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Journal articles marked with an asterisk indicate an IWH scientist or adjunct scientist is included in the list of authors.

***Martin Ginis KA, Jetha A, and Gignac MAM. Experiential aspects of employment and their relationship with work outcomes: a cross-sectional study using a novel measure of participation in workers with and without physical disabilities. *Disability and Health Journal*. 2023; 101448.**

<https://doi.org/10.1016/j.dhjo.2023.101448>

Abstract: Background: People with disabilities often report restrictions to employment participation. Recent theorising emphasises the need for broadened conceptualisations of participation, incorporating subjective participation experiences. Objective: To examine relationships between subjective, experiential aspects of employment participation and work-specific outcomes in adults with and without physical disabilities. Methods: Using a cross-sectional study design, 1624 working Canadian adults with and without physical disabilities completed (a) the recently-developed Measure of Experiential Aspects of Participation (MeEAP) to assess six experiential aspects of employment participation: autonomy, belongingness, challenge, engagement, mastery and meaning and (b) work-outcome measures of perceived work stress, productivity loss, health-related job disruptions and absenteeism. Forced entry multivariable regression analyses were conducted. Results: Among respondents with and without disabilities, greater autonomy and mastery were associated with less work stress ($p < .03$); greater belongingness was associated with less productivity loss ($p < .0001$). Greater engagement was associated with fewer job disruptions ($p = .02$) but only for respondents with physical and non-physical disability. This sub-group scored lower on all experiential aspects of participation than workers with no disability or

physical disability only ($p < .05$). Conclusions: Results provide some support for the hypothesis that people with more positive employment participation experiences also report better work outcomes. The concept and measurement of experiential aspects of participation have value for advancing understanding of factors related to employment outcomes in workers with disabilities. Research is needed to determine how positive participation experiences manifest in workplace settings, and antecedents and consequences of positive and negative employment participation experiences.

Arikan Donmez A, Ovayolu O, Ovayolu N, Yilmaz S, Karayurt O, Curuk GN, et al. Quality of work life and working conditions among oncology nurses: a national online descriptive cross-sectional study. Archives of Environmental & Occupational Health. 2023; 78(3):131-141.

<https://doi.org/10.1080/19338244.2022.2063240>

Abstract: The aim of this study was to examine the quality of work life (QoWL) and working conditions of oncology nurses in Turkey. The study utilized a descriptive cross-sectional design. The data were collected via the introductory information form and Brooks' Quality of Nursing Work Life Survey. The study was completed with 138 nurses. The factors affecting QoWL were determined using stepwise multiple linear regression. Nurses had a moderate QoWL, and age, duration of working in nursing, the number of nurses, and the working style were significantly associated with QoWL. To improve the QoWL, the nurses' socio-demographic factors should be considered and working conditions should be improved. Furthermore, well-designed institutional policies should be developed to improve the patient-nurse ratio and provide a quality healthcare. What this paper adds? In the current study, Turkish oncology nurses had a moderate quality of work life. Age, duration of working in the nursing, the number of nurses in the unit and the working style were linked to work-related quality of life in oncology nurses. Well-designed institutional policies should be developed to improve the working conditions and to increase work-related quality of life in oncology nurses

Bolis I, Sigahi TFAC, Thatcher A, Saltorato P, and Morioka SN. Contribution of ergonomics and human factors to sustainable development: a systematic literature review. Ergonomics. 2023; 66(3):303-321.

<https://doi.org/10.1080/00140139.2022.2079729>

Abstract: Although a significant amount of research has already been published, the field of ergonomics/human factors and sustainability (E/HF-S) has not yet been systematically profiled based on recent studies. Conducting a systematic review of the literature, this article aims: (i) to identify the main emergent research themes in this subject area and (ii) to provide future directions for applied research and practice on E/HF-S. Six emergent research themes were identified in this literature allowing for a proposal to synthesise the main concepts related to E/HF-S. However, it was noted that there are still relatively few empirical papers which assess the models being developed or that apply E/HF principles to sustainability

challenges. Thus, this paper identifies the opportunities for practical application related to E/HF-S. The last part of the paper explores the E/HF-S opportunities using an external framework; the United Nations' sustainable development goals. Practitioner summary: The field of ergonomics/human factors and sustainability (E/HF-S) has not yet been organised by recent studies. Conducting a systematic review of the literature, this article identifies the main emergent research themes in this subject area, and it provides future direction for applied research and practice on E/HF-S. Abbreviations: ACE: activity-centred ergonomics; E/HF: ergonomics/human factors; E/HFS: ergonomics/human factors and sustainability; IEA: International Ergonomics Association; PRISMA: Preferred Reporting Items for Systematic Reviews and Meta-Analyses; SDG: Sustainable Development Goal

Cropanzano R, Keplinger K, Lambert BK, Caza B, and Ashford SJ. The organizational psychology of gig work: an integrative conceptual review. *Journal of Applied Psychology*. 2023; 108(3):492-519.

