



# Workplace Research Monthly

Formerly Emerging Evidence Alert

November 2024

This Workplace Research Monthly includes the latest peer-reviewed articles, reports and evidence on a range of workplace health and safety, prevention, recovery at work and return to work topics that were published in October 2024 only.

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## Description of Evidence Levels Definitions Used in this Review

1. **Level of Evidence** – Certain study designs are scientifically stronger at answering a question. The scoring hierarchy we provided is presented below.

Level of Evidence	Description
Level 1	Evidence from a systematic review, scoping review or meta-analysis of relevant studies.
Level 2	Evidence from a randomised controlled trial
Level 3	Evidence from a controlled intervention trial without randomisation (i.e. quasi-experimental).
Level 4	Evidence from a case-control or cohort study.
Level 5	Evidence from a single case study, a case series, or qualitative study.
Level 6	Evidence from opinion pieces, reports of expert committees and/or from narrative literature reviews.

2. **Relevance** – Research carried out in Australia or similar countries is most relevant to Australian readers.

Level	Description
A	Study conducted in Australia or the study has been conducted outside Australia but confounders unlikely to affect relevance
B	Study conducted outside Australia and confounders likely to affect generalisability

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## Enabling Healthy and Safe Workplaces

### Health and Wellbeing

#### **Risk of opioid-related harms by occupation within a large cohort of formerly injured workers in Ontario, Canada: Findings from the Occupational Disease Surveillance System**

**Background:** Working-age individuals have been disproportionately affected by the opioid crisis, prompting interest in the potential role of occupation as a contributor. This study aimed to estimate the risk of opioid-related poisonings and mental and behavioural disorders by occupation and industry within a cohort of 1.7 million formerly injured workers. **Methods:** Workers were identified in the Occupational Disease Surveillance System, a system linking workers' compensation data (1983-2019) to emergency department and hospitalisation records (2006-2020) in Ontario, Canada. Cox proportional hazards models were used to estimate HRs and 95% CIs for hospital encounters for opioid-related poisonings and mental and behavioural disorders by occupation and industry compared with all other workers, adjusted for age, sex and birth year. **Results:** In total, 13 702 opioid-related poisoning (p) events (n=10 064 workers) and 19 629 opioid-related mental and behavioural (mb) disorder events (n=11 755 workers) were observed. Elevated risks were identified among workers in forestry and logging (HR<sub>p</sub>=1.45, 95% CI 1.09 to 1.94; HR<sub>mb</sub>=1.70, 95% CI 1.34 to 2.16); processing (minerals, metals, clay, chemical) (HR<sub>p</sub>=1.27, 95% CI 1.14 to 1.42; HR<sub>mb</sub>=1.26, 95% CI 1.14 to 1.39); processing (food, wood, textile) (HR<sub>p</sub>=1.12, 95% CI 1.01 to 1.24; HR<sub>mb</sub>=1.19, 95% CI 1.09 to 1.31); machining (HR<sub>p</sub>=1.13, 95% CI 1.04 to 1.21; HR<sub>mb</sub>=1.17, 95% CI 1.09 to 1.25); construction trades (HR<sub>p</sub>=1.57, 95% CI 1.48 to 1.67; HR<sub>mb</sub>=1.59, 95% CI 1.51 to 1.68); materials handling (HR<sub>p</sub>=1.32, 95% CI 1.22 to 1.43; HR<sub>mb</sub>=1.22, 95% CI 1.13 to 1.31); mining and quarrying (HR<sub>mb</sub>=1.68, 95% CI 1.34 to 2.11); and transport equipment operating occupations (HR<sub>p</sub>=1.18, 95% CI 1.09 to 1.27). Elevated risks were observed among select workers in service, sales, clerical and health. Findings by industry were similar. **Conclusions:** Results provide additional evidence that opioid-related harms cluster among certain occupational groups. Findings can be used to strategically target prevention and harm reduction activities in the workplace.

**Carnide et al. 2024.**

**Occupational and Environmental Medicine, vol. 81, no. 10.**

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**Keywords:** Mental health; public health surveillance; public health.

**Evidence Level:** 4B

**Link:** <https://oem.bmj.com/content/81/10/507.long>

#### **Cognitive training prevents stress-induced working memory deficits**

**Background:** Working memory is a fundamental cognitive process that is critically involved in planning, comprehension, reasoning, and problem solving. Acute stress has been shown to impair working memory. This stress-induced working memory deficit has profound implications for cognitive functioning in everyday life as well as for stress-related mental disorders. Here, we tested whether a cognitive training intervention would make working memory more resistant to disruptive effects of acute stress. **Methods:** In a preregistered, fully crossed between-subjects design with the factors stress (vs. control) and cognitive training (vs. sham), 123 healthy men and women (ages 18-35 years) completed a daily cognitive training program targeting working memory-related processes or a sham training over a period of 6 weeks. After this 6-week training intervention, participants underwent a standardized stress or control manipulation shortly before their working memory performance was tested. **Results:** As expected, the exposure to acute stress led to a significant working memory impairment in the sham training group. Critically, although the subjective, autonomic, and endocrine stress responses were comparable in the 2 training groups, this stress-induced working memory impairment was abolished in the intervention training group.

**Conclusions:** These results are the first to show that a cognitive training intervention directed at prefrontal and hippocampal functioning can prevent the detrimental effects of stressful events on working memory performance.

**Loock et al. 2024.**

**Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, vol. 9, no. 10.**

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**Keywords:** Cognition; cognitive training; endocrine response; stress; working memory.

