

Why don't people just follow the rules?

A psychologist's explanation of safety management beyond behaviour based safety

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Since the industrial revolution the world has seen an ever increasing proliferation of production facilities and with it a steady increase in workplace accidents and fatalities. The field of safety management was borne out of the need to curtail the extremely high human and commercial costs of these incidents. Not surprisingly in the dawn of the industrial age, the initial port of call was engineering, which offered the technological knowhow to design safer workplaces through improvements to hazardous machinery and work areas and the establishment of operating procedures to minimise the risks inherent in the production processes.

In what can be seen as the initiation of the science of management, industrial leaders then turned their attention towards the development of processes and rules as defences against the inherent hazards. Next came the provision of tools and safety equipment, which added a layer of protection to workers while they interfaced with the dangerous machinery and working conditions of the times. Today PPE is considered the lowest form of hazard control.

These progressive waves of activity and innovation had a strong impact on the modern, industrial environment and resulted in a significant reduction in lost time injuries and fatalities. However by the mid 1970s it was apparent that no major improvement could be expected from the sole deployment of these methodologies. Something new was needed to push safety management towards the next millennium.

Enter the field of psychology, which was called upon to provide some answers on the human side of safety. Psychology in the 1970s was experiencing one of the greatest growth periods since the inception of psychoanalysis. At that time the dominant paradigm of Psychology was Behaviourism and specifically operant conditioning; that is the learning that occurs over time as a function of the positive and negative reinforcement of specific behaviours. Through operant conditioning, an association is made between a behaviour and its consequence.

Based on the operant conditioning principles developed by prominent psychologist B.F. Skinner, Behavioural Based Safety (BBS) works on the basis that behaviours that are encouraged through positive reinforcement (the application of a positive stimulus) or negative reinforcement (the removal of an aversive stimulus) are more likely to occur again. On the other hand punishment (the application of an aversive stimulus) decreases the likelihood of a particular behaviour occurring again. Thus, the main tenant of BBS is that reinforcement and punishment can be used through the provision of feedback and consequences to influence safety behaviour at work.

A combination of positive and negative reinforcement can simultaneously encourage safe- and discourage unsafe behaviours in the workplace.

Does Behavioural Based Safety complete the picture?

The theoretical principles underlying BBS do provide an effective and powerful solution to shaping employee behaviour and encouraging safety in the workplace. Notwithstanding the significant initial successes of BBS, it has been observed that such entirely behavioural interventions have limited effectiveness over the longer term and have not sustained a continued reduction in safety incidents; this is commonly known as the BBS plateau. A number of explanations for the limitations of BBS have been proposed.

The first limitation of a BBS approach is directly related to what makes us human, an inbuilt ability to adjust to our environment following prolonged exposure to it. This is what is commonly referred to as habituation which is the tendency of living organisms to cease responding to stimuli in the environment that are repetitive and iterative. Habituation is the reason why people who live under the flight path are seldom troubled by aircraft noise, and the reason why they notice when this noise stops rather than when it begins. Habituation is partly the process in play that allows us to not have to think about sensing the clothes we wear or the variations in light intensity or the pressure of our shoes against our toes. In essence, all this external information is both repetitive and in the scheme of things unimportant. Thus we tend to habituate to our environment and the stimuli around us as well as to the consequences applied. Over time we tend to habituate to BBS systems, safety signs and regulations in found in our workplaces.

Another issue of contention with the BBS approach is the psychological mechanism that drives its ability to generate behavioural change. BBS relies on the external application and internal expectation of potential consequences as the main driving mechanism for behaviour change – these consequences are delivered by an external mechanism, a supervisor a peer a safety officer. Thus a purely behavioural approach is driven externally to the individual largely bypassing the complexities of personal decision making and choice selection involved in the cognitive processing. In many ways under a BBS approach individuals are motivated to act safely by fear of repercussion and consequence rather than by a true commitment to safety as an internal value.

