

CPH News and Views

A semi-monthly column on emerging topics related to healthy workplaces

Issue #50: Safety Climate and the Occupational Safety and Health Management Process

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Background

There is a growing consensus among occupational safety and health researchers about the importance of a holistic approach to promote workplace safety and health. The “socio-technical systems” concept highlights the importance of interaction between people and many work-system components such as regulations, policies, technology, leadership, and organizational culture/climate. Closely related to this systems perspective, “safety climate” is defined as shared perceptions of workers about the enacted safety policies, procedures, and practices of their workplace (Zohar, 1980). I'd like to use this concept to discuss how workers' safety performance may depend on the nature of the organization's overall safety and health management process.

A workplace's safety climate indicates its social and organizational norms of safety/health behavior. Safety climate is influenced by specific managerial and supervisory practices for occupational safety and health. For example, if productivity is prioritized over workers' safety or health, leaving these concerns of workers unaddressed, these can compromise both the safety climate and workers' safety behaviors.

As work systems change, so does work climate

Organizational members, goals, values, technologies, and policies adapt over time in response to ever-changing environmental, social, and business demands. In turn, this leads to change over time in organizational climate, and in safety climate (Bergman et al., 2014). For example, safety climate scores were similar for the same truck drivers across a two-year interval but not constant, possibly reflecting the changing quality of safety leadership within the company (Lee, et al.). Similarly, their safety behaviors across this same two-year interval were only mildly stable. Since safety climate perceptions and the safety behavior of truck drivers both fluctuated over time, safety climate needs to be continuously monitored and assessed. Otherwise its predictive value for future safety outcomes may be limited, and the use of outdated safety climate assessments could result in the choice of incorrect remedial actions (Bergman et al., 2014).

The impact of organizational safety efforts may take time

Any organizational safety effort – whether implementation of a new safety training program, or installing advanced safety equipment – may take some time to have an effect. Evaluation of this lagged impact is complicated by the fact that work systems keep changing during this same period. Thus the effect of the safety intervention can be either diluted or enhanced, depending on whether these work system components are changing in a positive or negative direction.

Moreover, proper occupational safety management may make the positive effect of good safety climate more long-lasting, or it might reduce the negative effect of poor safety climate over time (see Figure 1, next page). Examples include continuing managerial efforts to communicate with workers about their safety concerns, consistent enactment of safety values and policies, and offering multiple follow-up and review sessions after the implementation of programs for improving occupational safety/health.

Continuing with our example in the trucking industry, safety climate scores predicted the truck drivers' injury severity (Lee et al.) and their frequency of near misses (Zohar et al., 2014) over the following 6 months. Additionally, truck drivers' turnover rate within the year after the safety climate assessment was significantly associated with the safety climate score, such that the turnover rate was lower when safety climate was higher (Huang et al., 2016). However, it is also possible that these safety-climate-to-safety-outcome relationships were either mitigated or enhanced by other organizational efforts.

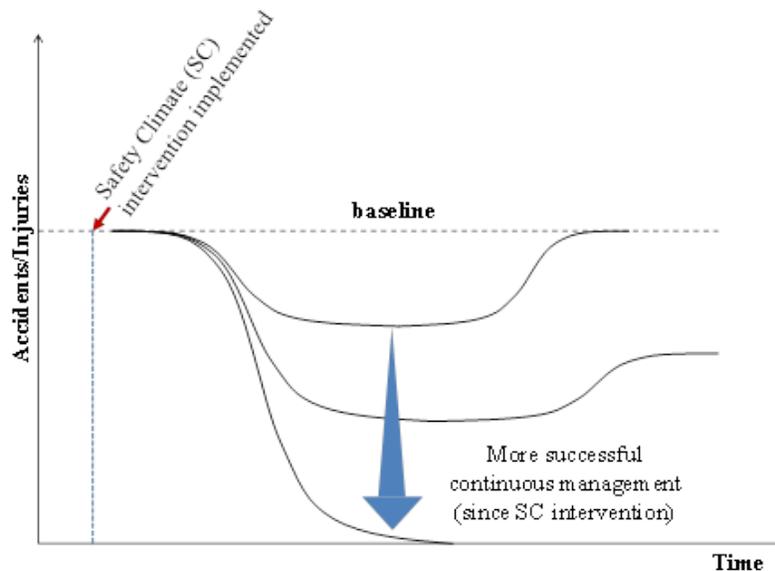


Figure 1. Hypothetical trajectories of safety climate intervention impacts

For example, development and administration of a safety training program can improve overall safety climate and safety in an organization. If it is customized to accommodate different needs and concerns of workers with varying experiences and expertise, the impact can be even enhanced. Meanwhile, if participation in the safety training program is not well-accepted by co-workers or front managers, positive impact of the safety training program is likely to be undermined.

Conclusions

Safety-related features of working conditions are not static, but instead emerge and change over time. Thus, continuous management of and investment in workplace safety and health are critical. Future studies of workplace safety would benefit from a measurement approach that attempts to capture the continuous process of interactions among work system components. Trajectories of the effects of organizational safety efforts can then be examined. This should encourage researchers to use new study designs and analytic approaches such as time series research design and autoregressive (cross) lagged effect modeling to advance our understanding of occupational safety and health program effectiveness.

References

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