

Human oriented occupational safety as an approach to psychological safety

Aim

In this paper, we present our theoretical framework and practical model, Human Oriented Occupational Safety (HOS), to develop work and safety from psychological viewpoint. We have developed HOS as an integrative perspective that combines the lessons learnt from the past safety paradigms and utilizes the current views of Human Factors (HF) and safety management.

Theoretical background

The traditional reason for the need to implement HF approach has been that HF contribute to the majority of workplace events and incidents. There are still other reasons for taking human contribution into account. First, our *functional environment* is becoming increasingly complex, dynamic, uncertain, and fragmented, with contributing and interrelating megatrends of climate change, globalization, and technological innovations. This turbulence affects the way work is performed, organized and led. The more complicated our functional environment, the more mutual collaboration and distributed knowledge among organizations and teams is needed, to proactively tackle potential risks. We need broader, systemic models and networks to anticipate and cope with risks. Second, future safety threats may concern aspects of '*mental or psychological safety*', although physical risks still emerge in traditional industrial fields. Today's increasingly overheating work life is challenging people through continuous change, new competence demands and the need to balance different areas of life. A resilient, 'mentally healthy organization' better mitigates safety risks. Third, several safety-critical fields such as transport sectors and energy production have *mandatory requirements* to apply HF in their safety management systems. They need continuous mastery of HF to maintain their licences of operations. Fourth, workplaces and professional fields are *constantly striving for safety improvements*, for which they need practical solutions and concrete facilitation.

Approach

The HOS is conducted by a multiprofessional team with seven members with specialized competences from cognitive ergonomics, group dynamics, and to work and organizational development, resilience, pedagogics, engineering and system design. The main theoretical framework and practical tool for HOS implementation has been the HF Tool, which describes the levels and details of human contribution as a four-leaf model. The model has been applied for the last 20 years in transport sectors, nuclear industry and public sector, to improve the awareness of HF, and to take HF into account as a part of safety practices. The three elements of success in applying HOS have been a systemic, holistic view to HF, participative manner to apply HF at all organizational levels, and a solution-based, positive view to people.

Results

HOS research and development projects have shown several benefits. Increased awareness of the relevance of and competence in HOS has improved the capability of organizations to create a just and fair culture. They have more deeply and openly learnt to analyse the contributing factors of operative events, also from a positive view, thus leading to more accurate corrective actions and

sharing lessons learnt. Workplaces have established new HF-focused procedures for improving recruitment and occupational health care processes and colleague-to-colleague mental first aid, fostering recovery in post-incident reactions. HF thinking and the toolkit have provided ways to have open discussions in the workplace. For example, it has been found that managers are better able to have constructive discussions with their employees regarding safety. Through HF projects, it has been easier to motivate and commit people to the development of safety, as there has been a positive starting point in the development of safety. However, clear boundaries can also increase the sense of safety: abuses or arrogant actions that undermine safety need to lead to fair sanctions. Bad practices are allowed to be identified and delimited in practice.

Limitations

The HF Tool has been evaluated using Reason's (2008) six criteria on what a proper accident investigation tool should have. According to the criteria, the HF Tool fits the users' knowledge and understanding and helps to make sense about situations. It is easy to communicate and to be shared. However, it does not find out all the possible latent factors, anticipate future events or functionality of processes. Also, the study conducted in the nuclear industry showed that the strength of HF Tool is its applicability, but it has limitations in tackling systemic nature of the complex intertwined systems. Thus, it would be best to combine it with other models or methods.

Relevance to Congress Theme

This study utilizes knowledge of individual, work and organizational psychology combined to engineering and pedagogics and creates new theory and practice for industry and academia.

Relevant UN SDGs

Our SDGs are safety, health, and well-being. We believe that our study findings will facilitate workplaces' future climate actions.