**Evidence Level:** 4B

**Link:** <https://www.sciencedirect.com/science/article/pii/S2451902224001642?via%3Dihub>

### **Lesbian and gay population, work experience, and well-being: A ten-year systematic review**

**Background:** Despite an increase in the promotion of equal opportunities at work, there is still persistent discrimination against lesbian and gay (LG) workers. In this vein, this study aimed to systematically review the research investigating the peculiarities of the work experience of LG people, particularly considering the theoretical frameworks in the approach to sexual minorities' work-related issues, as well as individual and contextual variables influencing the work experience and the impact they may have on health and well-being. **Method:** We explored the PsycArticles, EMBASE, Scopus, and Web of Science electronic databases and the EBSCOHost (PsycInfo, Psychology and Behavioral Sciences Collection) scholarly search engine, between 01/01/2013 to 01/03/2023, with regards to the search terms "lgb\*", "gay\*", "lesbian\*", "homosexual\*", and "sexual minorit\*", associated with "employee\*", "personnel", "worker\*", and "staff", and with "workplace", "work", "job", "occupation", "employment", and "career". Data were narratively synthesized and critically discussed. Of the 1584 potentially eligible articles, 140 papers contributed to this systematic review. Five main theoretical frameworks were identified: (a) minority stress, (b) sexual prejudice and stigma, (c) queer and Foucauldian paradigms, (d) social identity theories, and (e) intersectionality. Furthermore, significant individual (e.g., outness, disclosure, and work-family conflict) and contextual (e.g., heterosexist and heteronormative workplace climate and culture) variables influencing LG people's work experience were identified. **Conclusion:** This review highlights the need to develop a unified theoretical model for the construction of specific measurement tools to assess the work experience of LG people and for the implementation of interventions aimed at minimizing the effects of stigma in work contexts.

**Lacatena et al. 2024.**

**International Journal of Environmental Research and Public Health, vol. 21, no. 10.**

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**Keywords:** LG workers; heterosexism and heteronormativity; intersectionality; organizational climate; outness and disclosure.

**Evidence Level:** 1A

**Link:** <https://www.mdpi.com/1660-4601/21/10/1355>

### **Understanding health needs of professional truck drivers to inform health services: A pre-implementation qualitative study in a Canadian Province**

**Background:** Long-haul truck drivers experience multiple challenges, including increased health risks. A large percentage of professional truck drivers (PTDs) suffer from numerous chronic physical health conditions such as obesity, hypertension, diabetes, heart disease, sleep disorders, etc.) as well as poor mental health and social challenges. Furthermore, this population experiences numerous barriers related to accessing health care services including primary care and resources to improve their health. PTDs living in rural and remote areas are at higher risk. The objective of this study is to understand the views of PTDs and the trucking industry on health and personalized healthcare interventions and services. **Methods:** In-depth semi-structured interviews were conducted with twenty-six individuals with contextual knowledge and experience in the trucking ecosystem, to better understand the needs, expectations, and preferences of PTDs based in New Brunswick (Canada), related to their health (physical, mental, and social). Analysis of the audiotape recording was conducted using thematic content analysis. **Results:** Three major themes emerged from the qualitative analysis describing PTDs' health needs, existing health and preventive services, as well as recommendations for personalized healthcare interventions and services to be implemented: (1) "My life as a trucker!" Understanding needs and challenges, (2) "Taking care of myself, do you think it is easy while you're on the road?" Describing drivers and motivators for better health, and (3) "Can you hear what we need?" Translating needs into recommendations for tailored health services and preventative services. **Conclusion:** A highly demanding work environment and lack of timely access to

integrated primary care negatively affect PTDs' health. Results of this study shed light on how to tailor primary care to improve its responsiveness and adequacy to PTDs' needs and realities. PTDs-sensitive integrated services, including multicomponent interventions (health education, coaching for lifestyle changes, and social support), are still lacking within the New Brunswick health system.

**Jbilou et al. 2024.**

**BMC Public Health, vol. 24, no. 1.**

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**Keywords:** Health needs; health services; professional truck drivers; qualitative method.

**Evidence Level:** 5B

**Link:** <https://bmcpublikealth.biomedcentral.com/articles/10.1186/s12889-024-20280-8>

### **Differential associations of physical job demands with cognitive impairment in Korean workers aged 45 and older: a 14-year longitudinal study using the Korean Longitudinal Study of Aging (KLoSA)**

**Background:** To investigate the association between subelements of physical job demands and cognitive impairment risk in middle-aged and older workers in Korea. **Method, Design:** Longitudinal study using eight waves (2006-2020) of the Korean Longitudinal Study of Aging. **Setting:** Nationally representative sample of the Korean population aged 45 years and older. **Participants:** 2170 workers aged 45 and older at baseline.

**Primary outcome measures:** Cognitive function was evaluated using the Korean version of the Mini-Mental State Examination and cognitive impairment was defined as a score below 24. **Results:** High physical strength demands were inversely associated with cognitive impairment (OR 0.31, 95% CI 0.14 to 0.68 for 'always' vs 'never' category). Conversely, frequent heavy lifting (OR 2.67, 95% CI 1.36 to 5.26) and bending, kneeling or squatting (OR 1.69, 95% CI 0.82 to 3.47) tasks were associated with increased impairment risk. Dose-response relationships were observed between all physical job demands and cognitive impairment, persisting among those with lower education but not among those with higher education.

**Conclusions:** Different types of physical job demands have varying relationships with cognitive impairment in middle-aged and older workers. Tasks requiring high physical strength may protect against cognitive impairment while tasks involving heavy lifting and bending, kneeling or squatting may increase the risk. These findings highlight the need for tailored interventions that consider the type of physical job demands and workers' educational levels to mitigate cognitive impairment risks. Further research is needed to explore the underlying mechanisms and validate these findings.

**Ha et al. 2024.**

**BMJ Open, vol. 14, no. 10.**

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**Keywords:** Aging; cognition; neurophysiology; occupational & industrial medicine; physiology; public health.

