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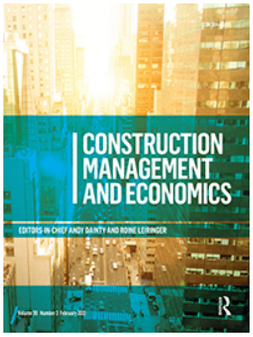

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Special issue: what have we learnt from the COVID-19 global pandemic: improving the construction industry's abilities to foresee, respond to and recover from future endemic catastrophes

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Background

In an increasingly interconnected world, the global spread of COVID-19 was rapid. On 30 January 2020, the WHO declared the outbreak a Public Health Emergency of International Concern and on 11 March 2020, it was proclaimed a pandemic. The direct health impacts of the pandemic have been far-reaching and devastating. Within a short period of time, COVID-19 altered the way people live, interact and work across the globe.

In attempts to slow down the rate of infection, governments across countries implemented a range of measures including but not limited to mobility restrictions, physical distancing, hygiene measures, socio-economic restrictions, mass communication programs and international support mechanisms (de Bruin *et al*. 2020), to varying degrees of success. de Bruin *et al*. (2020) observed that some countries have fared better than others in curbing the spread of the virus, which may be attributed to variation in the level of risk mitigation measures implemented and the timing of governments' policy responses to the escalating risk. In the context of business operations, the effectiveness of responses to COVID-19 is also dependent on industrial and organizational resilience, disaster preparedness and adaptive capacity (Bryce *et al*. 2020, Saurin 2020).

During the pandemic, construction industries across the globe have worked tirelessly to adapt to the COVID-19 challenges by initiating and implementing various intervention measures to maintain business continuity while ensuring the health, safety and well-being of all personnel involved. The construction industry is embedded within larger social, political and economic systems within national, and sometimes international, contexts. The industry's response to the pandemic and its ultimate impacts are therefore likely to be affected by many factors relating to the features of the social system, prevailing government and policy frameworks and the state of the economy within which the industry operates.

Variation in the timing and effectiveness of national and industrial preparedness, prevention and response measures during COVID-19 provides a valuable opportunity to compare and contrast approaches and share information that can help the global construction industry to better anticipate, plan, implement and maintain risk mitigation measures for future natural or man-made threats to global health security. International information sharing and learning are critical to reducing the vulnerability of the global construction industry to significant trans-boundary crises in the future.

Aim of the special issue

Public health experts have strongly supported the need for companies to play their part in the global management of the COVID-19 pandemic, by providing training, screening, health surveillance and care (Fadel *et al*. 2020). Occupational health and safety issues have become critical strategic concerns for organizations and industry sectors when making decisions about the management of business operations during the pandemic (Caligiuri *et al*. 2020).

There is emerging research documenting successful adaptations made by construction organisations to minimise the health and safety impacts of COVID-19, including modified work practices, flexible work

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arrangements, improved hygiene practices and welfare facilities (Jones *et al*. 2020). While the COVID-19 pandemic has created significant challenges for the construction industry, it has also prompted researchers and practitioners to reflect on the lessons that have been and continue to be learned and the role that the effective management of health, safety and well-being has played (and can continue to play) in ensuring organizational resilience and business continuity.

The aim of this special issue is to analyse, understand and document the way in which construction industries across the globe have responded to and experienced (and continue to experience) the COVID-19 pandemic, as well as what they have learnt during this extraordinary period. The special issue seeks to collate evidence as to what worked well and what did not, and why, and to identify and share lessons learned in relation to strengthening the global construction industry's risk governance mechanisms, bolstering organizational resilience and reducing vulnerability to transboundary crises that might arise in the future.

This special issue focuses on the variety and effectiveness of health and safety management responses at: macro (industry/policy), meso (organizational/project) and micro (workgroup/individual) levels implemented by the global construction industry in response to the COVID-19 pandemic.

