Safety 2.1

The Safety Envelope

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Excerpt from Part 3 – for the complete discussion, illustrations, and references, see the book.

Part 3

The Safety Envelope

Chapter 10
Safety Envelope Defined

It is sensible to consider the bigger picture before defining what a ‘safety envelope’ is.

In many legal frameworks globally, safety legislation dictates that organisations should reduce risks to a threshold defined as ‘As Low as Reasonably Practicable’ (ALARP). This concept, though deceptively simple in its phrasing, is frequently misinterpreted in its practical application. The legal definition of ‘reasonably practicable’ seems to conflict initially with the notion of an acceptable level of risk. It seems to imply that efforts to mitigate risk should continue until every possible control has been applied.

However, this interpretation misses the complexities inherent in the concept. Regulatory authorities across most jurisdictions understand that it is not only about eliminating risk, it is in many cases also about reducing the risk to a level that is considered tolerable. This concept is visually represented in the diagram from a WorkSafe New Zealand publication.

Figure 11 illustrates that achieving a level of risk tolerance does not mean the absolute absence of risk. There often are residual risks that may not be addressed by standard control measures. This understanding is crucial to the development of the Safety 2.1 methodology, which introduces the notion of the ‘safety envelope’.

The safety envelope is that space on the risk continuum where formal risk controls are not applied. It is a dynamic space where operators have the autonomy to make informed decisions and handle hazardous conditions effectively. Within this envelope, risk levels have already been controlled to fall within the predefined 'risk tolerance' range, primarily through engineering and, in certain instances, critical controls and processes.

This concept is fundamental to the Safety 2.1 framework. It denotes a significant departure from conventional safety methodologies, which typically rely on rigid, prescriptive guidelines for employees. The Safety 2.1 approach pivots towards empowering frontline workers, enabling them to evaluate situations and take necessary actions to manage risks inside a specific demarcated area – the safety envelope.

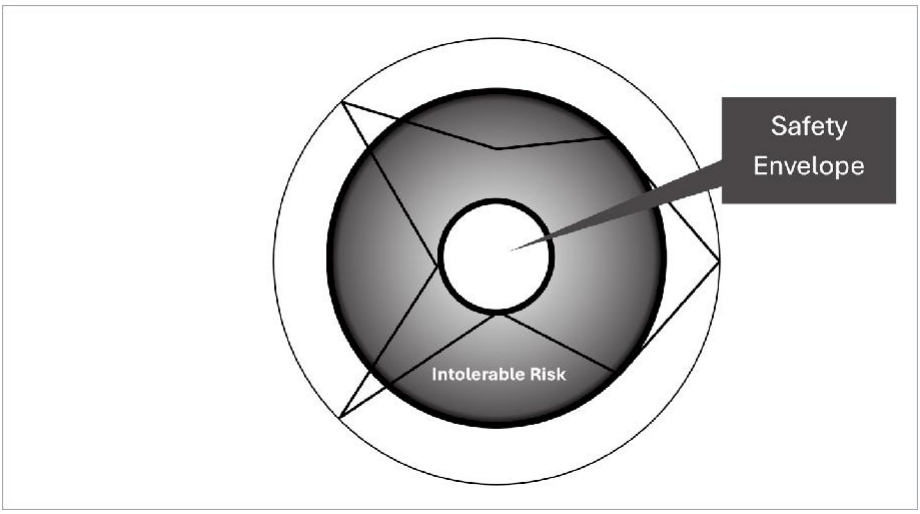

Figure 12. The Safety Envelope.

This 'safety envelope' transforms the aspirational goal of empowering workers in the Safety 2 ideology into a tangible and practical model. The approach moves away from a scenario where an organisation attempts to micro-manage every aspect of work through an exhaustive array of rules, procedures and processes. Instead, it delineates a clear demarcation point where the responsibility for safety decision-making transfers to the frontline operators.

However, this shift in approach does not suggest that organisations relinquish their duty of care towards their employees. Rather, it underscores a commitment from the organisation to provide its workforce with the necessary resources, skills and environment to make informed and timely decisions in the field. This includes creating a physically and mentally safe working environment, imparting essential skills and knowledge, cultivating a supportive and proactive organisational culture and ensuring overall mental well-being in the workplace.

Adopting this new paradigm might necessitate a substantial shift in organisational thinking. It embodies the belief that ‘we can trust our workers to execute their tasks competently and safely’. For many advocates of the Safety 2 philosophy, this trust in workers’ competence and judgement is a core principle. It acknowledges that while human errors are inevitable, the ownership of actions enhances the chances of learning from mistakes. It also allows for leveraging the benefits of a complex adaptive system.