**Evidence Level:** 4B

**Link:** <https://bmjopen.bmj.com/content/14/10/e088000.long>

## **Work Health and Safety**

### **Process evaluation of a randomised controlled trial - Prevention of sickness absence through early identification and rehabilitation of at-risk patients with musculoskeletal disorders (PREVSAM)**

**Background:** Musculoskeletal disorders are commonly treated in primary healthcare and may, if not treated adequately, entail a risk for long-term disability and sickness absence. A team-based rehabilitation intervention (PREvention of Sickness Absence for Musculoskeletal disorders, PREVSAM) was evaluated in a randomised controlled trial. The purpose of this study was to evaluate the process of implementing the PREVSAM model in primary care rehabilitation. **Methods:** This process evaluation was conducted alongside the trial, collecting quantitative and qualitative data to evaluate how the PREVSAM model was implemented, mechanisms of impact, and contextual factors. Acceptability, feasibility, appropriateness, adaptations, training and support, resources, recruitment, reach, retention, dose, fidelity, and readiness for

change were investigated. Qualitative data were collected from healthcare professionals and patients. **Results:** Eight of 22 invited rehabilitation clinics (36%) and 28 of 54 healthcare professionals (52%) were included in the PREVSAM trial and this process evaluation. Of 507 eligible patients, 261 (51%) were included. Of those, 134 were randomised to the intervention and 129 (96%) were retained. Twelve healthcare professionals and 15 patients participated in the qualitative evaluations. The model's essential components; individual assessments and structured, team-based rehabilitation with clear division of responsibilities agreed in a joint health plan; were generally delivered according to protocol. The optional components early access to psychological treatment and workplace contact were delivered to a lesser extent. Perceived acceptability, feasibility, and appropriateness of the PREVSAM model were moderate to high. Several contextual barriers, in the form of missing prerequisites, affected the implementation. Qualitative data showed that the model, with its holistic view, was appreciated by both healthcare professionals and patients. **Conclusions:** This process evaluation suggests that PREVSAM is acceptable, feasible and appropriate for patients with MSDs reporting psychological risk factors associated with increased risk for sickness absence. While essential components were implemented with fidelity for most patients, optional components were not. This variability reflects the complexity of the model, its mandatory and optional components, contextual barriers, and the person-centred approach meeting individual patient needs. As all model components were not delivered to all patients, the intervention may have been too similar to treatment as usual to detect differences on a group level. A limitation of the study is that half of the participating rehabilitation clinics withdrew prematurely.

**Ekhammar et al. 2024.**

**BMC Health Services Research, vol. 24, no. 1.**

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**Keywords:** Implementation; musculoskeletal pain; primary care; process evaluation; rehabilitation.

**Evidence Level:** 5B

**Link:** <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-024-11758-7>

## Risk Assessment

### A system dynamics model based on ISM for risk perception in emergency by employees in chemical industrial parks

**Background:** Risk perception is one of the factors that guide human behavior in the workplace. In accident prevention and emergency response, the risk perception of employees affects the safety behaviour and efficiency of emergency disposal. Besides, risk perception is a complicated process restricted by many influencing factors. The study aims to identify the most important factors affecting risk perception.

**Method:** This study had three phases. In the first, factors affecting the risk perception were extracted based on the questionnaire survey and the expert scoring. Then, the Interpretive Structure Model (ISM) was used to stratify the 14 influencing factors of risk perception and obtain a hierarchical structure chart. Finally, by analyzing the influence paths in the ISM, the system dynamics feedback loop diagram was constructed. The model took the state variable "risk perception→ risk response→ risk identification→ risk communication→ risk perception" as the main circular loop, and was supplemented and perfected by multiple feeder loop circuits. **Results and Conclusion ?** Research indicates risk experience is the most fundamental factor affecting risk perception. In the aspect of sensitivity analysis, the study shows that the risk perception of employees is related to the distance of the risk source. Its effectiveness in quantifying qualitative data, identifying influential factors, and establishing cause-effect relationships make it a valuable tool for enhancing risk perception in chemical industry park.

**Yang et al. 2024.**

**Scientific Reports, vol. 14, no. 1.**

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**Keywords:** Interpretive Structural Modeling; chemical industry; influencing factor; risk perception simulation; system dynamics.

**Evidence Level:** 5B

**Link:** <https://www.nature.com/articles/s41598-024-77445-z>

## Ergonomics

### Evaluating the categorisation of interventions in individual working practice aimed at preventing work-related musculoskeletal disorders: An international experts consultation

**Background:** In a previous scoping review, eight categories of interventions in individual work practice were defined. The aim of the present study is to evaluate the relevance and completeness of these eight categories and to increase the clarity of the nomenclature and definitions of each category. An international expert consultation has been carried out for this purpose. **Method:** Thirty-eight experts from 13 countries participated. Data collection was conducted using a survey design comprising structured questions. Consensus was reached if 75% of the experts answered 'Strongly agree' or 'Agree' on a 5-point Likert scale. **Results:** For the topic 'Relevance', there was consensus for six of the eight categories (range 78%-86%), the exceptions were the categories: 'Exercising' (72%) and 'Professional manners' (64%). With regard to the topic 'Nomenclature', consensus was reached for six categories and for the topic 'Definition' this was five categories. The present definitions have been improved based on the expert recommendations. With respect to the topic 'Completeness': although a limited number of suggestions were given, this did not lead to one or more categories being added to the existing eight categories. The final 'Nomenclature' for the categories is: 'Variation', 'Professional behaviour', 'Motoric skills', 'Vocational working techniques', 'Physical workplace', 'Physical training', 'Assistive devices and tools' and 'Task content and task organisation'. **Conclusion:** This expert consultation has provided a solid basis for endorsing the categorisation of interventions in IWP and is an important step in building a framework to develop and evaluate interventions in IWP.

van de Wijdeven et al. 2024.

*Applied Ergonomics*, vol. 120.

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**Keywords:** Delphi technique; musculoskeletal diseases; occupational health; prevention and control; referral and consultation; risk factors.