<https://doi.org/10.1037/apl0001029>

Abstract: This article reviews the individual and organizational implications of gig work using the emerging psychological contract between gig workers and employing organizations as a lens. We first examine extant definitions of gig work and provide a conceptually clear definition. We then outline why both organizations and individuals may prefer gig work, offer an in-depth analysis of the ways in which the traditional psychological contract has been altered for both organizations and gig workers, and detail the impact of that new contract on gig workers. Specifically, organizations deconstruct jobs into standardized tasks and gig workers adapt by engaging in job crafting and work identity management. Second, organizational recruitment of gig workers alters the level and type of commitment gig workers feel toward an employing organization. Third, organizations use a variety of nontraditional practices to manage gig workers (e.g., including by digital algorithms) and gig workers adapt by balancing autonomy and dependence. Fourth, compensation tends to be project-based and typically lacks benefits, causing gig workers to learn to be a "jack-of-all-trades" and learn to deal with pay volatility. Fifth, organizational training of gig workers is limited, and they adapt by engaging in self-development. Sixth, gig workers develop alternative professional and social relationships to work in blended teams assembled by organizations and/or adapt to social isolation. Challenges associated with these practices and possible solutions are discussed, and we develop propositions for testing in future research. Finally, we highlight specific areas for further exploration in future research. (PsycInfo Database Record (c) 2023 APA, all rights reserved)

Cuervo I, Fitch A, Stein D, and Baron SL. Exploring mentorship in union and non-union occupational safety and health training programs. *New Solutions*. 2023; 32(4):265-276.

<https://doi.org/10.1177/10482911231153676> [open access]

Abstract: Few studies have explored mentorship's value in occupational safety and health (OSH) training that focuses on worker empowerment in blue-collar occupations. Through a

university and union collaboration, we examined mentorship programs as a promising enhancement to ongoing OSH training to foster worker leadership development in organizations focused on worker empowerment. Union-based worker-trainers from 11 large manufacturing facilities across the United States and worker-trainers affiliated with 11 Latinx Worker Centers in the New York City area were interviewed. Rapid Evaluation and Assessment Methods informed study design. The themes that emerged, reflecting the value of mentorship in OSH training, were: characterizing the elements of mentoring, how mentorship can improve OSH training, and recommended practices for designing a program across two different work settings. We conceptualize the goals of mentorship within a broader social ecological framework, that is, to support OSH learning so workers will advocate for broader safety and health changes with credibility and a feeling of empowerment

Dalboge A, Albert Kolstad H, Ulrik CS, Sherson DL, Meyer HW, Ebbehoj N, et al. The relationship between potential occupational sensitizing exposures and asthma: an overview of systematic reviews. *Annals of Work Exposures and Health*. 2023; 67(2):163-181.

<https://doi.org/10.1093/annweh/wxac074>

Abstract: OBJECTIVES: The aim was to identify, appraise, and synthesize the scientific evidence of the relationship between potential occupational sensitizing exposures and the development of asthma based on systematic reviews. METHODS: The study was conducted as an overview of systematic reviews. A systematic literature search was conducted for systematic reviews published up to 9 February 2020. Eligibility study criteria included persons in or above the working age, potential occupational sensitizing exposures, and outcomes defined as asthma. Potential occupational sensitizing exposures were divided into 23 main groups comprising both subgroups and specific exposures. Two reviewers independently selected studies, extracted study data, assessed study quality, and evaluated confidence in study results and level of evidence of the relationship between potential occupational sensitizing exposures and asthma. RESULTS: Twenty-seven systematic reviews were included covering 1242 studies and 486 potential occupational sensitizing exposures. Overall confidence in study results was rated high in three systematic reviews, moderate in seven reviews, and low in 17 reviews. Strong evidence for the main group of wood dusts and moderate evidence for main groups of mites and fish was found. For subgroups/specific exposures, strong evidence was found for toluene diisocyanates, Aspergillus, Cladosporium, Penicillium, and work tasks involving exposure to laboratory animals, whereas moderate evidence was found for 52 subgroups/specific exposures. CONCLUSIONS: This overview identified hundreds of potential occupational sensitizing exposures suspected to cause asthma and evaluated the level of evidence for each exposure. Strong evidence was found for wood dust in general and for toluene diisocyanates, Aspergillus, Cladosporium, Penicillium, and work tasks involving exposure to laboratory animals

