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Workplace Injuries

Contributors: Julian Barling & Nick Turner
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The term *workplace injury* refers to any wound or damage to the human body as a consequence of an event or a series of events in the work environment. Events in this definition refer to the manner in which the injury was produced, such as a fall from a ladder or a series of events such as repetitive strain. Workplace injuries are often referred to in different ways—for example, industrial injuries, occupational accidents, unsafe working, and incidents—a number of which implicitly presuppose no causality (accidents), blame the victim (unsafe working), or communicate a façade of unbiased detachment (incidents). We use the term *workplace injuries* here because it most accurately describes the phenomenon.

In this entry, we first provide a simple way of classifying workplace injuries and draw some examples from prevalence data summarized by the Bureau of Labor Statistics (BLS), a division of the U.S. Department of Labor. With this as background, we then describe two strands of research in industrial and organizational (I-O) psychology that have worked toward understanding the predictors of workplace injuries.

Classification and Prevalence

Taxonomies for classifying workplace injuries vary considerably, and often correspond to how governmental agencies (e.g., BLS, Occupational Safety and Health Administration [OSHA]) classify information on both workplace injuries and the industries in which they occur. Each year in the United States, for example, the BLS collects workplace injury data from thousands of work establishments. Instead of adopting a particular classification system here, however, we classify workplace injuries on two dimensions that refer to the nature of the injury and transcend industry sector: *timing* (acute or chronic) and *physical severity* (minor or major). Acute workplace injuries have sudden onset, and examples of these include cuts and bruises, sprains, needlesticks, and burns. A chronic injury persists for a longer period of time and may include a category of injuries including carpal tunnel syndrome attributed to repetitive strain (e.g., keyboarding, some assembly-line tasks). Within this definition of chronic injuries, we do not include workplace illnesses that characterize longer-term exposure to harmful substances, including poisoning and radiation, or possible interactions between these harmful substances and social contagion like sick building syndrome. Alongside injury timing, the physical severity of injuries ranges from negligible irritation to death. The consequences of a minor injury might be some on-the-job first aid, little suffering for the victim, and no significant loss of work, whereas a more major injury might involve hospitalization, more widespread suffering for the victim and family, and prolonged and even total loss of life and work.

Although workplace injuries can occur in any employment situation and wide variation does exist in workplace injuries by industry, a number of occupations and workplaces consistently rank among the most dangerous as measured by worker fatalities. For example, at the time of this writing, logging and fishing ranked as the two most dangerous occupations in the United States, with death rates nearly 31 and 37 times, respectively, that of a typical U.S. workplace (i.e., 3.3 per 100,000 full-time equivalent workers). Thus, in terms of events in dangerous occupations, falling trees in forests; drowning in open water; traveling to or from high altitudes (e.g., 57 deaths per 100,000 workers for pilots and navigators, and 31.8 deaths per 100,000 workers for roofers); working with refuse and recyclable materials (e.g., 41.2 deaths per 100,000 workers for garbage collectors); and car crashes on roads (e.g., drivers and sales workers such as pizza delivery drivers or taxi drivers face between 19.7 and 24 deaths per 100,000 workers depending on the specific job) are, on average, the most dangerous work situations facing U.S. workers. Data reported in the BLS's annual Survey of Occupational Injuries and Illnesses suggest that millions of nonfatal workplace injuries occur in workplaces

every year. Private industry, for example, reported approximately 2.95 million nonfatal injuries and illnesses in 2014. We believe that figures for nonfatal workplace injuries are conservative at best, and leave it up to the reader to explore the injury classification system, industrial and occupational rates, and systemic threats to reliable and valid workplace injury data relevant to their context.