**Evidence Level:** 6A

**Link:** <https://www.sciencedirect.com/science/article/pii/S0003687024001157?via%3Dihub>

## Chronic Health Issues

### Impact of blue-collar vs. white-collar occupations on disease burden in psoriatic arthritis patients: A Swiss clinical quality management in rheumatic diseases cohort study

**Background:** Biomechanical stress may exacerbate inflammation in psoriatic arthritis (PsA). This study aimed to investigate disease activity, work disability, and drug response/retention rates in PsA patients among two different occupation's types: blue-collar workers (BCol) with manual labor versus white-collar workers (WCol) with sedentary occupations. **Method:** PsA patients registered in the Swiss cohort (SCQM) were classified as BCol or WCol workers and assessed at the initiation of a biologic or targeted synthetic disease-modifying anti-rheumatic drug (b-/tsDMARD). We compared the baseline characteristics at treatment start and the DAS28-CRP for the 1-year remission. Treatment retention was investigated using Kaplan-Meier curves and Cox regression analysis. Multivariable models were adjusted for potential confounders. **Results:** Of 564 patients, 29% were BCol, and 71% were WCol workers. Baseline disease activity was comparable between both groups. BCol workers were predominantly male (79.8%) and more work disabled at baseline (84.0% vs. 27.9%;  $p < 0.01$ ). One hundred seventy-four treatment courses (TCs) of 165 PsA patients were included for longitudinal analysis. Occupation did not significantly influence the achievement of DAS28-CRP remission at 1 year. Kaplan-Meier analysis ( $n = 671$ ) indicated longer retention for BCol workers (mean retention duration: 3.15 years vs. 2.15 years, ( $p = 0.006$ )). However, adjusted Cox regression analysis did not corroborate these findings. **Conclusion:** This study indicates that physically demanding occupations correlate with increased rates of work disability among PsA patients, while treatment response seems to be unaffected by the patients' occupation type. Additional research is required to thoroughly comprehend the relationship between physical workload, disease activity, and treatment outcomes. **Key Points:** This study indicates that physically demanding occupations correlate with

increased rates of work disability among PsA patients. The treatment response among of PsA patients seems unaffected by the patients' occupation type.

**Colla et al. 2024.**

**Clinical Rheumatology, vol. 43, no. 10.**

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**Keywords:** Manual vs. sedentary occupations; psoriasis arthritis; work disability.

**Evidence Level:** 4B

**Link:** <https://link.springer.com/article/10.1007/s10067-024-07077-1>

### **Changes in work status after cancer diagnosis and their associations with depressive symptoms among cancer survivors: Findings from the Korean longitudinal study of ageing**

**Background:** Cancer survivors encounter significant psychological suffering and are prone to develop depressive symptoms. Work contributes to personal fulfillment and social connections, and by doing so, enhances a cancer survivor's resilience against adversities. However, maintaining employment can be challenging for some cancer survivors. This research aimed to identify the association between changes in work status and depressive symptoms among cancer survivors in South Korea. **Methods:** This study used the panel data from the Korean Longitudinal Study of Ageing (KLoSA) and included 199 cancer survivors-799 observations-aged 65 or younger, between 2005 and 2018. Changes in work status consisted of continuous unemployment or employment, quitting a job, and getting a job. We defined depressive symptoms as a CES-D-10 score of 10 or higher and a cut-off of 4 was utilized for sensitivity analysis. Multivariable generalized estimating equation was employed to estimate the odds ratio (OR), adjusting for the number of household members, education level, sex, age, marital status, occupations, cancer treatment, cancer type, catastrophic healthcare expenditure (CHE), and survivorship. Subgroup analysis and interaction between changes in work and cancer types were further explored. **Results:** For depressive symptoms, the OR of the continuous unemployment group was 2.27 (95% CI = 1.10-4.69), and the OR of the group that quit a job was 2.20 (95% CI = 1.03-4.72), compared to the continuous employment group. As survivorship increased, the odds of depressive symptoms decreased (OR = 0.94, 95% CI = 0.89-1.00). CHE was associated with depressive symptoms (OR = 2.23, 95% CI = 1.18-4.20). In cancer types with a low tendency to depression, continuous unemployment was associated with depressive symptoms (OR = 3.19, 95% CI = 1.12-9.06). In sensitivity analysis, changes in work, survivorship, and CHE were consistently associated with depressive symptoms. **Conclusions:** Cancer survivors who quit a job or continued unemployment were more likely to experience depressive symptoms. The findings of this study imply that assistance for cancer survivors to continue a job or return to employment, including adjustment of workload and hours, may be helpful. Psychological care may be crucial, particularly in the early stage of cancer survivorship. Furthermore, support may be needed to alleviate the burden of healthcare expenditure.

**Lee et al. 2024.**

**BMC Psychology, vol. 12, no. 1.**

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**Keywords:** Cancer survivors; cohort study; depression; job security; mental health; resilience; return to work; survivorship; unemployment.

**Evidence Level:** 4B

**Link:** <https://bmcpyschology.biomedcentral.com/articles/10.1186/s40359-024-01970-9>

### **Impact of multiple sclerosis on employment and income: Insights from a random sample representative of private sector employees in France using longitudinal administrative data**

**Background:** In France, few data sources are available to estimate the impact of multiple sclerosis (MS) on job retention and its consequences on the level of resources, especially in large representative samples. The aim of the present study was to measure impact of MS on employment rates, wages and income (including unemployment benefit, sickness benefit and disability pension) by comparing work trajectories of people living with MS with those of a matched control group. **Method:** We used the HYGIE database, which is the result of the linkage of two administrative databases in the private sector for a random sample of over 900,000 people. In order to identify the causal effect of MS on employment after 1 to 20 years, the



difference-in-differences method with matching (age, sex, career and health history) was used, overall and in subgroups. The year of entry in long-term disease status for MS was used to approximate the onset of MS. **Results:** Overall, 946 people with MS were included. Their situation was fairly favorable before MS (88.1% in employment, resources higher than the median for the general population), but MS had strong and continuous negative effects. Indeed, at 10 years, the employment rate fell by 28.6 percentage points (pp) and the disability pension allowance increased by 50.5 pp; the wage percentile fell by 19.2 pp and the replacement income accounted for a growing share of total income (+ 39.7 pp). Although administrative data had several strengths, clinical information on the severity of the disease or on its therapeutic management was not available. In **Conclusion**, this study shows that the effects of MS on the employed population in the private sector occur early in the disease course and are cumulative, and that replacement income helps to reduce the loss of resources thanks to the French health and social system.

