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Workplace Safety

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It is probably reasonable to assume that most employees in the developed world go to work each day with the belief that they can return home safely at the end of their workday. Yet the available data from a number of industrialized countries over the last several decades suggests that this assumption is questionable. Workplace fatalities continue at an alarming rate. In 2013, in the United States, there were 4,585 fatal workplace injuries. In the same year, there were 902 fatal workplace injuries in Canada. The frequency of disabling work injuries is also staggering. For example, in 2013, there were 109.4 cases per 10,000 full-time workers requiring time off work in the United States, with approximately 4.1 million days lost due to work injuries in the United Kingdom in that year.

But these data only speak to the extent of the problem. The social meaning of these data can perhaps best be appreciated by comparing the number of people who die in workplace safety incidents with the number of those who die from other causes. First, more people are killed each year in workplace safety incidents than are murdered each year in Canada. Others have extended this focus to show that workers are substantially more likely to be injured or killed on the job than they are to experience the same consequence at the hands of a criminal. Second, despite the understandable public attention given to illnesses, injuries, and fatalities from breast, prostate, or colorectal cancer; vehicular-related deaths; firearms; and AIDS, more people are still injured and killed each year in workplace safety incidents in the United States.

Despite the magnitude of these data, the issue of workplace safety has largely escaped the focus of psychological research. In this entry, we consider three issues. We first consider the nature and measurement of workplace safety. Thereafter, we address psychological factors at work that promote or detract from workplace safety. Last, we focus on some of the psychological consequences of workplace safety infractions.

The Nature and Measurement of Workplace Safety

Debate continues as to the most appropriate way to conceptualize and operationalize workplace safety. Most frequently, workplace safety is measured as the number of workplace fatalities, injuries, and lost hours from work—broadly speaking, accidents. Perhaps by default, then, workplace safety is usually conceptualized as the absence of injuries and fatalities, or accidents. While acknowledging that it is not advisable to offer a definition of a construct by stating what it is not, we begin this section with a strong caution against the use of the term *accident*. Terminologically, *accident* implies an event that is random, hence neither predictable nor preventable, and with no plausible assignment of blame. Yet most postaccident workplace investigations reveal that the event in question was both predictable and preventable. As such, continued use of the term *accident* is not only descriptively inaccurate; it might also impede theorizing and empirical research, and potential misspecification will certainly detract from any comparison of preventive efforts.

Conceptualizing workplace safety in terms of accidents has other problems, too. It does not account for the facts that there are realistic concerns about the accuracy of workplace safety data, that different jurisdictions define incidents and accidents differently (e.g., what constitutes an injury), and that these data are not normally distributed. Taken together, these problems make it difficult to conduct reliable and valid research that is likely to enhance both theory and practice.

A more recent way of conceptualizing and measuring workplace safety that enhances theory and research is by focusing on safety-related behaviors rather than the consequences of not

behaving safely. Three behaviors are worthy of attention. First, some research has concentrated attention on the proximal behaviors that precede injuries. In the restaurant industry, for example, cuts and lacerations are frequent injuries, and the most proximal behaviors that might constitute working safely include being in contact with broken glass or having a knife slip while working in the kitchen. Second, research has focused on employee compliance, such as with safety regulations and supervisory requests, and might be important in the extent to which injuries and fatalities and lost time from work are reduced. Still, safety compliance does not enhance safety (as opposed to limit injuries). The third behavior, referred to as safety participation or safety initiative, reflects a set of behaviors that employees enact when they go beyond compliance with normal safety regulations to assist the organization and its members in improving safety. Employees demonstrate safety initiative when they engage in voluntary behaviors such as agreeing to serve on safety committees or discuss and implement ways to work safely with their colleagues. Together, these three behavioral aspects constitute safety performance; turning the focus in workplace safety to safety performance as opposed to workplace injuries alone might well benefit prevention-oriented research and practice.

Psychological Factors That Promote Workplace Safety

There has been a considerable amount of research on the causes of workplace safety. In this respect, we acknowledge that a large body of knowledge has accumulated on ergonomics, or human factors engineering, which is generally concerned with the optimal design of machines, equipment, and the physical environment. Although some psychological research has contributed to the field of ergonomics, such as cognitive psychology and perception, we choose to focus in this section on those aspects that are more clearly psychological, namely leadership, psychological climate, and high-performance work systems.

Leadership and Workplace Safety

Organizations typically accept without question that leadership makes a difference. Yet this belief has not been applied to the understanding and management of workplace safety; instead, a command-and-control style of management has been more likely to be implemented to achieve greater levels of employee compliance. Three streams of research now indicate that workplace safety may well benefit from high-quality leadership.

First, perhaps the longest-standing approach to understanding the effects of leadership on workplace safety has examined leaders' commitment to safety. Findings across several decades have demonstrated consistently that when leaders manifest a high commitment to workplace safety, organizations enjoy better safety records, their supervisors are more likely to use a participative style in managing safety, and employees are more motivated to work safely.

A second stream of research is based on leader–member exchange theory, within which it is assumed that when leaders enact behaviors for the benefit of employees such as employees' safety, employees will reciprocate because of a feeling of mutual obligation. Research findings show that leader–member exchanges do indeed influence safety but that this effect is indirect. In one research study, high-quality leader–member exchanges resulted in better safety communications between supervisors and team members, and it was enhanced communication that influenced safety. In another study, high-quality leader–member exchanges resulted in what the authors called *safety citizenship*, which itself may parallel safety initiative.