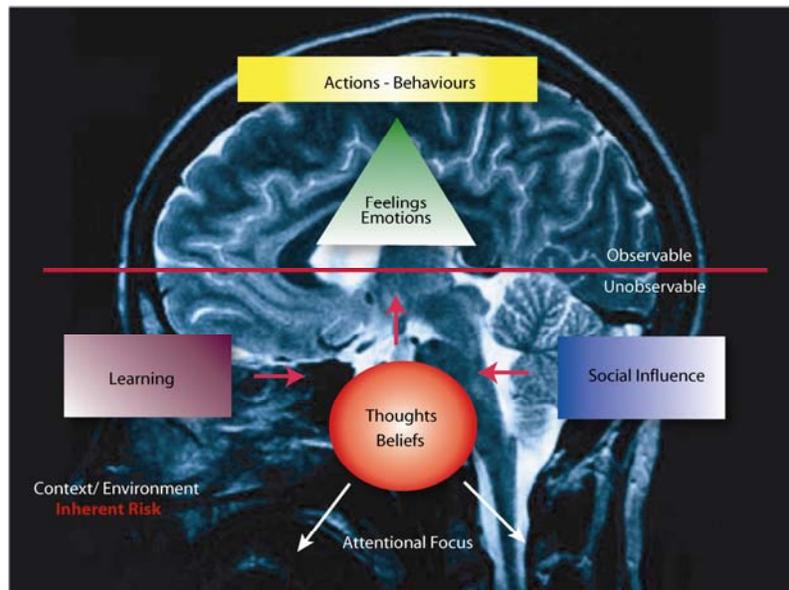
Another criticism of the BBS process was its focus on employee behaviour, rather than that of their managers. This impediment led to the development of cultural approaches in the 1990s, which aimed at affecting positive change at all levels of an organisation.

Further, BBS is most effectively implemented through a very specific regime of frequency and regularity of reinforcement. Often the underlying research on these temporal considerations is not fully comprehended by workplace practitioners therefore it doesn't inform their practical interpretation. We know for instance that when consequences are applied in a variable ratio schedule that this leads to the highest rates of learning over time.

A Model of Safety: Integrating External and Internal Processes

The most effective strategies aimed at workplace safety include components of BBS as well as other strategies that target the internal processes influencing safety behaviours and outcomes. What is proposed goes beyond influencing behaviour by external motivation, and takes the form of an in-depth training experience aimed at encouraging employees to choose to be safe; to acknowledge and assess their own safety (independence) and the safety of those around them (interdependence).

Put simply, the premise of Cognitive Psychology is that much of what influences our behaviour occurs 'below the surface' in our mental processing. Although behaviours and emotions can be readily observed, there are a number of components that interact to give rise to these behaviours. The figure below highlights a model incorporating these elements. This is the fundamental philosophy behind developing safety based training programs that extend beyond BBS and incorporate both cognitive and social factors.



Model Incorporating Internal and External Mechanisms to Influence Safety Behaviour
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This model suggests that learning mechanisms (the behaviour based philosophy behind BBS) and social factors (such as the culture, norms and the relative effect of leadership), combine to influence cognitions (our thoughts, beliefs and values).

Focusing on the of the thought-action process will impact upon the production of safe behaviours and actions. Within these unobservable mechanisms are:

- “Learning”, directly related to the principles of BBS
- “Social Influence” or the social context in which employees operate, including components such as leadership, organisational culture and organisational climate
- “Thoughts, Values and Beliefs”, the cognitive processes that directly influence behaviours. Although impacted upon by both the “Learning” and the “Social Influence” components, cognitions are also influenced by individual factors such as limited capacity to attend to information.

Addressing these unobservable components, in collaboration with a more traditional BBS approach, can assist in ensuring workplace safety is more effectively managed.

The Role of Context and Culture: Social Influences on Safety

Social influences have the propensity to change an employee’s thoughts, beliefs and values, which in turn, can shape their behaviour. An example of social influence is the organisational culture of a workplace and the style of leadership that governs it.