**Leray et al. 2024.**

**Revue Neurologique, vol. 180, no. 8.**

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**Keywords:** Administrative data; difference in differences; multiple sclerosis; work trajectories.

**Evidence Level:** 4B

**Link:** <https://www.sciencedirect.com/science/article/pii/S003537872400479X?via%3Dihub>

### **Migraine and work - beyond absenteeism: Migraine severity and occupational burnout: A cohort study**

**Background:** Migraine, a condition affecting 12% of the population, is a prevalent cause of disability, significantly impacts individuals during their most productive working years. Several studies have established that a migraine patient's job performance is often limited by absenteeism and presenteeism. The present study aimed to investigate the impact of migraines on occupational burnout, which affects up to 40% of workers. **Methods:** A subset of participants from the Negev Migraine Cohort, including both migraine patients and non-migraine controls, were asked to complete the study questionnaire. The main exposures of interest were migraine diagnosis and severity. The primary outcome was occupational burnout. Migraine severity and associated disability were evaluated using the Migraine Disability Assessment (MIDAS) score, psychiatric comorbidities using the Depression, Anxiety and Stress Scale - 21 Items (DASS-21) scale and occupational burnout using the Maslach Burnout Inventory (MBI-GS version) scale. Statistical analyses included multivariable quantile regression models to identify associations and adjust for potential confounders. **Results:** In total, 675 migraine patients and 232 non-migraine participants participated in the study. Migraine patients exhibited higher rates of depression (mean DASS-21: 0.864 vs. 0.664, standardized mean difference (SMD) = 0.262), tended to work longer hours (median weekly hours: 40.0 vs. 36.0, SMD = 0.148) and expressed a preference for remote work (20.3% vs. 10.3%, SMD = 0.097). Migraine patients reported significantly higher levels of occupational burnout (mean burnout score: 3.46 vs. 2.82, SMD = 0.469). Controlling for depression, anxiety and stress, migraine diagnosis (25th percentile estimate = 0.67,  $p = 0.002$ , 75th percentile estimate = 0.92,  $p = 0.032$ ) and migraine severity (estimates: 2.2-5.3,  $p < 0.001$  for all) were associated with higher levels of occupational burnout. **Conclusions:** Migraine diagnosis and severity is associated with an occupational burnout, after controlling for various psychological and work-related factors. The findings underscore the need for workplace adjustments to support migraine patients' participation in the work market.

**Peles et al. 2024.**

**Cephalalgia, vol. 44, no. 10.**

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**Keywords:** Absenteeism; commuting time; gender differences; migraine severity; occupational burnout; presenteeism; remote work; work productivity.

**Evidence Level:** 4B

**Link:** <https://journals.sagepub.com/doi/10.1177/03331024241289930>

### **Excessive occupational sitting increases risk of cardiovascular events among working individuals with type 1 diabetes in the prospective Finnish Diabetic Nephropathy Study**

**Background:** Sedentary behavior, such as excessive sitting, increases risk of cardiovascular disease and premature mortality in the general population, but this has not been assessed in type 1 diabetes. Occupational sitting is increasingly ubiquitous and often constitutes the largest portion of daily sitting time. Our aim was to identify clinical factors associated with excessive occupational sitting in type 1 diabetes and, in a prospective setting, to explore its association with cardiovascular events and all-cause mortality, independent of leisure-time physical activity. **Methods:** An observational follow-up study of 1,704 individuals (mean age  $38.9 \pm 10.1$  years) from the Finnish Diabetic Nephropathy Study. Excessive occupational sitting, defined as  $\geq 6$  h of daily workplace sitting, was assessed using a validated self-report questionnaire. Data on cardiovascular events and mortality were retrieved from national registries. Multivariable logistic regression identified independently associated factors, while Kaplan-Meier curves and Cox proportional hazard models were used for prospective analyses. **Results:** Factors independently and positively associated with excessive occupational sitting included a high occupational category [OR 6.53, 95% CI (4.09–10.40)] and older age [1.02 (1.00–1.03)], whereas negatively associated factors included current smoking [0.68 (0.50–0.92)], moderate albuminuria [0.55 (0.38–0.80)], and high leisure-time physical activity [0.52 (0.36–0.74)]. During a median follow-up of 12.5 (6.5–16.4) years, 163 individuals (9.6%) suffered cardiovascular events, and during a median follow-up of 13.7 (9.4–16.6) years, 108 (6.3%) deaths occurred. Excessive occupational sitting increased cardiovascular event risk (hazard ratio [HR] 1.55 [95% CI 1.10–2.18]) after adjustment for confounders and other covariates. Furthermore, in a stratified multivariable analysis among current smokers, excessive occupational sitting increased the risk of all-cause mortality (2.06 [1.02–4.20]). **Conclusions:** Excessive occupational sitting is associated with a higher risk of cardiovascular events and all-cause mortality in individuals with type 1 diabetes. This association persists regardless of leisure-time physical activity, after adjusting for independently associated variables identified in our cross-sectional analyses. These findings underscore the need to update physical activity guidelines to better address sedentary behavior and improve outcomes for individuals with type 1 diabetes. Targeting occupational sitting should be considered a key focus for interventions aimed at reducing overall sedentary time.

