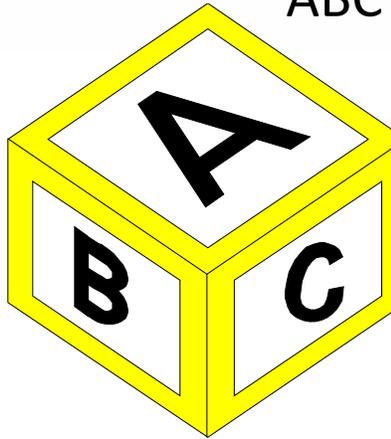


Influencing Behaviors for Better Safety Performance

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Understanding Behavior Influence

ABC Model

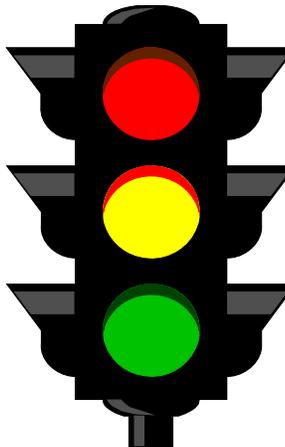


Activators

Behaviors

Consequences

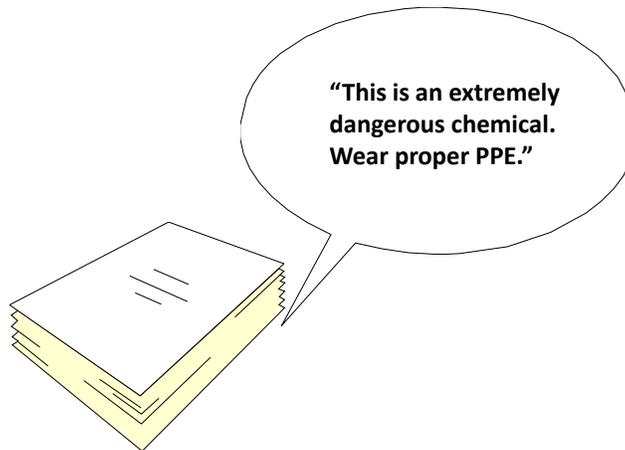
Activators



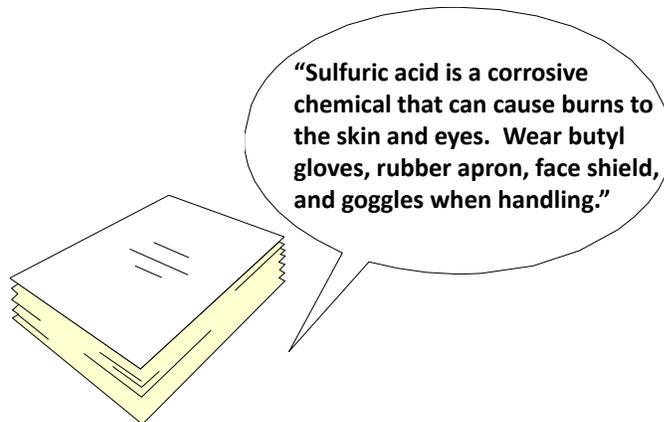
An activator is a person, place, thing or event which comes **BEFORE** a behavior and encourages or triggers the behavior.

What are some common activators in the workplace?

Is this a strong Activator?



How about this one – a strong Activator?



Behavior

- Behaviors are **observable** activities
- Behaviors are **predictable**
- Generally only discussed when there is a problem...
- Make sense to the person at the time of observation...



Unsafe Behavior



“Unsafe behavior is normal behavior. It is the result of normal people reacting to the environment in which they work”

Reasons for Unsafe Behavior

Typically, employees don't do things knowing they will result in injuries. Then why do they get hurt?

- Skill deficiency
- Skills not used often enough
- Failure to recognize warning events/near misses
- No positive consequences for safe behavior
- Unclear management expectations
- Physical obstacles
- Employees believe *they* will not be hurt



Consequences

- Consequences are anything that directly follows a behavior:

- Injury
- Discipline
- Praise
- Thanks
- Money
- Satisfaction



ABC Model

- Activator
Telephone rings
- Behavior **What Controls Behavior?**
Answer the phone
- Consequence
Talk to the caller