Fuentes K and Lindsay S. Workplace accommodations during the COVID-19 pandemic: a scoping review of the impacts and implications for people with disabilities. Work. 2023; 74(2):381-406.

<https://doi.org/10.3233/WOR-220129>

Abstract: BACKGROUND: The COVID-19 pandemic has led to widespread changes in the way people work. Some of these changes represent the same kinds of work modifications or adjustments that have often been requested as workplace accommodations, and which may improve labour market and employment outcomes for people with disabilities. OBJECTIVE: The aim of this scoping review was to examine the literature on workplace accommodations in the pandemic and their impacts and implications for people with disabilities. METHODS: Following a search of six international databases, articles were selected by two reviewers, and data were abstracted in accordance with scoping review methodology. A thematic analysis was used to report the relevant findings. RESULTS: Thirty-seven articles met the inclusion criteria, and three main themes were identified: positive impacts of pandemic-related workplace accommodations on people with disabilities (e.g., improved accessibility, reduced stigma around workplace accommodations, rapid implementation of workplace accommodations, opportunities for advocacy); negative impacts (e.g., worsened physical and mental health, new accommodation needs); and action needed and recommendations (e.g., revisit legislation and policy on accommodations, ensure representation of people with disabilities). Overall, our review identified a mixed assessment of the impacts of pandemic-related accommodations on people with disabilities. However, there was a broader consensus regarding the importance of learning from the experiences of the pandemic to improve workplace accommodation policies in the future. CONCLUSIONS: The pandemic may present opportunities for improving workplace accommodation policies, but our review also highlights the need for more research examining how workplace changes due to the COVID-19 pandemic have impacted people with disabilities

Havet N and Plantier M. The links between difficult working conditions and sickness absences in the case of French workers. Labour. 2023; 37(1):160-195.

<https://doi.org/10.1111/labr.12241>

Hayati A. Safety behavior of agricultural workers around face mask-wearing during the COVID-19 pandemic. Work. 2023; 74(2):371-379.

<https://doi.org/10.3233/WOR-220205>

Abstract: BACKGROUND: Agricultural labor-intensive activities have been threatened by COVID-19. Wearing a face mask has been introduced as one of the personal protective equipment (PPE) to reduce COVID-19 risk. OBJECTIVE: The present study aimed to investigate the safety behavior of urban green space workers around wearing a face mask in the time of COVID-19 before vaccination. METHODS: The personal and safety backgrounds of 61 male participants were collected using a designed questionnaire. The nonparametric correlation coefficients of Spearman and logistic regressions were used to investigate the relationships

among variables. RESULTS: Above one-third of workers (37.7%) got COVID-19 in the past year. Although all of the participants were aware of wearing a face mask is a protocol against COVID-19, only about half of them (50.8%) completely wear face masks at work. Non-smoking participants were 5.5 times more likely to influence their personal preference on wearing the mask. CONCLUSION: Safety attitude may be a key variable in relation to the factors that influence the wearing face mask. The causes of face mask-wearing during a pandemic such as COVID-19 as well as safety attitudes may be behind the factors studied in this study. Although some significant linkages were found, they were not enough to conclude a comprehensive action program. This concern is still open to discovering factors that influence wearing face mask

Mueller AK, Singh A, Webber MP, Hall CB, Prezant DJ, and Zeig-Owens R. Comparing self-reported obstructive airway disease in firefighters with and without World Trade Center exposure. American Journal of Industrial Medicine. 2023; 66(3):243-251.