Themes for the special issue

Mental health impacts

There is emerging evidence to suggest that depressive symptoms and anxiety symptoms are higher during the COVID-19 pandemic compared to previous epidemiological data. A survey of 5070 Australian adults during the COVID-19 pandemic found that 78% of respondents experienced deteriorated mental health compared to the beginning of the COVID-19 pandemic (Newby *et al*. 2020). More than 50% of participants reportedly experienced elevated psychological distress, depression, stress and anxiety, which were attributed to feelings of uncertainty about the future, loneliness and financial concerns (Newby *et al*. 2020). Other reasons for the impacts of COVID-19 on mental health have been identified as feeling socially isolated and missing out on daily interactions with family, friends and co-workers (Hallin 2020). However, not all research points to deteriorating mental health during the pandemic. Recchi *et al*. (2020), for instance, analysed longitudinal panel data collected in France during an enforced period of lockdown in response to COVID-19 to find that health outcomes are unevenly distributed. Recchi *et al*. (2020) measured health using a composite indicator of subjective "well-being" and lockdown-related "stress" and found most participants reported an improvement in health during lockdown. However, those who reported longer work hours and less frequency of going out experienced the highest levels of stress, and those who were categorized as blue-collar workers experienced a decline in their health (Recchi *et al*. 2020).

Given this ambiguity, we encourage prospective authors to consider mental health impacts in the construction workforce during the COVID-19 pandemic. For an industry across the globe struggling to control elevated levels of alcohol and substance abuse and alarming suicide rates (Considerate Constructors Scheme 2020, Flannery *et al*. Forthcoming), it is likely that this pandemic has exacerbated some important human resource management problems. Questions to consider may include:

- To what extent has COVID-19 adversely impacted the mental health of construction workers?
- Are different sub-groups of construction workers at greater risk of mental health impacts?
- What short- and long-term initiatives can be implemented to support and protect the mental health of construction workers during trans-boundary crises, such as a global pandemic?

Vulnerable groups

While the COVID-19 pandemic has affected the whole workforce in the construction industry, there is emerging evidence to suggest that it has a greater impact on some groups of workers who are more vulnerable than others. The vulnerability is likely to escalate the health, safety and wellbeing risks posed by COVID-19 among these worker groups, leading to health inequalities in the construction workforce (Brown *et al*. 2020). A survey of 436 teleworkers in Lithuania during the COVID-19 pandemic revealed that older workers emphasised disadvantages of telework, including difficulties with using technology, self-organisation, separating work from personal life, and lack of direct interaction with managers and team members (Raišienė *et al*. 2020). Bouziri *et al*. (2020) also note that behavioural and psychosocial health risk factors associated with social isolation in the pandemic environment are likely to be more acutely experienced by people with addictions or pre-existing psychological vulnerabilities. Inferentially, this is supported by

Newby *et al*. (2020) who found that the experience of negative feelings and distress among Australian adults during the COVID-19 pandemic was significantly higher in participants with a pre-existing mental health condition.

Vulnerability of migrant construction workers became even more obvious during the COVID-19 pandemic. For example, in Singapore, migrant workers were housed in congested dormitories isolated from the rest of the population and had less access to masks (Geddie and Aravindan, 2020, Koh 2020), making infection risk among migrant workers significantly higher than the rest of the population. Similar issues were noted in other countries, which reinforced the need to ensure the safety and health of migrant construction workers. It is important to draw lessons from the on-going pandemic to ensure that migrant workers are protected from future pandemics and disease outbreaks.

We therefore welcome studies that examine the health, safety and well-being experiences of vulnerable workers groups in construction, including migrant workers, low-income workers and workers with chronic health conditions. Questions to consider may include:

- How has the COVID-19 pandemic impacted the health, safety and wellbeing of vulnerable worker groups?
- What are the factors influencing the vulnerabilities of different sub-groups?
- What can be done to reduce health disparities that may be increased during trans-national crises, such as a global pandemic?

Gendered impacts of COVID-19

The COVID-19 pandemic has affected men and women differently (Wenham *et al*. 2020). Collins *et al*. (Forthcoming) observed that the pandemic has affected women's employment disproportionately compared to men's and exacerbated gender inequality in the labour force. Before the COVID-19 pandemic, on average, women dedicated 3.2 times more hours than did men to unpaid care work globally (Addati *et al*. 2018). The pandemic has forced mass closures of childcare facilities and schools, which has substantially increased the demands of caregiving and home-schooling for working parents. Women are likely to be burdened with additional family care tasks. Collins *et al*. (Forthcoming) investigated work hours among dual-earning heterosexual couples with children and reported that mothers' weekly work hours significantly decreased while fathers' weekly work hours remained largely unchanged between February and April 2020, and that mothers with children aged below thirteen reduced their weekly work hours over five times as much as did fathers during the same period. It appears that women take on greater caregiving responsibilities at the expense of paid work which, in the longer term, will heighten the gender gap in domestic labour and lead to stunted opportunities for career advancement, higher risk of job loss and a more precarious economic position for women (Collins *et al*. Forthcoming).