Activators Influence Behavior

Consequences Control Behavior

Strength of Consequences

- TIMING** **Soon / Later**
 A consequence which follows soon after a behavior is stronger than one which occurs later
- CONSISTENCY** **Certain / Uncertain**
 Consequences that are delivered consistently after a behavior are stronger than those that are uncertain or unpredictable
- SIGNIFICANCE** **Positive / Negative**
 Positive consequences are stronger than negative ones

		Strongest
• Soon / Certain / Positive	SC+	▲
• Soon / Certain / Negative	SC-	
• Later / Certain / Positive	LC+	
• Soon / Uncertain / Positive	SU+	
• Later / Uncertain / Positive	LU+	
• Soon / Uncertain / Negative	SU-	
• Later / Certain / Negative	LC-	
• Later / Uncertain / Negative	LU-	
		Weakest

The most powerful consequences are...

SC+

Soon / Certain / Positive

Is the fear of being injured a strong consequence?



No...**LU-**

Is the fear of discipline a strong consequence?



No...**LU-**

ABC Model – Practical Example

~~Behaviors that stem from the employee's~~ behavior

perspective

- Availability of a face shield
- Wearing a face shield while handling acid LU-
- Peer pressure from co-workers that do or don't wear a face shield LU-
- Threat of Discipline SC+
- Perception that it will save time not having to find a face shield SC+
- Understanding through training of how to wear a face shield SC+
- Perception that it will be more convenient not to wear a face shield SC+
- Cleanliness of face shield
- Perception of injury risk SC+
- Perception of better visibility without the face shield

Safety Feedback

- Providing safety feedback is the responsibility of **EVERYONE**
- We can use feedback used to reinforce safe behavior
 - Use positive feedback as an **SC+** consequence
 - Safe behavior will not continue without positive feedback
 - Positive feedback strengthens the culture
- We can use feedback used to correct unsafe behavior
 - Never intended cause guilt
 - Intended to improve the working conditions
 - Can uncover hidden barriers
 - Unsafe behavior will continue without feedback

Behavior Change

- There are some recent contradictory conclusions out there, but many believe that unsafe behavior **contributes** to more than **90%** of all injuries.
 - Not a cause by itself. There may be systemic and cultural issues at play, but ultimately, an employee chooses to do a behavior or not. Those other issues become part of the activators and consequences
- If unsafe behaviors contribute to injuries, then it makes sense to find ways to encourage employees to make better choices.

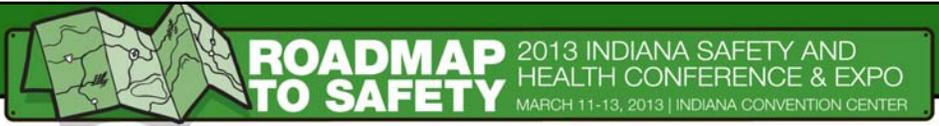
Behavior Change

- Behavior change requires a **systematic approach**:
 - Set clear expectations *ACTIVATOR*
 - Define success *ACTIVATOR*
 - Identify the crucial activities, behaviors, and metrics *ACTIVATOR*
 - Monitor performance metrics and crucial activities *ACTIVATOR / CONSEQUENCE*
 - Provide feedback and recognition *CONSEQUENCE*
 - Apply accountability *CONSEQUENCE*

Safety Culture - Definitions

- *The way safety is perceived, valued and prioritized in an organization. It reflects the real commitment to safety at all levels in the organization.*
- Also, how an organization behaves when no one is watching

Let's look at a safety
culture failure...



Where were you....

January 28, 1986



There are certain dates that
stick with a generation

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September 11, 2001

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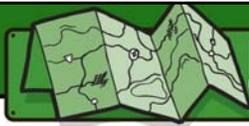
November 22, 1963

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On January 28, 1986, people around the world were tuning in to watch the launch of the 25th space shuttle into space. Mission 51-L, the tenth flight of Space Shuttle Challenger was special.





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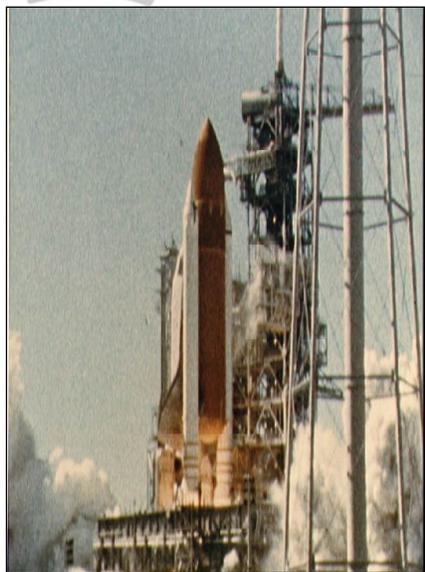
Ready to go...