<https://doi.org/10.1002/ajim.23455>

Abstract: Background: The degree to which routine, non-World Trade Center (WTC) firefighting exposures contribute to the WTC exposure-obstructive airway disease (OAD) relationship is unknown. Our objective was to compare the frequency of self-reported OAD diagnoses in WTC-exposed firefighters from the Fire Department of the City of New York (FDNY) compared with non-WTC-exposed firefighters from other cities and the general population. Methods: A total of 9792 WTC-exposed male FDNY firefighters and 3138 non-WTC-exposed male firefighters from Chicago, Philadelphia, and San Francisco who were actively employed on 9/11/01 and completed a health questionnaire were included. Logistic regression estimated odds ratios of self-reported asthma and COPD diagnoses in firefighters (WTC-exposed vs. non-WTC-exposed; all firefighters vs. general population), adjusting for age, race, smoking status, and last medical visit. Results: WTC-exposed firefighters were, on average, younger on 9/11 (mean \pm SD = 40.2 \pm 7.4 vs. 44.1 \pm 9.1) and less likely to report ever-smoking (32.9% vs. 41.8%) than non-WTC-exposed firefighters. Odds of any OAD and asthma were 4.5 and 6.3 times greater, respectively, in WTC-exposed versus non-WTC-exposed. Odds of COPD were also greater in WTC-exposed versus non-WTC-exposed, particularly among never-smokers. Compared with the general population, WTC-exposed firefighters had greater odds of both asthma and COPD, while the nonexposed had lower odds of asthma and greater odds of COPD. Conclusions: Odds ratios for OAD diagnoses were greater in WTC-exposed firefighters versus both non-WTC-exposed and the general population after adjusting for covariates. While asthma and other OADs are known occupational hazards of firefighting, WTC exposure significantly compounded these adverse respiratory effects.

Ndlela NH and Naidoo RN. Job and exposure intensity among hospital cleaning staff adversely affects respiratory health. *American Journal of Industrial Medicine*. 2023; 66(3):252-264.

<https://doi.org/10.1002/ajim.23456>

Abstract: Background: Occupational exposure to various types of cleaning agents may increase the risk of adverse respiratory health among cleaners. This study investigated the relationship between exposure to cleaning and disinfecting agents, using a job-task and exposure intensity metric, and respiratory outcomes among cleaners. Methods: A sample of 174 cleaners was selected from three public hospitals in Durban. A questionnaire was used to collect demographic and occupational information, and spirometry, including post-bronchodilator measures, was conducted according to the American Thoracic Society guidelines and skin prick testing were performed. Exposure metrics for job tasks and chemical exposures were created using frequency and employment-lifetime duration of exposure. Multivariate analysis regression models used job task and exposure intensity metrics. Results: Doctor-diagnosed asthma prevalence was 9.8%. Breathlessness with wheeze (22.4%) was the prevalent respiratory symptom. Positive responses to skin prick testing were seen in 74 (43.2%). There was a statistically significant increased risk for shortness of breath with exposure to quaternary ammonium compounds (odds ratio [OR]: 3.44; 95% confidence interval [CI]: 1.13-10.5) and breathlessness with exposure to multipurpose cleaner (OR: 0.34; CI: 0.12-0.92). The losses in percent-predicted forced expiratory volume in 1 s (FEV1) ranged from 0.3%-6.7%. Results among the bronchodilator-positive (8.6%) showed lung function losses twofold greater when compared to the total study population with percentage predicted FEV1 (-22.6 %; $p < 0.000$). Conclusion: Exposure to certain cleaning and disinfectant agents adversely affects respiratory health, particularly lung function. This effect, while seen generally among cleaning workers, is more pronounced among those with pre-existing reversible obstructive lung disease.

Nino V, Claudio D, and Monfort SM. Evaluating the effect of perceived mental workload on work body postures. *International Journal of Industrial Ergonomics*. 2023; 93:103399.

<https://doi.org/10.1016/j.ergon.2022.103399> [open access]

Abstract: Mental workload is a multidimensional construct that involves the characteristics of the task, individual factors, and the environment where the task is performed. Responses to tasks that are perceived as mentally demanding can exacerbate ergonomics risk factors affecting employee behavior and attitude, leading to risky actions such as awkward body postures, and consequently increasing physiological susceptibility to work-related musculoskeletal disorders. The present study looked to establish if the perception of mental workload can be affected by psychosocial work factors that generate changes in the environment in which humans must perform the tasks. The study also looked to determine if changes in perceived mental workload generated changes in the body postures undertaken to perform an activity to lay the foundation for future exploration into the influence of perceived mental workload over physical demands. The results of this study indicate, that an

increase in the perception of mental workload is associated with worse body postures. This study is novel and contributes to overcoming an important shortcoming in the field of mental workload by considering the influence of psychosocial factors, keeping the physical load constant, on the perception of mental workload and its influence on body postures. This interaction between perceived mental workload and its effects on physical risk should be considered in occupational settings since often, employees are exposed to concurrent physical and mental demands that increase the likelihood of developing WMSDs.