Many women are juggling increased unpaid care work while contending with losses in income and paid work during the pandemic (Azcona *et al*. 2020). Women's health and well-being are likely to be impaired due to the pressure of meeting both family and work demands. A global poll across 165 countries shows that more women than men have experienced health issues of insomnia, anxiety, depression, migraine, over-eating and under-exercising as a result of COVID-19 (IPSOS 2020). Similarly, a survey conducted in Spain indicates that women experienced greater psychological impact than men during COVID-19 lockdown (Ausín *et al*. Forthcoming). Specifically, women reported more symptoms of depression, anxiety and post-traumatic stress disorder (PTSD), more feelings of loneliness and less spiritual well-being than men. These findings suggest that in an already male-dominated industry, the adverse impacts of COVID-19 may be experienced by women more and the resulting damaging consequences could be long-lasting.

We therefore welcome studies that investigate how COVID-19 has produced gendered impacts in the construction industry. Questions to consider may include:

- What are the gendered impacts of COVID-19 pandemic in relation to health, safety and wellbeing?
- How can a gendered analysis be incorporated into policies and interventions to improve the effectiveness of responses to trans-boundary crises, such as a global pandemic as well as to promote gender and health equity?

Opportunities and unanticipated impacts

The disruptive nature of COVID-19 has compelled many industries and organisations to promptly transform their business processes and operational practices through using digital technologies,

communication platforms, and information systems (Kamal 2020). To a certain extent, the pandemic has provided an opportunity for organisations to change "business as usual" and engage in innovation and transformation. However, the rapid escalation of the COVID-19 pandemic necessitated industries and individual organisations to respond quickly, with relatively little time for detailed planning and workforce preparation (Bouziri *et al*. 2020). This is likely to cause unintended consequences.

Many workers, including project-based construction professionals and managers shifted to home-based teleworking in some capacity to reduce numbers of people in project offices and maintain social/physical distancing. While teleworking ensured the continuity of business operation, research evidence shows that teleworking during COVID-19 may lead individuals to experience increased risk of job burnout, heightened work-family conflict, and a decline in mental health (Hallin 2020, Kniffin *et al*. 2020). Many construction organizations have quickly adapted to remote meetings to facilitate collaboration and information sharing and some organizations have also implemented virtual site tours to monitor progress on site and conduct quality assurance (Jones *et al*. 2020). While the adoption of digital technologies has the potential to improve time efficiency and productivity, the reduced informal social networking may also have an impact on individuals' attitude towards work and well-being (Welfare *et al*. 2019).

The pandemic has led many organisations to embrace new ways of thinking, planning and performing. Evidence from the UK construction industry shows that site work has been planned more thoroughly to decrease overlapping between trades and reduce the number of workers onsite, which has protected the safety of workers, streamlined workflow and increased worker productivity (Jones *et al*. 2020). Nevertheless, there are also concerns that workers may experience the risk of increased fatigue due to fewer opportunities to take informal down-time. Even within upper-management, personnel responsible for planning and management may experience higher workload pressures owing to the constant appraisal of changing work environment and conditions.

The continued operation of the construction industry during the pandemic has been reliant on the ability to demonstrate that occupational health, safety and workers' well-being could be effectively and reliably managed. Occupational health, safety and well-being has therefore assumed a more significant strategic role than usual in businesses during this time. It is important to understand how the systems and processes for the management of occupational health and safety and promotion of construction workers' well-being have been re-positioned and how the culture in relation to health, safety and well-being has been changed as a result of the COVID-19 pandemic.

We therefore welcome studies that examine opportunities that have emerged as a result of the COVID-19 pandemic and associated impacts. Questions may include:

- What new practices have been implemented and evaluated and/or what future scenarios can be envisioned that have the potential to improve the construction industry's preparedness to trans-boundary crises, such as a global pandemic?
- What are the health, safety and well-being implications of new practices in the construction industry resulting from COVID-19?
- How can the industry sustain the new practices resulting from COVID-19 and reduce the associated negative impacts?
- To which extent has the COVID-19 pandemic changed the strategic position of occupational health, safety and wellbeing, and what are the implications for future construction operations?
- To which extent has the COVID-19 pandemic changed the cultural assumptions and values in relation to health, safety and wellbeing in the construction industry?