- 11:38 AM EST
- Kennedy Space Center in Florida
- Several delays previously
- Coldest day that NASA had ever launched.



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**11:38 AM
EST**



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An Accident.
 An Unplanned Event?

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“...people from the highest ranking NASA officials to shuttle astronauts to engineering contractors to the American public at large – succumbed to *normalization of deviance*, a contributing factor to the explosion of Challenger.”

- Colonel Mike Mullane, retired Space Shuttle Astronaut

What?

“Normalization of deviance”

Normalization of deviance is...

A behavior of accepting poor practice to the point that the poor practice becomes perceived as the norm.



“Prove it safe, or we won’t launch.”

-NASA tradition



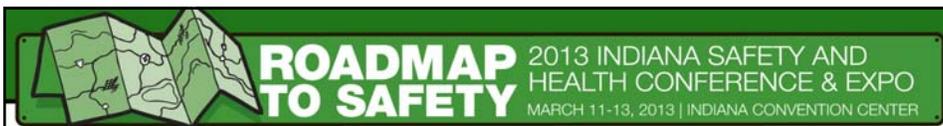
Factors contributing to the Challenger disaster:

- The decision was made to launch again with no design modifications of the O-rings in spite of the fact that inspection of the Solid Rocket Boosters following the previous 24 launches revealed 13 occasions when O-ring wear was unacceptable.



Factors contributing to the Challenger disaster:

- The decision was made to launch in spite of concern that the O-rings could be affected by the cold weather... January 28, 1986 was 15 degrees F colder than the temperature at launch for any other mission.



Factors contributing to the Challenger disaster:

- The decision was made to launch in spite of the warnings by contractors that there was concern about the performance of the O-rings during launch in cold temperature.



Factors contributing to the Challenger disaster:

- Astronauts ultimately accepted the design of the spacecraft with no provisions for escape of the crew in the event of a problem.



Factors contributing to the Challenger disaster:

- Astronauts accepted the inclusion of civilians in missions.



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Factors contributing to the Challenger disaster:

etc., etc., etc.



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Someone...anyone...following the tradition of: “prove it safe, or we won’t launch” would have made January 28, 1986 a day like any other day.



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- At this point, some of you might be thinking, *“How could NASA let this happen? They should have seen it coming!”*
- With Challenger, “normalization of deviance” crept in. It gained footing when people became complacent to their responsibilities. Often, no symptoms of the disease are readily evident.
- Without even realizing it, standards are lowered or you settle for less. We rationalize our behavior by saying *“I’m just too busy!”* or *“No one seems to care...”* or *“It is no big deal... I’ve done it like that a thousand times.”* Sound familiar?



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The Cure: A Strategy for Full Recovery

- The only change you can truly affect is change within yourself.
- Let others see the change.



The Cure: A Strategy for Full Recovery

- Recognize the symptoms of “normalization of deviance” and intervene early.



So, NASA fixed the problem...right?

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January 16, 2003

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February 1, 2003




Columbia at approximately 8:57. Debris is visible coming off from the left wing (bottom).



Columbia debris (in red, orange, and yellow) detected by [National Weather Service](#) radar over [Texas](#) and [Louisiana](#).

**Columbia Accident Investigation Review Board
Findings and Recommendations on Space Shuttle Disaster
August 26, 2003**

"Accident was not a random event"



Immediate Causes

- A piece of foam insulation that weighed **3 lbs.** hit and breached the shuttle wing at **545 mph** during launch.
- The breach allowed hot air to melt the wing structure during re-entry resulting in shuttle break up and disintegration.
- Why not stop here?