Research on Predicting Workplace Injuries

Psychological research on the prediction of workplace injuries has two broad strands, with the first having more of a historical foothold in psychology as it has been applied to workplace injuries. The first strand of research attempts to predict the occurrence of workplace injuries from individual differences such as *accident proneness* and personality traits. Studies of workers in munitions factories during World War I described accident-prone individuals as people who had a natural propensity to be injured on the job. Researchers at the time attributed this to inadaptability on the part of the worker and went as far as suggesting that encouraging accident-prone workers to work more safely was a waste of time, perhaps even a source of unnecessary apprehension. With the enthusiastic uptake of scientific management principles at the time, the rather vague notion of accident proneness was ironically swept into industrial practice and became a popular albeit unreliable way of selecting workers for manufacturing settings. The legacy of accident proneness unfortunately pervades even modern selection approaches for safety-critical settings and deserves explicit mention here given the pervasiveness of the myth and the lack of systematic evidence of its nature.

A more methodical approach to understanding the individual differences perspective on predicting workplace injuries involves personality traits. Although the notion that workplace injuries are caused by personal characteristics is unfounded, there is moderate evidence that certain personality characteristics are correlated with injury occurrence. Meta-analytic evidence suggests modest correlations between workplace injury occurrence and some Big Five personality traits such as low conscientiousness and low agreeableness. Despite this, we note that little variation in workplace injury can be uniquely explained by these variables. From a practice perspective, it appears to be of little value to exclude the proportion of the working population that scores highly on these personality traits to avoid the possibility of workplace injuries. In the face of correlational evidence, we argue that deselecting, for example, highly neurotic employees from a workforce would make no practical difference in the number and type of injuries actually experienced; and we believe instead that a more fruitful line of inquiry should focus on the *interaction* between personality traits and characteristics of the work situation, the latter of which we discuss next.

The second strand of research in the prediction of workplace injury focuses on how people perceive their work environment, including the nature of the tasks they are required to perform such as work design and salient workplace relationships including supervisor influence. Of the two, research on the link between work design and injuries is the less definitive. Although most existing studies on this topic suggest that work characteristics are correlated with injuries, there is little consistency regarding which work characteristics are most important. For example, across a number of studies, high job control, moderate job demands, high role clarity, and low physical hazards are four important situational predictors of injury occurrence; however, other studies have found less significant relationships for all these work characteristics. In sum, although recognition of work design factors in the prevention of injury is growing, the evidence is far from clear and not causal. Although evidence of the relationship between work characteristics and injuries suffers the same lack of causal data as does the personality and injury relationship discussed earlier, we suggest that changing work

design is more instructive than selecting (or deselecting) personnel for three reasons. First, meta-analytic correlations between work characteristics and injuries are, on average, larger than those of personality and injuries. Second, there is considerable evidence of the potential of work redesign in improving other indicators of well-being such as job-related mental health. Third, redesigning work (e.g., job resources such as autonomy to handle increasing work demands) to promote healthy work is more within the control of managers for an existing workforce with a range of personality traits.

Among situational factors that are related to workplace injury occurrence, the role of high-quality leadership presently seems to provide the most compelling findings. Across a range of different theories of leadership behavior (e.g., transformational leadership, leader–member exchange theory), there are moderate meta-analytic correlations reflecting that the presence of a high-quality supervisor is related to lower injury occurrence among the supervisor's workers. High-quality leadership could affect the occurrence of injury through a number of mechanisms. For example, a caring and stimulating supervisor might heighten the general sense of how important workplace safety is and increase awareness and attentiveness, thereby reducing the risk of injuries. In contrast, a supervisor with poor leadership behaviors might not communicate concern for subordinates' well-being or generate a disaffected climate that encourages shortcuts to be taken, thereby increasing the chance of injuries. Although existing research suggests a qualitative difference between the preventative effects of high-quality leadership and the detrimental effects of poor leadership, research on the mechanisms linking leadership and workplace injuries more generally is less clear.

Julian Barling and Nick Turner

See alsoNational Institute for Occupational Safety and Health/Occupational Safety and Health Administration; Occupational Health Psychology; Safety Climate; Workplace Safety

Further Readings

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