7 INSIGHTS
INTO SAFETY
LEADERSHIP

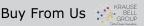Thomas R. Krause and Kristen J. Bell

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THE ROLE OF BEHAVIOR IN ORGANIZATIONAL SAFETY

Twenty-five years ago, Krause, Hidley, and Hodson published a book called *The Behavior-Based Safety Process*.[i] In that book we made the statement: "80-95% of incidents are caused by unsafe behavior."[1] The idea that behavior can be a contributing cause of incidents is correct, but it is also misleading. It sets up a leader to think, "If we just fix these employees, most of our incidents will go away." It can encourage the leader to place blame inappropriately. And it can get the leader off the hook of being responsible for creating a safer workplace. The use of this phrase and the variety of conflicting opinions about it has muddied the water concerning something very important in safety: the role of behavior in incident causation and prevention. In this chapter we will provide clarification about this important issue.

The insight that safety leaders need to understand is this: *Incidents are caused by a network of factors including design, safety systems, leadership, culture, and behavior.* The role of behavior in incident causation is important, but it is only one piece, and usually a small one at that. Focusing on behavior as if it is the whole story is a serious mistake. It can alienate employees, drive accurate data underground, and leave other risk factors unchecked. For all these reasons, understanding the role of behavior is essential to good safety leadership.

The word "behavior" has different meanings to different people. For the labor leader it may conjure up thoughts of workers being blamed unfairly, and through the misapplication of the term "BBS" they've had good reason to arrive at this association. In the behavioral sciences, the word "behavior" signals a way to

understand human activity by using the scientific method. It is usually a positive word for organizational leaders, but it gets to specific actions of critical importance.

Most leaders, when they talk about behavior, are thinking of front-line employee behavior. The person that got hurt did something that caused the incident. Look at the last ten incidents in your organization. Examine the incident reports, and you'll see the role of behavior jumping off the page. The conclusion will often say something like, "instruct employee in safe procedures," and the cause of the incident will often be shown as the employee's failure to follow a procedure. But these elements don't tell the whole story. In fact, their omissions tell a misleading story. The behavior of leaders all the way to the CEO and the Board are actually implicated in incident causation. We'll give examples of this shortly, but first we need to clarify some aspects of "behavior-based safety."

A BRIEF HISTORY OF BEHAVIOR-BASED SAFETY

The first researcher to use applied behavior analysis was Dr. Judi Komaki. Her seminal studies published in 1978-79 along with the early work of Proctor and Gamble were the references Krause drew from when he first began to consult with organizations on safety improvement. P&G used the phrase "behavior-based safety" to describe the work Gene Earnest and Jim Palmer were doing within their organization and, to our knowledge, that's where the term was coined.

This early work was ground-breaking in that it showed that safety-related behaviors could be operationally defined and measured. Measurement made it possible to evaluate new safety efforts. However, this early work lacked a mechanism to tie behaviors to their real causes, as we'll discuss in this chapter.

In 1990, when we first described the behavior-based safety process, we outlined four key steps: First, identify and define safety critical behaviors; second, gather data through observation; third, give feedback; and finally, *use the accumulated data to identify, prioritize, and solve problems standing in the way of a safe work place.*

We designed this process to incorporate the range of factors connected to at-risk behavior in the workplace. The first three steps were straight up applied behavioral analysis. But the fourth step was a deliberate attempt to recognize that behavior itself, while a useful tool and important factor, was not the whole of the issue. Our method aggregated data on at-risk behavior and used it to find opportunities to make the workplace safer. If workers aren't following a procedure, why not? Is the behavior within their control? Is the work designed properly? Does the culture support doing it safely or does no one follow the procedure? Most importantly, what needs to be done to set the stage for safe behavior? We taught front-line workers, supervisors, and managers a methodology to understand behavioral data as a guide to finding the most pressing places to address facility, safety system, culture, and leadership issues.

Many companies took this on enthusiastically and developed dozens of safety action plans for making the workplace safer. Senior leaders got involved to support and provide resources, and to do so promptly and effectively. Often a metric was established that measured how many safe action plans were being completed, and that metric turned out to be a predictor of safety improvement. The whole process of defining and observing behaviors culminated in a safer workplace. Many of those organizations today can give years of examples where this was done and where employee engagement improved, culture improved, incident rates declined, and the workplace got safer.

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The cultural change wasn't small. Many senior leaders told us, after three to five years of doing the BBS described above, that they were pleased to have improved safety like they had set out to do, but that what surprised and delighted them was the profound cultural change that followed (see Chapter 4 on culture).