Organisational culture refers to the set of values, beliefs and accepted behaviours that employees share through symbolic means such as myths, stories, rituals and specialised language. These values and beliefs are the social ‘norms’ within an organisation and influence the way an individual acts when operating the social context of that organisation. The culture conveys a sense of identity for employees and is believed to facilitate a sense of commitment and act as a mechanism to guide and shape behaviour. If the mention of symbolism, myth and ritual sounds overly exotic for the average workplace, consider the idiosyncrasies of your own work community: the symbolism of a corporate logo, the myth of how big the first computer hard drive was and the rituals of Melbourne Cup Day, even the drama of the end of month or the financial year for that matter.

When an organisation includes safety as a part of its culture, it becomes an entrenched value that is important at an individual and group level. “Safety culture” is the value and priority placed on safety across all levels within an organisation. It refers to the extent to which individuals commit to their personal safety (independence) and to safeguarding others (interdependence). Indeed, the presence of a safety culture is a meaningful predictor of safety performance behaviours, safety knowledge and safety motivation.

In comparison, a “safety climate” is more about the *perception* of safety in the workplace. This is closely concerned with intangible issues such as the situational and environmental factors that effect workplace practices. The “safety climate” is relatively unstable and subject to change, based on management practices, much more seasonal in nature.

The adaptation of organisational culture and climate to incorporate a core safety component can foster in employees a personal belief in the importance

of safe behaviours. The involvement and acceptance of safety in an organisational culture is heavily reliant on visible, felt leadership. The viability of this approach relies on safety being a line-management responsibility, on the setting of a clear safety vision and policy, the ensuring that communication is two-way within the organisation, with continuous safety training, and clarification of accountability and responsibility - *This can be your transition to subject of Felt Leadership.....*

The strategies through which a safety culture can be achieved include ensuring organisational commitment, management involvement, employee empowerment, appropriate systems for reward and reporting. These mechanisms directly align with the principles of BBS in influencing the thoughts and beliefs of employees through contextual and social influence.

The Role of Thoughts, Values and Beliefs: Cognitive Influences on Safety

Changing the way people think about safety can be a powerful motivator to elicit more adaptive behaviours. As such, the inclusion of processes that encourage re-thinking an employee's approach to safety can be an effective tool in addressing safety in the workplace. As discussed, social influence and learning (BBS) principles can influence an employee's thoughts, however, personal influences such as limits to attention and decision making also influence cognition.

At every moment of our lives, we are presented with a vast quantity of information. Processing the entirety of such large amounts of information would be mentally exhausting so we humans focus our attention to what is most relevant.

The brain uses a number of processes to make effective use of all the information it is exposed to. A key attention mechanism is known as the Reticular Activating System (RAS), which controls what information is attended to and what is ignored. The RAS filters information based on its degree of novelty, personal importance and whether it fits with a pattern of familiar information.

Understanding the RAS is very important to safety management as it suggests individuals may not always consciously act in an unsafe manner, particularly if their RAS is not engaged or 'switched off.'

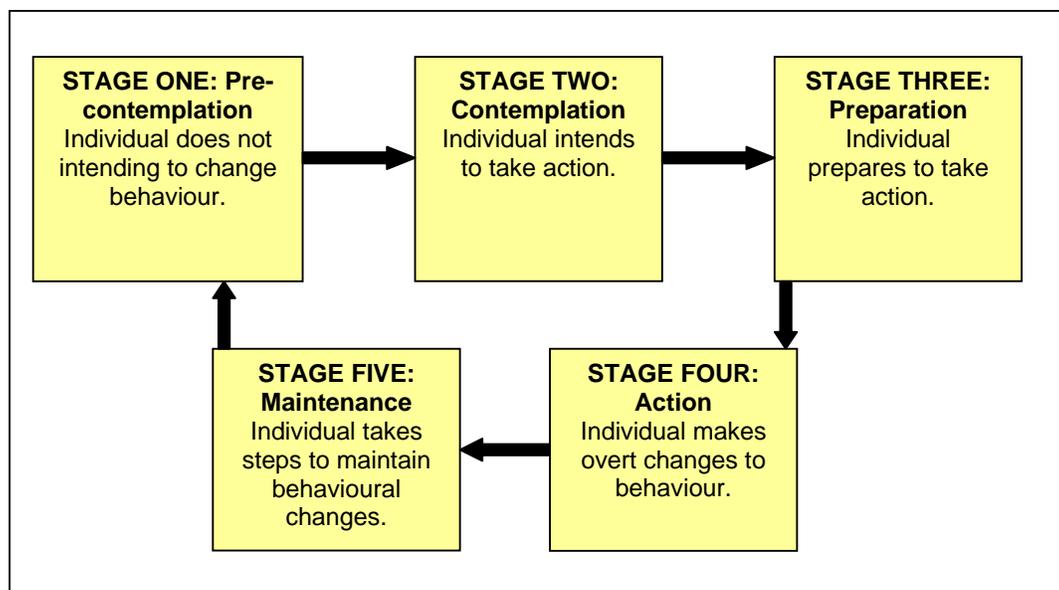
If the RAS is not processing relevant safety information an individual may not be aware of any risk in their behaviour. So if safety is instilled as a important component of workplace culture and a firm, personal belief, the RAS may be more likely to identify it as a 'important and relevant' and the individual will be able to maintain more conscious safety.