The third stream of leadership research is based on transformational leadership, which may be especially suited to workplace safety. Transformational leadership reflects behaviors that tangibly show concern for employees, are value based, and inspire employees to go beyond what they previously thought was unattainable and think for themselves. Meta-analytic findings have emerged on transformational leadership and workplace safety. First, paralleling research on leader–member exchange theory, effects of transformational leadership on safety seem to be indirect. Second, transformational leadership influences safety (and reduced injuries) in the extent to which it enhances perceptions of the safety climate; raises individuals' awareness of safety; increases interactions with employees in which safety issues are discussed; and, most recently, motivates employees toward (promotion-focused) or away from (prevention-focused) safety behaviors. Third, several studies show that transformational leadership behaviors can be taught, which has important implications for promoting safety.

Psychological Climate and Workplace Safety

Safety climate reflects shared perceptions regarding policies, procedures, and practices and can exist at both the team and organizational levels. Research spanning at least 4 decades has primarily investigated the consequences of group-level safety climate on various aspects of safety performance. The results of this research are both consistent and impressive. In positive safety climates (e.g., when employees believe that managers offer safety training because they want to rather than because they have to), safety performance is enhanced, and injuries are reduced in a variety of different contexts, such as private-sector organizations and military units, and at different levels, including organizational, team-level, and individual safety performance.

Research has also investigated the factors that predict positive safety climates across different levels. Although there is less research on the predictors of safety climate than its outcomes, research has demonstrated the importance of high-quality leadership (within both leader–member exchange and transformational leadership frameworks). Given the importance of safety climate to subsequent safety performance, a greater research focus on the development of safety climate is certainly warranted.

High-Performance Work Systems and Workplace Safety

In different ways, research has addressed the effects of leadership and climate on workplace safety for decades. By contrast, research assessing the effects of high-performance work systems is certainly more recent. High-performance work systems reflect a group of separate but interrelated practices that together attract, recruit, select, train, develop, motivate, and retain employees. These systems enhance conditions that encourage employees' pride in their work, extra effort, and identification with the organization's goals. Over the past 25 years, research findings have continued to demonstrate robust links between high-performance work systems and both employee attitudes and performance such as productivity, sales, and turnover.

Recent research has shown that organizations' injury rates are associated with the extent to which a high-performance work system was in place, even after controlling for critical variables such as the organizational size, organization age, and union status. However, though impressive, such studies at the organizational level cannot provide information on how employees are affected by a high-performance work system such that their safety is enhanced. A separate study conducted at the individual level of analysis enables us to understand how this takes place. Using a sample of Canadian employees in the petroleum

and telecommunications industries, the extent to which employees believed a high-performance work system was in place was indirectly associated with the number of safety incidents reported as well as their own personal safety orientation (which included employee compliance with safety regulations, willingness to take the initiative on safety issues, safety knowledge, and safety motivation). More important, this study identified how these effects emerged: Employees who believed they had access to a high-performance work system manifested high trust in management and held more positive perceptions of the company's safety climate, which in turn affected self-reported safety incidents and personal safety orientation.

The high-performance work system research just described focuses on the system as a whole. Other research has investigated individual components of high-performance work systems, and two examples of the more specific focus are described here. First, it would avail little to implement high-performance work systems if individuals were still left with boring, meaningless work over which they believed they had no control. Research shows that having a high-quality job (one in which training has been available and provides opportunities for autonomy) influences employee morale, which in turn affects workplace safety. In addition, having a high-quality job also exerts direct effects on workplace safety, presumably because autonomy promotes the learning, proactivity, and problem solving that enables preventive action.

Second, teams are an integral part of high-performance work systems and should enhance safety for several reasons: For example, they enhance cohesion, information sharing, and the extent to which individuals feel more responsible for each other's well-being. In studies in the coal mining and railway industries, employees working in teams that are more autonomous had better safety performance than their counterparts who worked less interdependently. Perhaps more tellingly, as the familiarity between team members decreased because of absenteeism, lost-time work increased.

Psychological Consequences of Workplace Safety Infractions

Not surprisingly given the enormous personal, organizational, and societal costs of safety infractions, research has long focused on factors that cause workplace injuries and fatalities. Where research has focused on the consequences of safety incidents and infractions, most studies have addressed its financial consequences, or the consequences for the organization in terms of the number of workdays lost.

There are now some data from which we can begin to understand the psychological or attitudinal consequences of being injured at work. Specifically, suffering an injury of sufficient severity to require time away from work is associated with heightened distrust of management and feelings of a lack of influence, both of which result in job dissatisfaction. In turn, this job dissatisfaction results in employees thinking about quitting the organization. It remains for research to investigate this issue further because of the *hidden* attitudinal consequences of suffering a workplace injury, both to the affected employees and to the organization. As well, research will need to focus on employees indirectly affected by injuries, such as those who might have seen the fatality or injury occur, or who might identify closely with friends or colleagues who are killed or injured on the job.

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See also [National Institute for Occupational Safety and Health/Occupational Safety and](#)

[Health Administration](#); [Occupational Health Psychology](#); [Safety Climate](#); [Workplace Injuries](#)

Further Readings

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