Local conditions and experiences

The impacts of local conditions, institutional contexts, regulatory frameworks, structures of governance and cultures also have relevance for the way in which sectors, organizations and individuals have responded to the COVID-19 pandemic. This includes the levels of trust, acceptance of and compliance with critical risk mitigation measures shown by communities locally and nationally. Due to differing priorities, beliefs, and constraints, responses to COVID-19 have been unique and have sometimes produced counter-intuitive outcomes. A number of external factors ranging from psychological to political factors contribute to the acceptance and dissemination of highly counterproductive misinformation related to COVID-19 (Miller 2020). For example, in Singapore, Wong and Jensen (2020) report that the high level of trust placed by the population in the government was surprisingly related to the initial lower levels of perceived risk and

relatively low compliance with COVID-19-related health and safety risk control measures. Huynh (2020) reports that national cultural factors influence the extent to which people comply with COVID "rules" (e.g. limits placed on the numbers of people allowed to gather in groups). Compliance with social distancing requirements is reportedly higher in countries with predominant cultures that are high in uncertainty avoidance.

Additionally, Anderson *et al.* (2020) pointed out that government decision-making in relation to mitigation strategies influence the course of a pandemic. A range of interventions can be used to mitigate a pandemic. The selection of interventions is dependent on the main mitigation objectives decided by the government policy makers, who need to prioritise potentially conflicting objectives, e.g., minimising mortality, avoiding a peak that overwhelms the health-care services, or limiting the social-economic burden of social distancing interventions (Hollingsworth *et al.* 2011). Addressing the trade-off between containing virus transmission and limiting economic and social impacts is a challenge for government policy makers. It is likely that countries of different socio-economic levels have responded to the COVID-19 pandemic through different mitigation strategies with varying considerations, which subsequently influence the strategic decisions, management plans and actions at the industry and organisational levels.

We therefore welcome studies that examine how local conditions have shaped the ways that construction industries and the construction workforce have responded to the COVID-19 pandemic across countries. Questions included:

- How have construction organizations managed health, safety and well-being in particular ways?
- What is the role of local conditions in affecting the ways that construction organizations and workforce have responded to the COVID-19 pandemic?
- Have interventions imposed within the construction industry differed in developed and developing countries? If so, how have they differed?
- How have the formal and informal construction industry sectors in both developed and developing countries responded to the pandemic?

Key dates

Full paper submission open: January 2021
Extended abstract submission deadline*: until 30 April 2021
Full paper submission deadline: 1 October 2021
Publication of the special issue: Planned for September 2022 (accepted issues will appear online ahead of publication)

*Prospective authors are required to submit extended abstracts, which will provide an opportunity for authors to seek feedback from the guest editors and to receive confidence that the paper proposal is within the scope of this call. Abstracts should be no more than 1000 words in length including references and should clearly state the research rationale and purpose/aim, the research problem or theoretical question being addressed, the research methods, and an indication of the key findings.

Informal queries regarding this special issue can be directed to Distinguished Professor Helen Lingard, helen.lingard@rmit.edu.au. For more general queries about *Construction Management and Economics*, please write to Prof. Paul W. Chan, p.w.c.chan@tudelft.nl.

References

Addati, L., *et al.* 2018. *Care work and care jobs for the future of decent work*. Geneva: International Labour Organization. https://www.ilo.org/global/publications/books/WCMS_633135/lang–en/index.htm [Accessed 25 November 2020].

Anderson, R.M., *et al.*, 2020. How will country-based mitigation measures influence the course of the COVID-19 epidemic? *The lancet*, 395 (10228), 931–934.

Ausín, B., *et al.*, Forthcoming. Gender-related differences in the psychological impact of confinement as a consequence of COVID-19 in spain. *Journal of gender studies*.

Azcona, G., *et al.*, 2020. *Spotlight on gender, COVID-19 and The SDGs: will the pandemic derail hard-won progress on gender equality?* https://www.unwomen.org/en/digital-library/publications/2020/07/spotlight-on-gender-covid-19-and-the-sdgs.

Bouziri, H., *et al.*, 2020. Working from home in the time of covid-19: how to best preserve occupational health? *Occupational and environmental medicine*, 77 (7), 509–510. http://dx.doi.org/10.1136/oemed-2020-106599.

Brown, S., Brooks, R.D., and Dong, X.S., 2020. *Coronavirus and Health Disparities in Construction Data Bulletin*, CPWR - The Center for Construction Research and Training, June. https://www.cpwr.com/update_newsletter/new-data-bulletin-examines-the-coronavirus-and-health-disparities-among-construction-workers/.

Bryce, C., *et al.*, 2020. Resilience in the face of uncertainty: early lessons from the COVID-19 pandemic. *Journal of risk research*, 23 (7–8), 880–887.