**Seppälä et al. 2024.**

**Cardiovascular Diabetology, vol. 23, no. 1.**

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**Keywords:** All-cause mortality; cardiovascular events; occupational sitting; sedentary behavior; Type 1 diabetes.

**Evidence Level:** 4B

**Link:** <https://cardiab.biomedcentral.com/articles/10.1186/s12933-024-02486-7>

### **Occupational Exposure**

#### **Association between temperature and occupational injuries in Spain: The role of contextual factors in workers' adaptation**

**Background:** Extensive evidence links both cold and hot temperatures to an increased incidence of occupational injuries. Contextual modifiers of the temperature-injury association have been scarcely researched. The present study addresses temporal and spatial variations to identify factors associated with (mal)adaptation to heat and cold among Spanish workers. **Methods:** We assessed the association between daily mean temperature and work injuries using quasi-Poisson time-series regression models in 48 Spanish provinces over the period 1988–2019, with comparative analyses with census and economic data for the sub-periods 1989–1993, 1999–2003, 2009–2013 and 2015–2019. We explored the spatial and spatiotemporal modification of the association by demographic and socioeconomic variables via cross-sectional and longitudinal meta-regressions. **Results:** We found an increased risk of work-injuries by 4 % [95 % CI: 3 %–6 %] and 12 % [95 % CI: 10 %–13 %], for the 1st and 99th percentiles of temperature, respectively, for period 1988–2019. Heat had a greater overall impact than cold, and the groups more vulnerable to heat were male workers, under 35 years, and working in agriculture, construction and hostelry. Vulnerability to heat was highest in the earliest sub-period, while vulnerability to cold rose during periods of both economic

expansion and recession. High educational attainment emerged as a protective factor during the warm months in the cross-sectional meta-regressions. **Conclusions:** Our findings suggest an adaptation of Spanish workers to high temperatures over time. However, preventive measures are needed for traditionally exposed workers (agriculture and construction), non-traditionally vulnerable sectors (hostelry), and young, male, and less educated workers during warm months. For cold vulnerability, targeted measures should focus on women, the elderly, and tertiary service workers, especially in colder regions. Addressing temperature vulnerability would enhance worker safety, reduce injuries, and yield economic benefits.

**Vielma et al. 2024.**

**Environment International, vol. 192.**

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**Keywords:** Temperature; occupational injuries; Spain.

**Evidence Level:** 5B

**Link:** <https://www.sciencedirect.com/science/article/pii/S0160412024005920?via%3Dihub>

### **The influence of occupational noise exposure on blood pressure and hearing loss among female workers of childbearing age**

**Background:** Women exposed to occupational noise experience adverse pregnancy outcomes. Therefore, we initiated a large, population-based, cross-sectional study to further investigate the effects of occupational noise on hearing and blood pressure among female workers of childbearing age. **Method,** Study design and setting: A total of 6981 childbearing-aged female workers were selected for this cross-sectional study. Basic characteristics of participants were analyzed by comparing the exposed and control groups. Logistic regression models were employed to calculate the odds ratios (ORs) and 95% confidence intervals (CIs) for the associations of occupational noise with levels of hearing loss and blood pressure. The associations were further explored through stratification by age and duration of noise exposure.

**Results:** Compared with participants not exposed to occupational noise, increasing years of occupational noise exposure were independently associated with an elevated risk of hypertension after adjustment of age, industry classification, enterprise size and economic type. Compared to participants not exposed to occupational noise, only the prevalence of bilateral hearing loss was significantly higher after adjustments for age, industry classification, enterprise size and economic type. Compared with those with normal hearing, the ORs and 95% CIs were 1.97 (0.95-4.07), 2.22 (1.05-4.68) and 1.29 (1.06-1.57) for bilateral, unilateral and any ear hearing loss, respectively. **Conclusions:** Occupational noise exposure is positively associated with both hypertension and bilateral hearing loss among female workers of childbearing age. Those exposed to occupational noise show an increased risk of hypertension after adjusting for potential confounders.

**Zhang et al. 2024.**

**BMC Public Health, vol. 24, no. 1.**

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**Keywords:** Blood pressure; female workers; hearing loss; occupational noise.

**Evidence Level:** 4B

**Link:** <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-19004-9>

### **Heat-related illness among workers in British Columbia, Canada: Extreme hot weather in 2021 compared to 2001-2020**

**Background:** British Columbia (BC), Canada, experienced an unprecedented summer with record-breaking high temperatures in 2021. Yet the health impact has not been examined in occupational settings. This study aimed to characterize occupational heat-related illness (HRI) among BC workers estimated by incidence rates and associations between heatwaves and HRI, compare risks from 2021 and prior summers of 2001-2020, and assess differential impacts on worker groups by demographics and occupations.

**Methods:** We identified HRI from workers' compensation claims that occurred between June and August from 2001-2021 in BC. Incidence rates were calculated using working population estimates from Statistics Canada's Labour Force Survey. A time-stratified case-crossover design with conditional Poisson regression was used to examine the impact of heatwaves on occupational HRI. All analyses were stratified by year (2021 versus 2001-2020), age, sex, and occupation. **Results:** Of the 521 claims identified, 107 (21%)

occurred in 2021. Incidence rates for 2021 and prior summers were 3.97 [95% confidence interval (CI) 3.26-4.80] and 0.93 (95% CI 0.85-1.03) claims per 100 000 workers, respectively. This difference represents a 327% increase. Rates were higher in health occupations in 2021 versus 2001-2020. During 2001-2021, the risk of HRI during heatwave days was 4.33 (95% CI 2.98-6.27) times that during non-heatwave days, and the risk was higher among middle-aged workers and workers in trades, transport, and equipment operations. The 2021 heatwaves had greater impact on younger and female workers than those from prior summers. **Conclusions:** Heat is a crucial workplace hazard. Prevention strategies should prioritize at-risk workers and not be limited to heatwaves.