Suganthirababu P, Parveen A, Mohan Krishna P, Sivaram B, Kumaresan A, Srinivasan V, et al. Prevalence of work-related musculoskeletal disorders among health care professionals: a systematic review. *Work*. 2023; 74(2):455-467.

<https://doi.org/10.3233/WOR-211041>

Abstract: **BACKGROUND:** Work-related musculoskeletal disorders (WRMSDs) are one of the main causes of morbidity among healthcare professionals. It has various secondary consequences on productivity by diminishing the quantity and quality of work completed by the affected personnel, in addition to having a primary impact on the individual with pain and discomfort. **OBJECTIVE:** The study aims to determine the overall prevalence rate of WRMSD among dentists, physiotherapists, and surgeons and also identify the commonly affected regions of the body about specific health care professions among each of the three professions, as recorded by the cross-sectional studies performed in various countries and regions of the world. **METHODS:** A systematic search strategy was framed following the PRISMA guidelines based on the present inclusion and exclusion criteria. A critical search of articles was conducted during June 2020 in CINAHL (DOAJ), PubMed, Google Scholar Scopus, PEDro databases and SAGE journals. **RESULTS:** Out of the 42 articles that met the eligibility criteria, there were 39 cross-sectional studies, 2 pilot cross-sectional surveys and 1 prospective cohort study with one-year follow-up. All studies included in this review used various survey tools for recording the demographic details and measuring the prevalence of WRMSDs and other outcome factors. **CONCLUSION:** We conclude that all three health care professionals (dentists, physiotherapists and surgeons) are highly prone to develop WRMSDs with surgeons and dentists being more vulnerable when compared to physiotherapists. The lower back and neck are identified as the two most commonly affected regions among all three professionals

Wilbanks DW, Abulhassan Y, and Wachter JK. Reconciling occupational safety and health (OSH) Master's of Science curricula with employer demands. *Safety Science*. 2023; 161:106059.

<https://doi.org/10.1016/j.ssci.2023.106059>

Zerbo Sporin D, Kozinc Z, Prijon T, and Sarabon N. Incidence and duration of sick leave due to work-related musculoskeletal disorders in the accommodation and food services activities sector in Slovenia: a nationwide 5-year observational study. *International Journal of Environmental Research and Public Health*. 2023; 20(4):3133.

<https://doi.org/10.3390/ijerph20043133> [open access]

Abstract: Objectives: The aim of this study was to analyze Slovenian data on sick leave (SL) due to the most common work-related musculoskeletal disorders (MSDs) among workers in sector I "accommodation and food services activities" from the NACE Rev2 classification. Methods: We investigated both SL incidence (i.e., number of cases) and disease severity (i.e., average SL duration) by body site, gender, age and divisions within the sector. In addition, trends in SL data (difference between 2015 and 2019) were analyzed. The effect of age group, gender and division was also assessed with relative risk (RR). Results: Female gender was associated with higher risk of MSDs in young (RR = 1.91 (1.53-2.43)) and older (RR = 2.24 (1.90-2.65)) subgroups. Older age was associated with greater SL incidence and longer SL duration, regardless of gender and division within sector I. This was also reflected in relative risk calculations between older and younger groups (females: RR = 4.43; CI = 3.75-5.01; $p < 0.001$; males: RR = 3.71; CI = 2.89-4.77; $p < 0.001$). Low back disorders were the most frequent cause for SL, while lower limb disorders tended to cause the longest average SL. The SL durations were similar across divisions within the sector, while the incidence rate tended to be higher in the "accommodation" than the "food and beverage services" division. Conclusions: Special attention needs to be paid to reducing the risk of low back disorders, which are by far the most common cause of SL, and lower limb disorders, which cause the longest SL. We recommend the implementation of countermeasures that focus on early detection and rapid treatment/recovery of MSDs in older workers.

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