Caligiuri, P., *et al.*, 2020. International HRM insights for navigating the COVID-19 pandemic: implications for future research and practice. *Journal of international business studies*, 51, 697–713.

Collins, C., *et al.*, Forthcoming. COVID-19 and the gender gap in work hours. *Gender, work & organization*. https://doi.org/10.1111/gwao.12506.

Considerate Constructors Scheme, 2020. *Spotlight on…. drugs and alcohol*. Considerate Constructors Scheme. https://ccsbestpractice.org.uk/spotlight-on/drugs-and-alcohol/#the_campaign [Accessed 4 Dec 2020].

de Bruin, Y.B., *et al*., 2020. Initial impacts of global risk mitigation measures taken during the combatting of the COVID-19 pandemic. *Safety science*, 128, 104773.

Fadel, M., Salomon, J., and Descatha, A., 2020. Coronavirus outbreak: the role of companies in preparedness and responses. *The lancet. Public health*, 5 (4), e193.

Flannery, J., Ajayi, S.O., and Oyegoke, A.S., Forthcoming. Alcohol and substance misuse in the construction industry. *International journal of occupational safety and ergonomics*,.

Geddie, J. and Aravindan, A., 2020. *In Singapore, migrant coronavirus cases highlight containment weak link*. https://www.reuters.com/article/us-health-coronavirus-singapore-migrants-idUSKCN21X19G [Accessed 1 Dec 2020].

Hallin, H., 2020. *Home-based telework during the Covid-19 pandemic*. Master Thesis. Mälardalen University, Sweden.

Hollingsworth, T.D., *et al*., 2011. Mitigation strategies for pandemic influenza A: balancing conflicting policy objectives. *PLoS computational biology*, 7 (2), e1001076.

Huynh, T.L.D., 2020. Does culture matter social distancing under the COVID-19 pandemic? *Safety science*, 130, 104872.

IPSOS, 2020. More suffering from under exercising, anxiety than other health concerns due to COVID-19: poll. https://www.ipsos.com/en-us/news-polls/more-suffering-under-exercising-anxiety-other-health-concerns-due-covid-19-poll [Accessed 25 Nov 2020].

Jones, W., Chow, V., and Gibb, A., 2020. *COVID-19 and construction: early lessons for a new normal?* Loughborough: Loughborough University. https://www.balfourbeatty.com/media/318555/covid19-and-construction-early-lessons-for-a-new-normal.pdf.

Kamal, M.M., 2020. The triple-edged sword of COVID-19: understanding the use of digital technologies and the impact of productive, disruptive, and destructive nature of the pandemic. *Information systems management*, 37 (4), 310–317.

Kniffin, K.M., *et al*., 2020. COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American psychologist*, Advance online publication. http://dx.doi.org/10.1037/amp0000716.

Koh, D., 2020. Migrant workers and COVID-19. *Occupational and environmental medicine*, 77 (9), 634–636. http://dx.doi.org/10.1136/oemed-2020-106626.

Miller, J.M., 2020. Psychological, political, and situational factors combine to boost COVID-19 conspiracy theory beliefs. *Canadian journal of political science*, 53 (2), 327–334.

Newby, J.M., *et al*., 2020. Acute mental health responses during the COVID-19 pandemic in Australia. *Plos one*, 15 (7), e0236562.

Raišienė, A.G., *et al*., 2020. Working from home—who is happy? A survey of Lithuania's employees during the Covid-19 quarantine period. *Sustainability*, 12 (13), 5332.

Recchi, E., *et al*., 2020. The "Eye of the Hurricane" paradox: an unexpected and unequal rise of well-being during the Covid-19 lockdown in France. *Research in social stratification and mobility*, 68, 100508.

Saurin, T.A., 2020. A complexity thinking account of the COVID-19 pandemic: implications for systems-oriented safety management. *Safety science*, 134, 105087.

Welfare, K.S., Hallowell, M.R., Shah, J.A. and Riek, L.D. 2019. Consider the human work experience when integrating robotics in the workplace, *In: 2019 14th ACM/IEEE international conference on human-robot interaction (HRI)*, 75–84. https://ieeexplore.ieee.org/document/8673139.

Wenham, C., Smith, J., and Morgan, R., 2020. COVID-19: the gendered impacts of the outbreak. *The lancet*, 395 (10227), 846–848.

Wong, C.M.L., and Jensen, O., 2020. The paradox of trust: perceived risk and public compliance during the COVID-19 pandemic in Singapore. *Journal of risk research*, 23 (7–8), 1021–1030.