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Safety & Job Burnout

Understanding the Complex Contributing Factors

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Professional burnout plays a significant role in workplace safety. As the details of this relationship emerge, so do risk management opportunities for safety engineers. This article highlights some of the most pertinent connections between workplace safety and professional burnout as well as interventions to improve both.

Burnout is widespread and detrimental to both employees and their organizations. Four decades ago, studies suggested that burnout exists primarily in professions that are especially emotionally challenging, such as medicine, social work and law (Maslach & Jackson, 1987). Research has since documented burnout in nearly every field.

Burnout is characterized by three traits, often measured using a version of the Maslach Burnout Inventory (MBI) (Maslach & Jackson, 1981):

- **emotional exhaustion:** often accompanied by physical exhaustion and cognitive weariness;
- **depersonalization:** in which others are perceived as or treated as objects (depersonalization can manifest as

social withdrawal, flat or irritable responses to others or as cynicism);

- **inefficacy:** in which one's efforts are felt to no longer have value or to make a difference.

Emotional exhaustion and depersonalization are the most important symptoms of burnout as they are associated

with a wide variety of adverse outcomes, both for the individual and the enterprise for which s/he works.

The cause of burnout is complicated. It is the result of an individual's attempt to cope with excessive and prolonged stress. Because burnout is caused by both individual and work/life factors, an ideal approach to prevention includes not only organizational systems but also strategies to address personal skills for managing stressful work/life environments.

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Burnout & Severe Injury

Burnout increases the rates of severe injury, both on and off the job. In 2013 Ahola, Salminen, Toppinen-Tanner, et al., examined the rate of severe injuries (leading

to hospitalization or death) in more than 10,000 forest products workers in Finland. All citizens in Finland have one national health registry number throughout their lives, allowing the researchers to collect data on severe injuries occurring both at work and elsewhere over a period of 8 years. These injury rates were then compared to the workers' MBI scores.

Ahola, et al. (2013), found that for each unit increase in the MBI score, there was a 10% increase in the risk for severe injuries. This association held true for both the exhaustion and cynicism ratings. Even more concerning is that when the results were divided into groups based on how frequently burnout symptoms were experienced, those who experienced burnout symptoms at least once a month saw a 19% increase in their risk of serious injury as compared to people who experienced burnout symptoms less often. The researchers concluded that "burnout is a risk factor for future severe all-cause injuries."

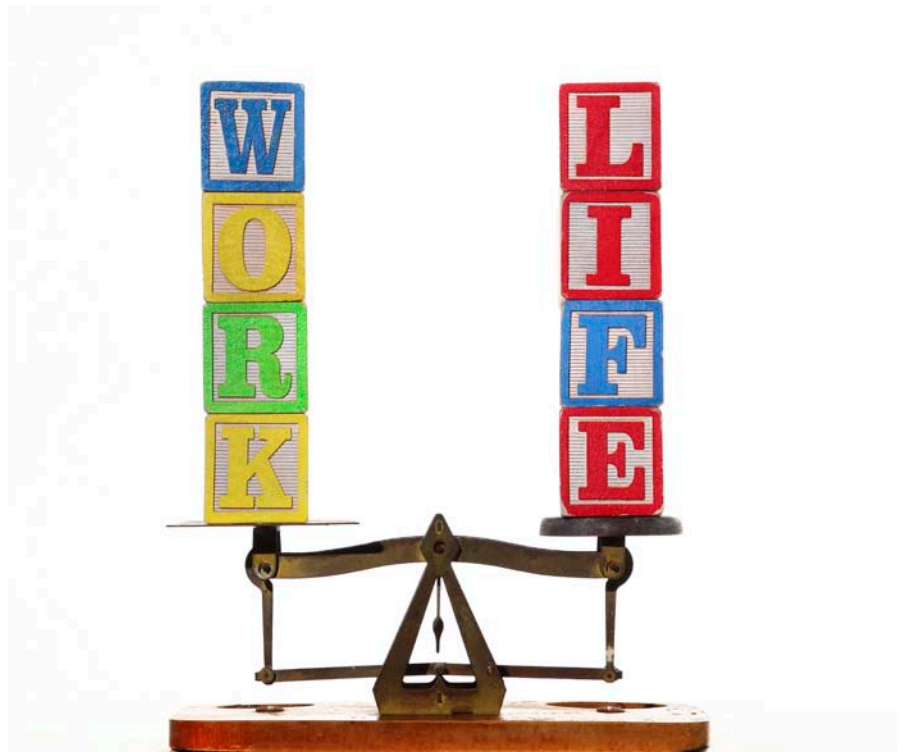
Burnout & Errors

Workplace errors in healthcare have a significant potential for harm, both to the patient and to the healthcare provider. Some studies have documented that medical errors occur more frequently as the result of burnout, which occurs at a very high rate among doctors and nurses.

