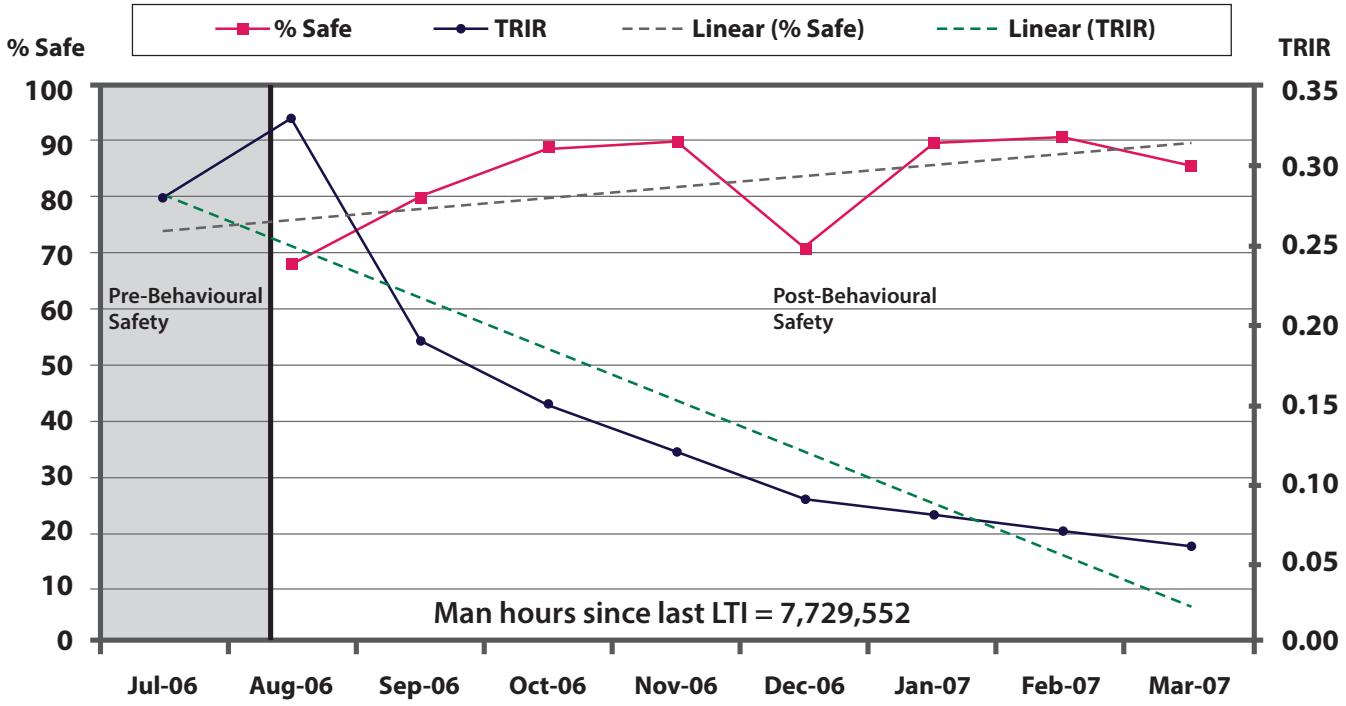
Focused on individuals, a single person approach uses peer-to-peer, one-on-one interactions, similar to the PEER® process described previously for behavioural safety leadership.

Employee-driven, the process is run by voluntary members of a part-time Steering Committee that meets once a month to collate and aggregate observations, and provides feedback to the site management team. They also post this on notice boards for general consumption.

The Steering Committee is usually comprised of a representative from each department in a facility, with most being employees, as well as one or two managers who can provide guidance, and the necessary access to follow-up resources.

Trained observers make use of observation cards that contain generic categories of activity (e.g. personal protective equipment, potential injury causes, tools & equipment, environmental, health procedures, & orderliness, etc.,). Definitions for the specific activities within each category are usually contained in separate documentation to provide guidance to observers. The back of the card is often used to record the actual unsafe act or condition observed, what corrective action was taken by the observer, and what improvement was noted.

Comprising 10% of the workforce or more, trained observers usually complete monthly or quarterly quotas of observations. Each time they observe, they ask the individual for permission to do so, while they do their job. The observation usually takes anywhere between 10-30 minutes. Verbal feedback is given immediately after the observation, with the interaction recorded on the card and handed in to a steering committee member for data entry.



Performance Indicators

Performance indicators are used in the short-term as a 'health check' on the status of the process. Long-term trends are evaluated so the process can be adapted as necessary. Typical behavioural safety indicators include:

Behaviour Change Indicators

- *Percent Safety Leadership*
- *Percent Safe Behaviours*
- *Reinforcement Ratio*

Process Indicators

- *Observation Rate*
- *Participation Rate*
- *Observation Quality*
- *Visible Ongoing Support*

Follow-up Indicators

- *The number of close-calls reported*
- *The Corrective Action Rate*

If all trend positively, there should be associated incident rate reductions.

Conclusion

Based on the philosophy of *safe production is the number one priority,* well-designed and well-executed behavioural safety processes fully engage both management and employees, within a mutually trusting and supportive atmosphere, to improve safety.

A proven method, behavioural safety is an effective way of positively impacting safety behaviour, and reducing or eliminating incidents. Focused on unwanted behaviours with the potential to cause serious injuries and fatalities, behavioural safety processes link the root causes of incidents to their precursor behaviours; this includes behaviours that have the potential to cause process safety incidents, as well as personal injury incidents.

Organisations good at managing safety also tend to manage operations well – in other words, operational and safety excellence go hand-in-hand.

Behavioural safety processes are known to provide a Return on Investment of around £1m per 100 workers, per year, from incident reductions. These cost-benefits arise from identifying and eliminating system faults, addressing physical hazards and risks, and reducing production bottlenecks.

Strong evidence of positive spill-over effects also shows productivity improvements of around 12%, and 30% reductions in insurance premiums and operating costs.

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A Chartered Fellow of IOSH, Dominic Cooper PhD, is co-founder and CEO of BSMS Inc., a global safety consulting firm based in Franklin, IN, USA. He has consulted on 5 continents, in 25 industrial sectors, for almost 3 decades.

A licensed I/O psychologist and registered safety professional, Cooper consults with senior executives on safety leadership, safety culture and behaviour change.

An award-winning author and past professor of safety, and professor of I/O psychology at Indiana University, Bloomington, Dominic has authored many books, articles and scientific research papers on safety culture, behavioural safety and leadership.

Based on an examination of process safety disasters occurring over the past three decades, his latest publication, 'Strategic Safety Culture Roadmap' was published in 2013.

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