BBS DEFINITION MUDDIED IN THE MARKETPLACE

However, as behavior-based safety became more popular, some organizations started doing it on their own, and some very large corporations, without understanding what BBS actually was, began to mandate that every business unit have a "behavior-based safety process." Demand for behavior-based safety was very high and consultants came along to compete for the business. The competition was very good for us: We were market leaders, and our desire to continue to lead compelled us to do our best work and continue to innovate. But this made us expensive, and some other consulting firms readily recognized the opportunity to compete on price. Dropping the fourth element made it very easy to cut consulting costs: It appeared to save everyone time, money, and hassle. After all, isn't behavior-based safety mainly about observing people and giving feedback? The answer is an emphatic "no," but not enough people understood this, and the term BBS was used to label approaches even when they failed to incorporate the crucial fourth step that takes an organization beyond feedback to deep problem solving.

Some groups short-cut it even more, marketing incentive programs and other awareness programs that did nothing to improve workplace safety, as if they were BBS-supported. Some labor leaders objected to behavior-based safety in general. They failed to distinguish between those approaches that made the workplace safer and the knock-offs and copy-cats that skipped some steps (or made up new ones). Labor's complaint, that it is wrong-headed to blame the employee, was an accurate criticism for some approaches, but
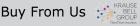
inaccurate for others. What should have happened at that point (and what should happen now) is for labor and consultant representatives to get together and figure out a way to keep the best of actual BBS while avoiding the pitfalls. Several attempts have been made to do this, but success above the site level has been limited, mainly because of political considerations.

Unfortunately for the safety community, the distinction between BBS and other practitioners that claim the same name has never been sufficiently clear. To this day you can find labor organizations that condemn what they've come to know as BBS, even though huge numbers of facilities they represent use the actual BBS practices quite successfully. Most leading companies have ignored the noise all this and jockeying created, and proceeded on their own lights to do what they think is right for safety.

Although labor can be rightly criticized for its role in perpetuating all this confusion, they were certainly right about some things. They were right that if you started with the word 'behavior' as the focal point of a safety improvement effort, you stood a fair chance of misdirecting attention primarily to workers. They were right that one effect of this would be massive effort aimed at small injuries while major risks were not looked at sufficiently. And they were right that an approach that emphasized the narrow version of behavior could easily miss the importance of serious injuries and fatalities. Properly done BBS efforts also impact serious injuries and fatalities, because they require an observation strategy that is focused on precursors and which consequently gives priority to situations and activities that have high risk for serious and fatal events.

DECISION MAKING INFLUENCES BEHAVIOR

On December 9, 2010, a dust explosion killed three employees and seriously injured another at a metal recycling facility. On

the day of the explosion, a maintenance worker installed a bad blade in a blending machine and returned it to service. Soon after he started the machine, a flash fire developed inside it, and the machine exploded. This initial explosion ignited dust which had accumulated inside the building and caused a second, catastrophic explosion. So yes, an action by the maintenance employee—installing a bad blade in the machine and returning it to service—*was* the last thing that anyone did to contribute to the incident. Let's be clear: Knowing that is what happened is crucial to understanding the event. But let's also be clear on this: What the worker did is only the endpoint of the story, not the actual cause of the event. Knowing the result, without knowing the causes that led to it, reveals almost no useful information about what needs to be done to prevent this kind of event from happening again.

When things go wrong in an organization, it is natural to ask who is responsible. Unfortunately, some organizations are designed to produce scapegoats—forced ranking systems, for instance, create all kinds of competition between employees, and not all of it is helpful or friendly. And treating behavior as if it exclusively means worker behavior creates blind spots. Incident investigations contribute to the problem when they stop as soon as a worker's behavior is identified as a "root cause." In many cases, like the one we are describing, behavior is not even close to the root cause. Failure to see the real root cause leads to short-sighted solutions that often make the situation worse. If this had happened in the metal recycling plant, the maintenance worker would have been disciplined for his blatant disregard of procedures. The maintenance team may have received training on the proper procedure, and management may have told employees (again) that they should not proceed with work that they believe to be unsafe. However, these "solutions" would have done nothing to provide a safer workplace because the worker's action was only the end of the story, while the prevention opportunity was back at the beginning.

What really happened was this: Blades striking the sidewalls were known to be an issue for years. Blades were wearing out with increasing frequency, and each time workers replaced them they'd find more evidence that they had been scraping the inside of the blender. Workers had put out several small fires inside the blender, fires that were caused by sparks from the blades scraping the sidewall. This was a well-known issue and workers were not acting alone: Managers and supervisors had been consulted and a number of solutions had been tried. Management made the decision to continue without having found a solution, knowing it was leaving an unsafe workplace intact. At least once, when the maintenance department didn't have new blades in inventory, a decision was made to adjust the old blades so that they wouldn't strike the sidewalls. Nobody expected the adjustment to hold, but they made a decision to put the machine back into operation anyway. When they did eventually replace the parts, they found a large crack in the side wall of the machine, presumably caused by the stress of the blades striking it. A decision was made to weld the crack and return the machine to operation. On the day of the explosion, the maintenance worker was doing exactly what he had learned to do over all these years: Keep the blender going, use old parts if necessary, feel free to improvise (i.e. deviate from procedures). Nobody would question him, in fact he would be regarded as a hero, if he could defer replacement and maximize uptime. And this is just the blender issue: There were several other known issues—dust management in the plant, materials storage, emergency response, enforcement of rules—each with its own history, each on its own making the plant a dangerous place to work.