Safety 2.1 advances this concept by operationalising the theoretical underpinnings of Safety 2. It not only acknowledges the inevitability of human error but also recognises the value of learning from these errors and adapting processes accordingly. This operationalisation is a key step in translating Safety 2’s theoretical framework into a practical, applicable model that can be integrated into everyday safety practices within organisations. This integration is aimed at creating more dynamic, responsive and resilient safety management that values both risk reduction and the empowerment of frontline workers.

Chapter 11

Operating inside the Safety Envelope

What happens inside the safety envelope is at the core of the Safety 2.1 approach. To recap, the safety envelope is the safety actions over which the worker will have independent control. The size of the envelope under the worker's control is limited by the risk controls identified and implemented as part of the risk assessment. These mainly engineering controls and non-negotiable administrative controls fall outside the 'safety envelope' and the worker has no choice other than to implement and maintain them. For example, if a guard has been installed on a rotating lathe and a non-negotiable critical procedure has been introduced, the worker cannot remove the guard or ignore the procedure.

Although these 'compulsory' controls have already reduced the risk to within the risk tolerance levels, it does not mean all risk is removed. On the contrary, what happens in the remaining safety envelope will not only ensure the risk is even further reduced, but it will also be a significant factor in ensuring the engineering controls and non-negotiable administrative controls are adhered to and maintained.

The size of the safety envelope varies based on the risk level associated with a specific hazard that the organisation has accepted. For instance, if the organisation deems a risk intolerable and formally mitigates it, the resulting envelope is smaller. In this case, frontline operators have limited discretion in dealing with remaining risks. Conversely, if the organisation chooses not to formally mitigate risks and tolerates them, the envelope expands. Frontline operators then have more autonomy in deciding how to handle these risks.

Although what happens inside the safety envelope is left up to the worker to determine, it does not imply that workers are left to their own devices. The organisation has four specific areas where it can contribute to the worker's success in the envelope; these are providing a safe working environment and the appropriate tools, ensuring workers have the required skills and knowledge to perform the work safely, influencing the safety cultural behaviour patterns of the workers, and ensuring workers have the mental ability to perform the work safely.

The book introduces four organisational foundations that enable success inside the Safety Envelope: working environment and tools, skills and knowledge, safety culture, and mental ability.

Chapter 14

Cultural Behaviour

Shaping the cultural behaviours of workers is a fundamental aspect of Safety 2.1. However, this topic is frequently misunderstood. More crucially, it is not unusual for safety professionals to grapple with understanding the role of culture in preventing injuries and the mechanics of how culture functions. While the term 'culture' is often tossed around in discussions, it is seldom accompanied by a substantial and meaningful definition.

The concept of 'behaviour' in the context of safety can generally be bifurcated into:

The book explains the two behaviour concepts in full and shows how they shape organisational culture.

While important, the focus in this chapter is not on the acquisition of knowledge and skills, as these are governed by adult learning principles and discussed in the previous chapter – Chapter 13. Instead, the focal point is the behavioural manifestation of culture.

Again, the term 'culture' is often used without defining what it means. Here culture is defined as follows:

> Culture is a comprehensive construct that refers to the collective manifestation of human creativity, influenced by the shared values, beliefs and norms of a group. It encompasses both tangible artefacts, such as art, music, architecture and manufactured goods, and intangible elements like ideas, customs, social behaviours and patterns of interaction.

It is important to note that this definition is focusing on a group of people, not on the actions of individuals, even though groups comprise a collection of individuals.

Understanding Automaticity

People often act without conscious deliberation, their behaviours triggered by a myriad of circumstances. When a specific behaviour is regularly repeated, it evolves into an automatic response, akin to an instinct. These repetitive actions, more intricate than mere habits, often encompass a series of actions, including decision- making processes, which is here called 'behaviour patterns'. Over time, these behaviour patterns embed themselves subliminally in our daily routines, requiring minimal conscious effort to put themselves into action.

This concept underpins Safety 2.1's view of behavioural pattern formation and is explained in detail in the book.

Role of Cognitive Processing

The book explores how cognitive decision-making and group behaviour interact, and how operational and leadership patterns differ.

Pattern Attributes

Behavioural patterns can encompass both beneficial and detrimental elements. An unsafe action, when repeated frequently, becomes ingrained. Subsequently, such actions are carried out automatically, without conscious awareness.

