

Construction Workplace Trends and Work Health and Safety

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1. Introduction

Construction workplaces are experiencing rapid changes as a result of digitalization, globalization, industrialization, and sustainability. The workplace changes have a significant impact on the ways that people work, the environments that they work in, and the conditions under which they perform their everyday job activities.

This Special Issue was motivated by the need to understand and explore how the trends and changes within construction workplaces, such as technological innovations, sustainability, organizational resilience, offsite construction, cultural and demographic diversity, influence or shape the work health and safety (WHS) management and practices in the construction industry.

This Special Issue collected six articles that addressed different aspects of construction workplace trends and evaluated their impacts on WHS practices and performance.

2. COVID-19 and WHS

The COVID-19 pandemic has had a significant impact on workplaces worldwide. Companies and their employees are required to adapt to new ways of working and maintain their operations. Wu and Liu [1] examined the impact of policy formalism, COVID-19 fear, social support, and work stress on the anxiety of construction workers during the pandemic using data collected from 743 construction site workers in Taiwan. Their findings show how policy formalism affects COVID-19 fear which causes anxiety and work stress, and how work stress mediates the relationship between COVID-19 fear and anxiety. The findings may provide some theoretical support for governments, organizations, and employees in responding to future public health emergency events.

3. Building Resilience for WHS Management

Building resilience has become a trend in modern organizations. Organizations in today's fast-paced and unpredictable business environment are increasingly relying upon building resilience to maintain their competitive advantages and sustainable development. WHS is one of the key areas in which organizations are investing in building organizational resilience. A lack of resilience has been recognized as a major limitation of traditional safety management and safety culture approaches. A resilient safety culture is characterized by the capability of addressing the changing and unforeseen safety risks associated with the increasingly complex nature of sociotechnical systems, and by creating an ultrasafe organization [2]. Trinh and Feng [2] used the maturity modeling approach to operationalize the development of a resilient safety culture in construction organizations. Their model defines the characteristics of resilient safety culture in a construction organization at each maturity level. The maturity model may provide practical guidance for those organizations who have high WHS ambitions to engineer resilience into their culture and management practices.

4. Globalization, Cultural Diversity and WHS

Cultural diversity refers to “the existence of two or more persons from different cultural groups in any single group or organization” [3]. The construction industry in many



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countries, such as Australia, Singapore, US, and the UK, has become a culturally diverse workplace. It is thus necessary to investigate whether and how cultural diversity can influence WHS in construction workplaces, and further how organizations and individuals can respond to this workplace trend. Liu et al.'s [4] review paper synthesized and analyzed theories and models of stress and coping, proactive coping, occupational stress, acculturative stress, and intercultural competence, and developed a conceptual model for managing mental health in a multicultural construction workforce. Their review also explained the practical implications for construction organizations and workers in relation to their conceptual model, and provided implications for future research.

5. Demographics (e.g., Young Workers, Older Workers, and Female Workers) and WHS

WHS management and performance may be affected by the demographic characteristics of workforce such as age, gender, education level, ethnicity, and language. For example, different age groups may have different health and safety concerns, risk perceptions, learning curves, and competencies. It is important for organizations to take the demographic characteristics of their workforce into consideration when developing and implementing WHS interventions. Ni et al. [5] attempted to address the issue of the aging workforce and labor shortages faced by the construction industry in China, and examined how the construction industry can retain and attract younger generations. The factors impacting the job satisfaction of the new generation construction workers were identified, and their implications for decision makers were discussed.

6. Systems Thinking and WHS

A construction organization consists of various interrelated components, processes, and subsystems that interact with each other, making the organization a complex system. Systems thinking is “a systems of thinking about systems” [6], which views a problem as a complex system rather than as a collection of isolated components. By recognizing the complexity of construction projects and applying the systems thinking principles to WHS, Makki and Alidrisi [7] explored the interrelationships among the systems-thinking-based leadership competencies and how safety performance can be improved by building these competencies. Their model may offer a systems-thinking-based path for safety leaders to develop proactive leadership behaviors.

7. Incentivization and WHS

As noted by Liu et al. [8], reward and punishment is a common mechanism utilized improve workers' safety behaviors. However, it is challenging to develop a reward and punishment mechanism that not only improves the safety performance, but also improves the financial performance of construction enterprises and construction workers [8]. Liu et al. [8] attempted to address this challenge by applying the differential game theory. They found that the safety reward and punishment mechanism and the income sharing mechanism, provided specific conditions are met, can be mutually beneficial to the construction enterprise and construction workers. Their findings would be of interest to those organizations aiming to improve their WHS performance by designing or updating their safety reward and punishment systems.

8. Moving Forward

The trends and changes in the construction industry and in individual workplaces present both challenges and opportunities for improving the WHS performance of construction organizations. Therefore, it is critical for organizations to recognize the trends and changes and consider them when developing WHS interventions.

Given the fast-paced and unpredictable business environment and the increasingly complex nature of construction projects, there are many other emerging trends and changes in construction workplaces. This Special Issue is expected to spark further interest in researchers, prompting them to delve deeper into this area.

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