Root Causes

- Compromises to gain budget approval
- Fluctuating priorities
- Scheduling pressures
- Resource constraints due to budget cuts
 - Loss of technical and safety experience
- Reliance on past successes
 - Not sound engineering and analysis
- Lack of open communication
 - Management only wanted good news – not reality

“NASA will lose more shuttles and more astronauts unless it transforms its ‘broken safety culture’”



New York Times - August 27, 2003

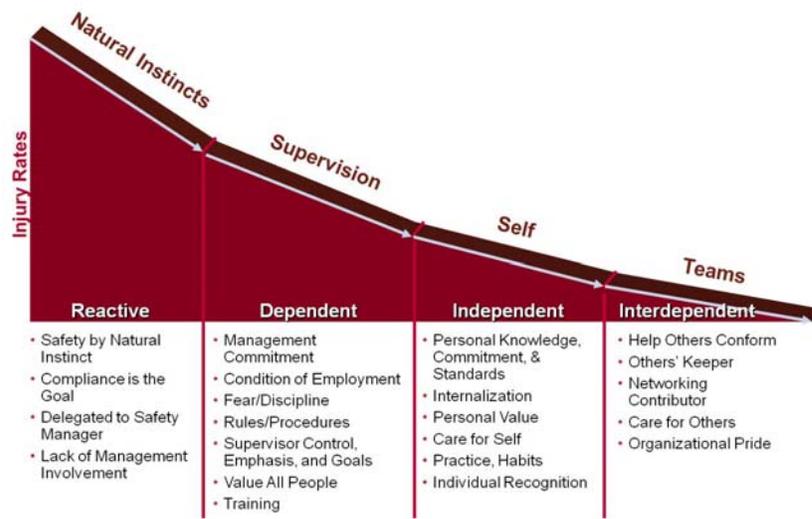
Parallels With Industrial Incidents

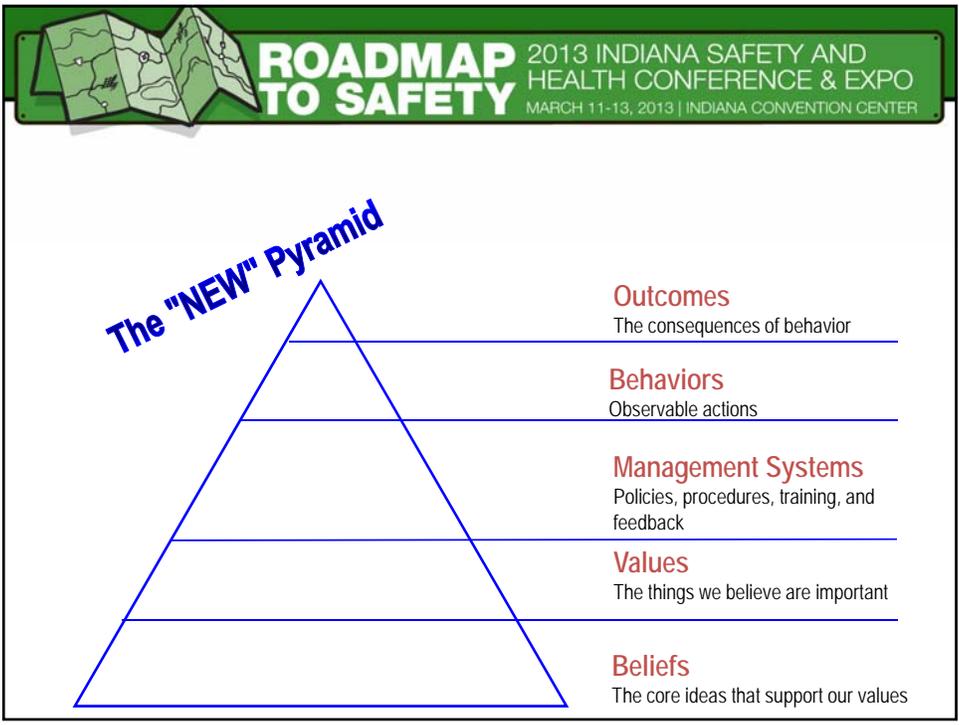


How many of these sound familiar?

- Financial constraints
- Reductions in experienced personnel
- Failure to recognize and correct warning events / near misses
- Dependency on accident history rather than risk
- Loss of sound design, engineering, maintenance, and safety practices

How Do You Drive a Culture Change?

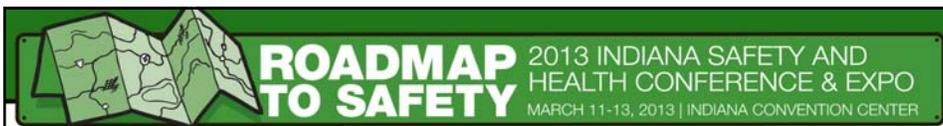






The Cure: A Strategy for Full Recovery

- The only change you can truly affect is change within yourself.
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The Cure: A Strategy for Full Recovery

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Questions?