It is counterproductive to label patterns as ‘good’ or ‘bad’ because if it is embedded in the behavioural pattern, it is bound to recur. Additionally, the human brain’s capacity for deductive reasoning – where specific conclusions are drawn from general principles – allows for pattern generalisation, which sometimes results in inappropriate pattern application in new situations. Conversely, if a pattern proves effective in a new context, it might be adopted for other marginally similar scenarios.

This inclination to adhere to ingrained behavioural patterns can therefore occasionally lead to mistakes, especially when the prevalent pattern is not suitable for a specific situation. To an outsider, such errors might appear as glaringly obvious and potentially indicative of a deliberate disregard for safe practices. However, these mistakes often stem from the automatic enactment of established patterns, executed without engaging in active cognitive evaluation to assess the suitability of the actions in the given context.

The following flowchart further expounds on this topic.

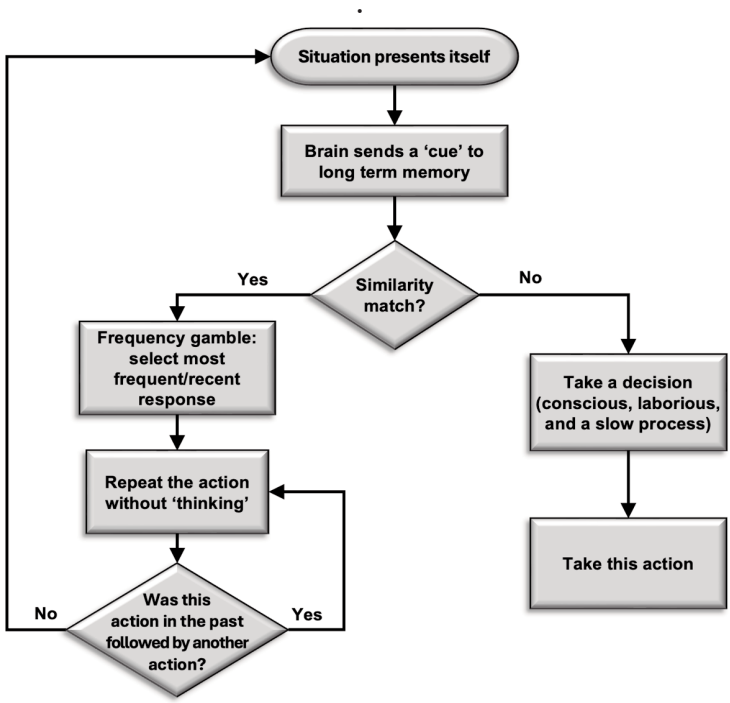

Figure 13. Automaticity

The flowchart is explained fully in the book, expanding on how automaticity develops and influences behaviour.

Limitations of Cognitive Thinking in Altering Patterns

The book details the limits of cognitive reasoning in changing behaviour, including the pitfalls of linear cause-effect logic and over- or under-reaction.

Culture Change Approaches and Challenges

Behaviour Patterns

Transforming behavioural patterns on the other hand is a far more complex process, as these patterns are typically ingrained and function beyond the scope of logical, cognitive decision-making. Simply put, thinking alone is not enough to change these patterns. Since patterns are formed through repetition, altering them also requires consistent and repeated efforts. It follows that simply advising someone to “not do this or that” is often ineffective.

Moreover, trying to induce change through motivational strategies like reward and punishment systems may not be very effective. These approaches are grounded in conscious, cognitive activities, which do not directly address the root of habitual behaviours.

This does not imply that the change process is beyond influence. Rather, it guides the target group to adopt new behavioural practices, focusing on actions rather than solely relying on cognitive persuasion techniques.

The use of the term ‘influence’ in this context is deliberate. Altering a group’s culture is akin to social engineering, a process typically met with resistance. Therefore, it is crucial to ensure the process is transparent and subtle, fostering an environment where individuals do not feel trapped or coerced. People should always have the freedom to respond, whether in agreement or resistance, without the pressure of rewards or penalties.

Practical Implications and Guidelines

The book sets out practical guidelines for shaping behavioural patterns and embedding responsible safety behaviour without coercion or resistance.

In Summary

Remember the following key points:

Avoid negative focus: Always concentrate on creating positive safety behaviours, not on correcting the negative ones.

No rewards or punishments: Simply acknowledge the desired behaviour when observed. Avoid rewards or punishments, even verbal praise. A simple wink of acknowledgement is sufficient – we do not want a cognitive discussion about it unless the workers initiate the discussion. And even then, the approach is behaviourally focused.