When working in collaboration with BBS principles, an individual whose RAS is 'switched off' may subconsciously still act safely because the safe behaviours have been reinforced. However, with the RAS 'switched on', the

conscious decision to act safely may be further reinforced by appropriate attention focus.

Decision Making and Safety

Feedback is a critical consideration for employees when making changes to behaviour. The Transtheoretical Model of Change developed by Clinical Psychologists Dr. James Prochaska and Dr. Carlo DiClemente, has been recognised as one of the most influential approaches in explaining behaviour change and has been empirically evaluated across a number of behaviours. Prochaska's and DiClemente's studies of change found that people progress through a series of five stages when changing their behaviour.



The Transtheoretical Change Model

In the pre-contemplation stage individuals do not intend to change their behaviour in the foreseeable future. They may be unaware that their behaviour is problematic and certainly tend to classify the benefits of their behaviour as outweighing its disadvantages.

In the contemplation stage individuals develop the intention to change their behaviour at some point in the foreseeable future. In this stage, they may evaluate the advantages of their behaviour as equal to the disadvantages and as such may be ambivalent about making a change.

In the preparation stage individuals intend to change their behaviour in the near future. During this stage individuals are prepared for action and the pros for changing behaviour outweigh the cons.

Individuals apply processes to modify their behaviour in the action stage.

In the maintenance stage individuals work to consolidate any gains made in the action stage to reduce the risk of relapsing into past behaviours.

This model suggests that an individual, who has not been provided with an incentive or personal reason to change their behaviour, will continue their current behaviours (i.e. not move beyond the precontemplation stage of the model). As such, an integral component in ensuring employees progress from unsafe to safe behaviours is providing a personal and valid reason for making that change. This involves altering an individual's beliefs and thought pattern regarding the importance and value of safety.

The Complete Picture: An Holistic Approach to Safety

Although BBS does present a viable approach to managing safety in the workplace, the inclusion of social and cognitive components can provide a richer and more sustainable safety management process. The proposed model, which includes these three components, presents a more holistic approach to ensure employees are more likely to act safely.



The Holistic Model for Managing Safety
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BBS is essentially a 'bottom up' approach as attention is directed at specific safety-related behaviours primarily performed at the lower levels of the organisation. In contrast, approaches based on the effects of social influence, are more "top down", as their focus is on understanding and changing the fundamental values and beliefs of the organisation, which are generally set or perpetuated by the leadership of an organisation.

The holistic model incorporates both top-down and bottom-up approaches, combining them to shape the cognitive patterns of individuals. BBS still has an important role to play in managing safety but incorporating cognitive elements are critical to a more sustainable and advanced system of management of employee safety. Holistic safety integrates the behavioural cognitive and social psychology paradigms at a philosophical level and applies them in an effort to both explain and influence human behaviour in the context of workplace safety. This integration of seemingly disparate concepts and constructs leads to a powerful whole that is greater than the sum of its parts. An approach that builds on psychologically driven safety management interventions that are likely to drive safety improvement over the coming decades.

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