It is true that errors are also related to organizational issues such as staffing levels and overtime. A multi-industry review published by the CDC concluded, "overtime was associated with poorer perceived general health, increased injury rates, more illnesses or increased mortality in 16 of 22 studies" (Caruso, Hitchcock, Dick, et al., 2004).

However, a 1-year study of 161 hospitals in Pennsylvania analyzed the results of improving the patient-to-nurse ratio by increasing staffing (Cimiotti, Aiken, Sloane & Wu, 2012). At the same time, the researchers examined two phenomena: nurse burnout and patients' hospital-acquired infections (those that arise while the patient is being treated for other conditions). A multivariate analysis, controlling for patient severity and nurse and hospital characteristics, including staffing levels, found that "only nurse burnout remained significantly associated with urinary tract infections and surgical site infections."

Cimiotti, Aiken, Sloane, et al., theorized that the improvement in staffing levels reduced nurse burnout by reducing nurses' patient caseload. For patients, the results



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were highly significant. By reducing nurse burnout by 30%, hospitals reported 30% fewer hospital-acquired infections in patients. This led to an estimated cost savings of up to \$68 million. Given that insurance providers nationwide often deny payment for costs associated with these infections, these savings are especially significant. Cimiotti, et al., concluded, "By reducing nurse burnout, we can improve the well-being of nurses while improving the quality of patient care [at] a much lower cost than those associated with healthcare associated infections."

Sometimes, however, the cause of burnout cannot be so directly tied to workload. For example, a recent influential study of major medical errors made by surgeons found no relationship between errors and the number of hours worked per week or the number of nights on call per week (Shanafelt, Balch, Bechamps, et al., 2010).

In that study of 7,905 U.S. surgeons, 700 doctors (9%) reported having made a "major error" in the previous 3

months. These errors were strongly associated with physician distress, specifically, burnout. Thus, as the study's authors point out, addressing system issues such as coordination of care, teamwork, electronic systems and so on, while necessary and useful, will not be adequate unless amelioration strategies also incorporate efforts toward reducing physicians' degree of emotional distress and burnout.

Other studies have documented the relationship of medical errors with burnout, although it must be noted that a French study of ICU doctor-nurse teams showed depression, rather than burnout, was more likely the factor driving medical errors in this setting. Nevertheless, burnout was documented as high in this environment as well (Garrouste-Orgeas, Perrin, Soufir, et al., 2015).

Burnout & Absenteeism, Turnover Intent & Life Satisfaction

Numerous studies suggest that burnout leads to absenteeism and turnover. Since absenteeism and turnover lead to staffing challenges that create safety concerns, these business problems are also areas of concern for the safety engineer. This is a major concern a maximum-security prison.

Many studies have shown that job burnout is a problem among correctional staff. Researchers are now beginning to turn to the consequences of burnout in corrections. A recent study in a maximum-security prison extends the data on the outcomes of burnout.

Increases in the emotional burnout index were associated with decreased levels of life satisfaction and support for treatment of inmates. Conversely, increased levels of emotional burnout were related to increased support for punishment, absenteeism, views that sick leave is an entitlement and turnover intent (Lambert, Barton-Bellessa & Hogan, 2015).

The authors called for further research to determine whether burnout could also be leading to staff mistakes in corrections institutions (as it did for surgeons and by inference, for nurses).

Burnout Affects Safety

Recently, more and more companies have been taking steps to reduce stress and burnout, especially given NIOSH's with the recent emphasis on **Total Worker Health**. The business case for doing so includes cost reduction, employer reputation and reduction of legal risk. Safety is another major motivational factor. In fact, NIOSH asserts, "keeping workers safe is fundamental to Total Worker Health" (Burton, 2007 and Virgin Pulse, 2015).