**Guo et al. 2024.**

**Scandinavian Journal of Work, Environment and Health, vol. 50, no. 7.**

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**Keywords:** Heat-related illness; hot weather; extreme weather; Canada.

**Evidence Level:** 4B

**Link:** <https://www.sjweh.fi/article/4179>

## Sedentary Practices

### Effects of sedentary behavior reduction on blood pressure in desk workers: Results From the RESET-BP Randomized Clinical Trial

**Background:** Sedentary behavior (SB) is observationally associated with cardiovascular disease risk. However, randomized clinical trials testing causation are limited. We hypothesized that reducing SB would decrease blood pressure (BP) and pulse wave velocity (PWV) in sedentary adults. **Methods:** This parallel-arm, 3-month randomized clinical trial recruited desk workers, age 18 to 65 years, with systolic BP 120 to 159 or diastolic BP (DBP) 80 to 99 mm Hg, off antihypertensive medications, and reporting <150 min/wk of moderate to vigorous intensity physical activity. Participants were randomized to a SB reduction intervention or a no-contact control group. The intervention sought to replace 2 to 4 h/d of SB with standing and stepping through coaching, a wrist-worn activity prompter, and a sit-stand desk. SB and physical activity were measured with a thigh-worn accelerometer and quantified during all waking hours and separately during work and nonwork times. Clinic-based resting systolic BP (primary outcome) and DBP, 24-hour ambulatory BP, and PWV were assessed by blinded technicians at baseline and 3 months. **Results:** Participants (n=271) had a mean age of 45 years and systolic BP/DBP 129/83 mm Hg. Compared with controls, intervention participants reduced SB (-1.15±0.17 h/d), increased standing (0.94±0.14 h/d), and increased stepping (5.4±2.4 min/d; all  $P<0.05$ ). SB and activity changes mainly occurred during work time and were below the goal. The intervention did not reduce BP or PWV in the intervention group compared with controls. Between-group differences in resting systolic BP and DBP changes were -0.22±0.90 ( $P=0.808$ ) and 0.13±0.61 mm Hg ( $P=0.827$ ), respectively. The findings were similarly null for ambulatory BP and PWV. Decreases in work-time SB were associated with favorable reductions in resting DBP ( $r=0.15$ ,  $P=0.017$ ). Contrary to our hypotheses, reductions in work-time SB ( $r=-0.19$ ,  $P=0.006$ ) and increases in work-time standing ( $r=0.17$ ,  $P=0.011$ ) were associated with unfavorable increases in carotid-femoral PWV. As expected, increases in nonwork-time standing were favorably associated with carotid-femoral PWV ( $r=-0.14$ ,  $P=0.038$ ). **Conclusions:** A 3-month intervention that decreased SB and increased standing by ≈1 hour during the work day was not effective for reducing BP. Future directions include examining effects of interventions reducing SB through activity other than work-time standing and clarifying association between standing and PWV in opposite directions for work and nonwork time.

**Barone Gibbs et al. 2024.**

**Circulation, vol. 150, no. 18.**

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**Keywords:** Behavior; blood pressure; randomized controlled trial; vascular stiffness; work.

**Evidence Level:** 2A

**Link:** <https://www.ahajournals.org/doi/10.1161/CIRCULATIONAHA.123.068564>

## Physical Activity

### Factors influencing physical activity and sedentary behaviour in contact centres during the COVID-19 pandemic and their relevance for the future of hybrid working

**Background:** The COVID-19 pandemic changed the way many industries work, including contact centres, with some employees working from home and new on-site restrictions/measures in place representing even greater challenges for employers around staff engagement and wellbeing. This study aimed to understand the interplay of individual, social, environmental and organisational factors influencing physical activity and sedentary behaviour in UK contact centre employees, how the pandemic impacted these factors, and their relevance for the future of hybrid working. **Methods:** Individual interviews (n = 33) were conducted with participants (staff working full and part time, on site and from home) from four UK contact centres. A topic guide based on the ecological model was developed to understand current barriers and facilitators to physical activity and (reducing) sedentary behaviour during and outside of working hours. Thematic analysis was carried out using a codebook and a deductive coding approach to identify themes.

**Results:** Three key insights are provided. First, participants felt they were generally sitting more and moving less since the first UK-wide lockdown. Second, factors which negatively impacted on these behaviours were evident across all levels of the ecological model. These included individual and social barriers (e.g., lack of motivation and preferable physical activity options) as well as environmental and organisational barriers (e.g., poor home office setup, back-to-back virtual meetings). There were a mix of new and existing barriers (exacerbated by the pandemic) and several of these were linked to homeworking. Third, organisational support requirements (e.g., homeworking ergonomic support) and existing facilitators (such as the provision of informational support and flexible working arrangements) were identified.

**Conclusion:** Solutions to reduce sedentary behaviours and increase physical activity in contact centres need to address barriers from the individual to the organisational level. Whilst the study was undertaken in the UK, the results are like to be applicable globally.

**Manner et al. 2024.**

**PLoS One, vol. 19, no. 10.**

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**Keywords:** Physical activity; sedentary behaviour; COVID-19, hybrid working.