Influencing Behaviors for Better Safety Performance

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Stantec Consulting Services, Inc.
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Introduction

There are several theories accepted by Safety Professionals about why injuries happen. Many fall back on Herbert William Heinrich's accident pyramid, which says that out of a group of 330 accidents, 300 will result in no injuries, 29 will result in minor injuries and one will result in a major injury. This pyramid, based on his 1931 book, "Industrial Accident Prevention: A Scientific Approach," has been used by safety professionals for decades as a tool to communicate to management that preventing minor incidents will reduce the potential for major ones. The book also claims that 88% of all accidents are caused by "unsafe acts" – behaviors and choices of the employee. Recently, safety professionals have started questioning the validity of Heinrich's information – first, that there is no statistical validity to the ratio of one serious injury for every 29 minor ones and every 300 near-misses; second, that there is no consistent correlation between the experienced minor accidents/near-misses and more catastrophic incidents; and lastly, by claiming that 88% of all injuries are the result of unsafe acts, Heinrich is putting all blame on the employee, without recognition of the interplay of root causes, including system failures.

While these recent questions certainly raise some valid arguments, there are two undeniable truths: first, that except for the exceedingly rare instance, employees do not begin their day with the intent of hurting themselves; and second, whatever the reason, be it a system failure or not, ultimately it is the employee that *chooses* to perform the behavior that leads to the injury. So if employees don't want to hurt themselves, but still choose to do things that, obvious to many of us, will lead to injury, then what can managers and supervisors do to influence their employees to make better choices? That is what will be addressed in this paper.

The ABC's of Safety

Principals of Behavior-Based Safety programs have long discussed how individual behaviors are key causal factors of employee injuries. The questions have long been about how best to influence those behaviors to prevent unsafe actions, and thus the resulting injuries. One of the leading theories is called the ABC Model of behavior. A = Activators – those inputs (person, place, thing, or event) that occur before a behavior, influencing, guiding or directing the behavior. B = Behaviors – those predictable, observable activities of our employees. C = Consequences – those things that follow behaviors, and have the strongest impact on whether a particular behavior will occur.

Activators can take many forms: written or verbal instructions, safety signs, rules, training, or other more specific things like a phone ringing. Activators tell a person what to do, and can get a behavior started, but typically are not sufficient to keep that behavior going. The stronger the activator, the more influence it will have. For example, if an employee sees a warning sign that says “This is an extremely dangerous chemical – Wear proper PPE”, would it be considered a strong activator? Looking at it, the sign leaves unanswered the questions of just how dangerous is the chemical? Also, what *is* the proper PPE? Without some more specific guidance, this activator won’t encourage the right behaviors. If, instead, the sign said “Sulfuric acid is a corrosive chemical that can cause burns to the skin and eyes. Wear butyl gloves, rubber apron, face shield, and goggles when handling”, the employee has been given more specific information about the nature of the hazard, as well as the specific controls. This gives the employee more understanding, and therefore should more strongly encourage the correct behaviors.

Behaviors are those observable activities that our employees do. They can be safe or unsafe, but generally we only discuss them when there is a problem. There have been efforts to categorize unsafe behaviors as abnormal or not making sense. However, unsafe behaviors are normal behaviors that make sense to the person at the time they are doing them – they are simply normal people making choices based on the environment in which they work.

As indicated above, employees typically do not do things that they know will result in injuries. So why do they? There are many reasons: lack of training or knowledge; skills that aren’t used enough; inability to recognize warning events and near misses for what they are; expectations for success that haven’t been adequately communicated by management; physical obstacles; lack of positive consequences for making safe behavioral choices; and lastly, that employees do not believe they will be hurt – this is especially true in younger workers.

Consequences are anything that directly follows a behavior. This can include injury, discipline, feedback, praise, rewards, and penalties. Consequences have the greatest impact on what type of behavior is chosen. People generally prefer positive consequences, or try to avoid negative consequences. People will behave consistent with what their past experience has told them – if in the past they have received positive consequences for a behavior, they will choose to repeat that behavior. On the other hand, if in the past that behavior has produced negative consequences (or no consequences) they will tend to not repeat that behavior. Thus, consequences provide the foundation for influencing behavior change. And, direct supervisors have the greatest ability to use consequences to influence their employees to change their behaviors.