Measuring burnout within the organization does not need to be complicated or expensive. The MBI discussed earlier is the gold standard test. The 22-item test is easy

to license. If an organization does not require as much detail, a simpler two-question survey has shown a high degree of correlation with MBI (West, Dyrbye, Satele, et al., 2012). Researchers evaluated responses to two items:

- "I feel burned out from my work."
- "I have become more callous toward people since I took this job."

Safety-Oriented Burnout Interventions

Many burnout interventions focus on the organizational level, using Leiter and Maslach's (2004) six areas of work life: workload, control, community, reward, fairness and values.

From the individual perspective, more than 4 decades of medical literature on burnout have produced at least 60 personal skills and behaviors that can also help to mitigate burnout. Loomis (2015) categorizes these skills and behaviors into five broad areas:

- self care;
- reflection and recognition;
- community;
- coping styles;
- structure.

The relative strength of the factors and skill levels found in each of these areas can then be assessed and targeted for interventions designed to reduce the individual's vulnerability to burnout.

Following are examples of factors or skills in each area that have been documented to reduce burnout and improve safety.

Self Care

Self care studies show that when sleep is threatened, the worker is at great risk of burnout and therefore incidents and injuries. The safety engineer is certainly no stranger to the risks of sleep deprivation, and burnout can be added to that list of risks. American College of Occupational and Environmental Medicine's (ACOEMs) 2012 guidance statement, "**Fatigue Risk Management in the Workplace**" offers a definitive article on sleep deprivation.

Reflection & Recognition

Mindfulness, categorized under reflection and recognition, is well-recognized to confer benefits that improve stress, attention, cognitive judgment and emotional volatility. For example, Flook, Goldberg, Pinger, et al. (2013), documented success in reducing burnout of public elementary school teachers through a mindfulness-based stress reduction course. And, according to a recent meta-analysis, mindfulness meditation programs provide some benefit in reducing psychological distress (Goyal, Singh, Sibinga, et al., 2014). However, authors of the meta-analysis note that mindfulness likely requires ongoing training and practice to show benefits.



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Community

Feeling connected to others and finding meaning in one's connection can be drained by burnout; recovering community connections actively fights burnout. Training in mentoring and providing organizational support to mentor programs that minimize emotional exhaustion can help to reduce burnout (Thomas & Lankau, 2009).

Coping Styles

Coping skills refers to a knowledge base and facility in a variety of problem-solving styles. For example, Michie and Williams (2003) literature review of studies in a range of industries looked at various interventions that increased problem solving skills and involvement in decision-making at work. The authors concluded that many of these interventions "successfully improved psychological health [at work] and reduced sickness absence."

Structure

One area in the structure skills cluster that helps reduce burnout risk is to take a look at the organization's culture around multitasking. Many people take pride in their ability to do this, although the research suggests that multitasking reduces most people's ability to function on any specific task and may also add to their stress. Further research shows that while some "super-taskers" are able to multitask well, these supertaskers

are estimated to be only 2.5% of the population, or 1 in 40 (Strayer & Watson, 2012). In an environment where multitasking is a job requirement, such as in emergency medicine, this skill must be carefully taught and evaluated (Heng, 2014) in order to reduce burnout and increase safety along multiple dimensions.

Safety Culture & Burnout

Not surprisingly, studies that look specifically at safety culture and burnout, and at the opposite of burnout, engagement, have found links. In a study of 1,425 doctors and nurses, Welp, Meier and Manser (2015) concluded:

At least in the short-term, clinicians seem to be able to maintain safety despite high workload and low predictability. Nevertheless, burnout poses a safety risk. Subjectively, burntout clinicians rated safety lower and objectively, units with high emotional exhaustion had higher standardized mortality ratios. In summary, our results indicate that clinician psychological health and patient safety could be managed simultaneously.

In meta-analysis of 206 studies across industries, Nahrang, Morgeson and Hofmann (2011), found that burnout reduced the ability to work safely, but that engagement motivated employees and supported working safely.

Conclusion

Professional burnout is complex. It has many implications for worker safety and its prevention requires a sophisticated approach. Burnout reduction and prevention fits well into the Total Worker Health paradigm, which requires both organizational and individual approaches to ensure worker safety and health. ■

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