Do not audit the process: Recognise that behaviour change is a complex and adaptive process. It may not follow a predictable pattern, and different individuals may change at different rates and due to different triggers.

The change is subtle: The change intervention is not a 'project'. It should not have a 'project name' and progress should not be reported in traditional management reports. It is a creative new way of life, and the process is never completed.

Avoid relying on cognitive thinking: Cognitive thinking often fails in changing behaviours that operate automatically. Behaviours that are a result of repeated actions or patterns bypass cognitive processes.

Inefficacy of traditional management tools: Traditional tools are based on linear causality, assuming a straightforward cause–effect relationship. However, cultural behaviours do not always fit this mould. Therefore, techniques based solely on cognitive activities like telling, training or threatening the operator are often ineffective.

Human behaviour is very unpredictable and does not follow straight lines: Unless extreme reward or punishment is applied, cultural/behavioural change is driven from within a group and not so much by external forces.

Misconception about performance measurement: The idea that you can measure and quantify every aspect of cultural change is a fallacy. Often, attempts to measure such changes can even be counterproductive.

This approach ensures a sustainable and positive change in workplace behaviour.

Chapter 15
Mental Wellness

The mental health of workers is a vital part of health and safety. First, mentally healthy employees are more productive, engaged and capable of making sound decisions, directly impacting workplace safety and efficiency. Even more important is the reality that organisations employ the whole person and cannot step away from the mental harm workers may suffer at work even though this is less obvious. It is a moral imperative, but also a legal and ethical responsibility of employers, and Safety 2.1 applies as much to the mental health of workers as it applies to physical safety.

Creating mental wellness in an organisation is not an event, nor is it mainly about creating awareness that mental health is important. It is creating systems and processes that will create a workplace where people can work and feel mentally safe.

One of the important factors to consider is the overlap between what happens in the workplace and outside the work environment. While businesses can be good corporate citizens and help to make society as a whole a better place, the primary focus is on the workplace.

Safety 2.1 is focused on how to make the workplace mentally safe. For this reason, it is important to understand that the focus is not to make unhealthy people healthy; the programme is primarily aimed at making sure the workplace is not mentally harming people. This is in line with the general purpose of workplace health and safety – preventing harm in the workplace.

Mental Wellness at Work Model

The model outlined below details 10 factors influencing workplace wellness. Improving these areas is not just beneficial for mental wellness but also constitutes sound business practice. This includes aspects like leadership styles, reward systems, workload management, and nurturing interpersonal relations, all sound business practices in their own right. Yet, it is crucial to revisit these elements with a focus on mental safety.

Figure 14. Mental Health Model.

The book defines each of the ten factors affecting workplace mental wellness and provides examples for identifying and addressing them.

Implementation

Methods of implementing the Mental Wellness Model will vary, based on the existing organisational culture. In a 'toxic' culture, direct intervention from senior leadership might be necessary to remove initial barriers. In contrast, a more positive culture might benefit from collaborative forums involving managers and employees to tackle each factor.

It is important not to rely solely on statistics or culture surveys to gauge success, as they might not capture the nuances of an environment and can mask underlying issues. Biometric data may reveal gender-based disparities but might not capture the experiences of gender minorities. Anecdotal evidence, while less specific, can offer rich insights in a healthy environment and indicate a reluctance to share in an unhealthy one.

Another common pitfall to avoid is over-reliance on cognitive interventions, like online training programmes. These often fail to change behaviours, as merely informing people about support channels does not necessarily empower them to use them, especially in environments where expressing vulnerability is often stigmatised. A more effective approach involves analysing each factor and devising specific improvement plans. These might include policy changes, work method modifications, external support access, feedback mechanisms and, yes, sometimes training. The implementation of these measures might vary in complexity and timescale and could range from directive actions (like banning gender-based jokes) to fostering gradual cultural shifts (like encouraging social support).

The book outlines a practical improvement method, clarifying roles, responsibilities, and how to avoid common monitoring pitfalls.

Measurement of Wellness

A repeated refrain in this book is that a complex adaptive system cannot be measured by using traditional methods. Surveys and hard data on graphs will never succeed in measuring the state of mental wellness in an organisation.

While it is not a good idea to attempt measuring mental wellness at all, if the organisation insists on some form of measurement, neutral observers, ideally from outside the organisation, may be used to conduct focus group discussions and then report on their findings. This is called ‘phenomenological research’ and if appropriate, safety professionals are encouraged to further research this construct.