A Blessing or Curse? How to Optimize the Enforced Work from Home: Evidences from Ergonomic Perspective

Auditya Purwandini Sutarto
Department of Industrial Engineering
Faculty of Engineering
Universitas Qomaruddin Gresik
auditya@uqgresik.ac.id

Abstract

To prevent the COVID-19 disease transmission and keep maintaining the business operation, organizations have enforced the implementation of Work from Home (WFH). Such a working arrangement was very slowly adopted in Indonesia mainly due to the cultural and infrastructure barriers. After the pandemic, the estimation of jobs that can be carried out from home for developing countries may account for 16-17% of jobs. Regarding the type of jobs and profession, the likelihood of managerial and professional jobs could work from home account to more than 40%, clerical support workers up to 23%, while technician and associate professionals up to 27%. Although studies have shown the advantages of WFH such as increased work-life balance, enhanced productivity, and better well-being, the sudden and mandatory WFH practice may show the opposite results. This brings new challenges to the safety, health, and well-being of workers for three issues: 1) ergonomic Conditions due to the poor workstation, prolonged sedentary position, 2) Work-life Conflict because of household chores, family care, and 3) WFH Challenges (e.g., lack of dedicated workspace and equipment, difficulty to communicate, limited internet connection. Moreover, few studies are investigating the implementation of WFH during the pandemic in Indonesia. Therefore, more knowledge about WFH is needed to facilitate the implementation of WFH not only in the pandemic but also after the pandemic. Using a macro ergonomic approach for telework at the individual level, we conducted two cross-sectional studies using web-based questionnaires to evaluate employees' well-being and productivity while working from home during the pandemic. In study 1, we collected 485 responses and found the prevalence of depression, anxiety, stress was 18.4%, 46.4%, and 13.1%, respectively, followed by WFH workers' relatively good productivity. Although gender, age, level of education, length of employment, marital status, presence of children, and nature of the organization correlated with the workers' psychological health, these factors were not associated with their productivity. The availability of a dedicated workspace at home affected both outcomes. Our path model indicated the significant association between workers' psychological well-being and productivity. In study 2 we collected 328 WFH workers and 78 non-WFH workers. WFH workers reported better work-life balance, less job insecurity, better well-being, and increased job satisfaction compared to non-WFH. However, no significant differences in musculoskeletal symptoms and productivity among both groups were observed. Our studies indicated the potential wider adoption of WFH practice as an alternative working arrangement in the future which is less favorable in the past. To mitigate the challenges and adverse effects, organizations need to design, implement and evaluate WFH with a system-oriented (i.e., macroergonomic approach). Our studies also offer insights for policymakers to support the implementation of telework particularly by establishing access to a fast, reliable, and secure ICT infrastructure for firms and workers and issuing policies regarding Occupational, Safety, and Health.

Keywords
COVID-19, work from home, ergonomic, productivity, well-being

Acknowledgements

The author would like to thank to the co-authors: Shanti Wardaningsih, PhD (Universitas Muhammadiyah Yogyakarta) and Wika Harisa Putri (Universitas Janabadra), Titis Wijayanto, PhD (Universitas Gadjah Mada), and Irma Nur Afiah, PhD (Universitas Muslim Indonesia).

Biography

Auditya Purwandini Sutarto has completed her bachelor's study in Industrial Engineering from Institut Teknologi Bandung, Indonesia, master in Mathematics from Universitas Gadjah Mada, Indonesia, and Ph.D. in technology management from Universiti Malaysia Pahang, Malaysia. She has been teaching ergonomics, statistics, and research methodology for almost 20 years. She was formerly a lecturer at the Department of Mechanical and Industrial Engineering Universitas Gadjah Mada and Department of Industrial Engineering Universitas Ahmad Dahlan Yogyakarta, Indonesia. She has now been assigned to Department of Industrial Engineering Universitas Qomaruddin Gresik, Indonesia since 2019. Her research interests are in the broad area of ergonomics, statistics for behavioral science, and their multidisciplinary of applications. Over the past several years, her research has included topics in psychophysiology, human performance, and well-being. She has been investigating the effect of COVID-19 with a focus on its relationship to telework (work from home) and occupational health.