A shallow focus on behavior brings attention to the endpoint, but it does not tell you how to improve it. If you want to improve behavior, you need to change what is driving it, and to understand that, we need to be able to see the decisions that cause it. At that point, management has to have the courage to face the issue and take on the real safety task of creating a safe workplace.

USING BEHAVIOR-BASED SAFETY EFFECTIVELY: ORGANIZATIONAL BEHAVIOR RATHER THAN WORKER BEHAVIOR

When done correctly, behavior-based safety captures information about the drivers of behavior—information about the facility, organizational systems, culture, and leadership. This information is frequently and systematically analyzed, action plans are developed, and tangible improvements to the facility, equipment, tools, systems, culture, and leadership are implemented. These data-driven, practical changes to improve people's ability to do their work make the workplace safer. And in our experience, the more of this kind of effort in a behavior-based safety process, the better the results.

None of this is to deny the importance of the safe behavior the worker in and of itself. Given the best design possible—the best safety systems, culture, and leadership—the worker still has to perform safely. Standing out of harm's way is essential. Seat belts must be worn in cars. Handrails must be used when descending staircases. Understanding the role of safe behavior doesn't mean ignoring unsafe behavior when the worker is fully given the opportunity to do the job safely. *Behavioral reliability,* the organization's ability to assure consistent behavior up, down, and across the organization, is crucially important.

But when we talk about behavior, the thing we should be most interested in is *organizational behavior*. In the case of the metal recycling plant, any other person in that facility would have done the same thing as the maintenance worker right before the dust explosion—which means it was not an individual issue, it was an organizational issue. This should come as good news to a senior leader who is looking for leverage to make improvements in safety. Behavior tells you if you have successfully made a safer workplace. If you do the right things, if you pull the right

lever, you will see reliably safe behavior and better performance throughout your organization. So what is this lever?

THE STRONGEST LEVER IS LEADERSHIP

Nobody is in a better position to influence organizational performance than senior management. Senior leader decisions drive culture and systems, which in turn drive organizational behavior and performance.

It is a dynamic system. Change one part of the system, it will affect all of the other parts. For example, at the metal recycling plant, the senior leadership team could decide to start looking at maintenance logs and to free up money to address safety issues. Doing this would change basic assumptions about what is expected of workers and supervisors, about the importance of safety, and about how to handle work disruptions. Alternatively, the site manager could stop looking the other way when people deviate from procedures. Doing this would surface all kinds of discussion, and resolution, of the myriad of issues making it impossible for workers to follow procedures. This, in turn, would change assumptions and beliefs about how people should work and what is expected of them. The VP of operations could encourage building redundant equipment into the work process—purchasing extra machines, stocking replacement parts, having contingency plans—so that equipment could be taken out of service when issues needed to be addressed. This would directly affect how people work, and the culture surrounding that. Or, the CEO could resolve to change her culture from a "make do" culture to a "make right" culture. If she did this well, the other facility, systems, and leadership issues would surface and get resolved. For any of this to happen, people in the organization need to recognize the problem was not the installation of a bad blade in the blending machine: The problem was rooted in a dynamic system

comprised of the physical environment, leadership, culture, systems, and behavior.

The insight here is that it is worth it for senior leaders to understand behavior: they need to know what it is, and why it is important. Understanding that should cause leaders to teach their organizations to dig much deeper into systems, culture, and indeed their own leadership.

When organizational behavior is examined closely across levels, something very interesting emerges: As you go up in responsibility, the essence of action shifts from overt observable behavior towards decision making. For the front-line employee, safe behavior speaks for itself; the worker wears protective equipment or doesn't, follows the procedure or doesn't. Even with the first-line supervisor, safe action starts to shift to decisions. Does the supervisor approve a permit? This action is more a decision than a behavior. Are resources allocated by the plant manager for safety related maintenance? Is safety strategy given a major place in the overall strategy of the company? Do board meetings have safety on their agenda? All these things are driven by senior leader decisions.

Humans have built-in tendencies to over- and under-estimate the importance of different factors that influence critical decisions. The result is that safe decision-making is compromised. In the next chapter we discuss safe decision making and how cognitive biases operate to undermine it.

REFERENCES

i Krause, T.R., Hidley, J. H. & Hodson, S. J. (1990). *The behavior-based safety process: Managing involvement for an injury-free culture,* 1st ed. New York: Van Nostrand Reinhold.