Let’s look at a simple example of this ABC Model. Someone wants to speak to you from a distance, so they pick up the phone and call. The *behavior* that they want to happen is for you to answer the phone. In this scenario, the phone ringing is the *activator*. It encourages you to answer the phone, but by itself may not be enough to ensure the *behavior*. The *consequence* for the *behavior* is that you end up speaking to the caller. If it is a telemarketer, it is a negative *consequence*, and if it is a long lost friend, a positive *consequence*. Other factors in this scenario

can also be considered *activators* - Caller ID systems, the time of the call (dinner or late vs. free time).

Like *activators*, some *consequences* are stronger than other. The strength of a consequence is based on three factors.

- Timing (Soon / Later): A consequence that follows soon after behavior is stronger than one which occurs later.
- Consistency (Certain / Uncertain): Consequences that are delivered consistently after a behavior are stronger than those that are uncertain or unpredictable.
- Significance (Positive / Negative): Consequences that are positive are stronger than those that are negative.

Combining these three factors results in the following table ranking the strength of consequences:

Soon / Certain / Positive	SC+	STRONGEST  WEAKEST
Soon / Certain / Negative	SC-	
Later / Certain / Positive	LC+	
Soon / Uncertain / Positive	SU+	
Later / Uncertain / Positive	LU+	
Soon / Uncertain / Negative	SU-	
Later / Certain / Negative	LC-	
Later / Uncertain / Negative	LU-	

As you can see, the strongest consequences are those that are **Soon / Certain / Positive (SC+)**. Also note that with the exception of the second strongest consequence, which is SC-, the strongest consequences are all positive. This is further reinforced by the fact that people generally prefer positive consequences.

In many situations, supervisors have used the threat of injury or discipline to “encourage” their employees to make proper choices. However, understanding the strength of consequences, we can now recognize why this has not been effective in a sustainable manor:

*Threat of Injury: Since an injury has not yet occurred, it is a **later** consequence. Since it may happen, or may not happen, it is an **uncertain** consequence. And being hurt is a **negative** consequence. From the table above, Threat of Injury is a **LU-** consequence, the weakest kind.*

*Threat of Discipline: Since the employee isn’t going to be safe while the supervisor watches, it is not happening now, so it is a **later** consequence. Since the employee has to be caught being unsafe, it is an **uncertain** consequence. And punishment is a **negative***

consequence. From the table above, Threat of Discipline is a LU- consequence, the weakest kind.

Let's put this in practice. A PPE Hazard Assessment has determined that a face shield is required to protect employees while handling acids, so the behavior we want to encourage is that the employee wears a face shield.

The activators associated with this behavior are:

- The availability of a face shield
- Peer pressure from co-workers that do or do not wear a face shield
- Understanding through training of how the face shield provides protection
- The cleanliness/condition of the face shield
- The employee's perception of the injury risk

The consequences, *from the employee's perspective*, are:

- Threat of Injury LU-
- Threat of Discipline LU-
- Perception that time will be saved from not having to find a face shield SC+
- Perception that it will be more comfortable to not wear a face shield SC+
- Perception that it will be more convenient to no wear a face shield SC+
- Perception that the employee will have better vision without the face shield SC+

Comparing the strength of consequences, we can see why the traditional methods don't consistently work. To overcome this gap, leaders need to examine what consequences they are using to motivate their employees. Instead of threats of discipline or injury, we need to coach and counsel, providing feedback that will contribute to the success of our employees. Use feedback to educate and inform, providing value to the employee so that it is SC+. Reinforce safe behavior and correct unsafe behavior. Set expectations of what success looks like – examples: conduct the process hazard assessment; use the correct PPE; follow all the rules without shortcuts; communicate uncontrolled hazards; ask questions. Monitor performance of the activities to ensure that they are meeting the expectations, providing correction if not and reinforcement if so. Lastly, we have to build accountabilities around those expectations. It has been shown that employees give more attention to the perceived values of their direct supervisors, so be sure that your values echo those successful expectations.

Conclusions

Unfortunately, there is no magic pill to drive safety improvement. It takes dedication and consistency. Each of us must embody that safety is an intrinsic value, putting systems in place that support and enhance our employees' ability to work safely. But that, by itself, is not enough. We must also provide the feedback and motivation to our employees, understanding what consequences work best for each employee. Develop and communicate those consequences that are Soon, Certain, and Positive. Hold our employees accountable, while empowering them to meet our expectations. Once we do that, we can drive a consistent safety culture throughout our organizations.

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