**Evidence Level:** 5B

**Link:** <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0312473>

## Musculoskeletal Health

### Sociodemographic differences in low back pain: Which subgroups of workers are most vulnerable?

**Background:** Low back pain (LBP) is a common health problem in workers that contributes to work disability and reduces quality of life. However, studies examining vulnerable groups in relation to sociodemographic differences in LBP remain scarce. Therefore, the current study investigates which sociodemographic groups of workers are most affected by LBP. **Methods:** Data from the 2018 BIBB/BAuA employment survey were used (N = 16252). Age, education, occupational group, income, working hours, atypical working time, relationship status, and having children were used as sociodemographic predictors. Gender-stratified logistic regression analyses and intersectional classification tree analyses were conducted. **Results:** A higher prevalence of LBP was observed for women compared to men. Significant differences in LBP emerged for age, working hours, atypical working time, occupational group and education, with some gender differences in the importance of predictors: Age was a significant predictor mostly in men as compared to women, atypical working hours had a slightly greater effect in women, whereas differences in LBP according to the occupational group were more pronounced for men. Vulnerable groups were found to be women who work in occupations other than professionals or managers, work atypical hours and have an intermediate or low educational level as well as men who work as skilled agricultural workers, craft workers, machine operators, or elementary occupations and are between 35 and 64 years old. **Conclusions:** Thus, workers with certain occupations and lower levels of education, middle-aged men and women with unfavourable working time characteristics are most affected

by low back pain. These groups should be focused on to potentially increase healthy working life and prevent work disability.

**Beller et al. 2024.**

**BMC Musculoskeletal Disorders, vol. 25, no. 1.**

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**Keywords:** Back pain; SES; social inequality; socioeconomic status; vulnerable groups.

**Evidence Level:** 4B

**Link:** <https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/s12891-024-07970-5>

### **Prevalence and association of musculoskeletal disorders with various risk factors among older Indian adults: Insights from a nationally representative survey**

**Background:** Globally, Musculoskeletal disorders (MSDs) are the biggest contributor (17%) to years lived with disability. For offering diagnosis and appropriate health interventions options along with follow-up care, it is pertinent to have a thorough awareness of its associated risk factors. Objectives: The study aims to assess the prevalence and association between MSDs and risk factors among the Indian older adults above 45 years. **Methodology:** Prevalence of MSDs among 28,436 participants was estimated using nationally representative survey on older Indian adults. Spatial distribution maps were created to display the magnitude of MSD prevalence at Indian sub-national level. Association between presence of MSDs and associated risk factors (such as occupation, employment duration, physical activity, BMI, diabetes, hypertension, tobacco usage, and alcohol consumption) was explored through Multivariate logistic regression. P-value <0.05 was considered as statistically significant. **Results:** MSD was prevalent in over half of participants (53.5 (52.9-54.1)%), with more among females and in those aged >60 years (60.4 (59.3-61.4)%). Overall, joint pain (41.9 (41.3-41.4)%) was more common than back pain (32.6 (32.0-33.1)%). Prevalence was highest in Manipur (81.1 (77.9-83.9)%) and lowest in West Bengal (33.1 (30.7-35.5)%). MSD presence was positively associated with certain occupational groups, pre-obesity (BMI 25-29.9 Kg/m<sup>2</sup>), currently hypertensive, vigorous physical activity among overall population. Tobacco usage was positively associated, while alcohol consumption was linked to a lower occurrence of MSDs for 45-60 years age group. **Conclusions:** Customised policy interventions can be developed for specific age category of older Indian adults and musculoskeletal health can be improved by addressing modifiable risk factors such as physical inactivity, tobacco usage, avoiding workplace risks in occupations requiring manual labour as revealed by this study.

**Tiwari et al. 2024.**

**PLoS One, vol. 19, no. 10.**

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**Keywords:** Musculoskeletal disorders; Indian.

**Evidence Level:** 4B

**Link:** <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0299415>

### **Design and evaluation of the OmniSuit: A passive occupational exoskeleton for back and shoulder support**

**Background:** Many physically straining occupations involve lifting movements over the full-vertical range of motion, which over time may lead to the development of musculoskeletal injuries. To address this, occupational exoskeletons can be designed to provide meaningful support to the back and shoulders during lifting movements. This paper introduces the main functional design features of the OmniSuit, a novel passive occupational exoskeleton. **Method:** We present the technical and biomechanical considerations for the expected support level, as well as an evaluation of the physiological benefit and usability of the exoskeleton in a sample of 31 healthy volunteers performing physically demanding tasks in a laboratory setting. **Results:** The OmniSuit exoskeleton significantly reduced Deltoid, Trapezius and Erector Spinae muscle activity between 4.1%MVC and 15.7%MVC when lifting a 2.5kg weight above shoulder level (p<0.001), corresponding to a reduction of up to 49.1% compared to without exoskeleton. A position-dependent reduction of Erector Spinae muscle activity was observed (p<0.001), with reductions ranging between 4.6%MVC and 14.0%MVC during leaning and squatting, corresponding to a reduction up to 41.5% compared to without exoskeleton. The measured muscular support and the predicted support torque

based on the biomechanical model were found to show a similar profile for those phases of the movement which are most straining to the shoulder and back muscles. Participants reported experiencing good device usability and minimal discomfort (<1/10) in the shoulder and back during task execution with exoskeleton support. **Conclusion:** These first results validate that the considered biomechanical model helped design an ergonomic and efficient exoskeleton, and confirm the potential of such wearable assistive devices to provide support over multiple joints during physically demanding tasks.

**van Sluijs et al. 2024.**

**Applied Ergonomics, vol. 120.**

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**Keywords:** Back support; biomechanical model; muscle activity; musculoskeletal disorders; passive exoskeleton; shoulder support.

**Evidence Level:** 5B

**Link:** <https://www.sciencedirect.com/science/article/pii/S0003687024001091?via%3Dihub>

### **Effectiveness of a dynamic seat cushion on recovery and recurrence of neck and low back pain in office workers: A secondary analysis of a randomized controlled trial**

**Background:** Neck and low back pain are prevalent issues among office workers due to prolonged sitting, necessitating effective interventions. Dynamic seat cushion, designed to promote postural shifts, have emerged as promising solutions to address this concern. This study aims to evaluate the effectiveness of a dynamic seat cushion on recovery and recurrence of neck and/or low back pain in office workers.

**Methods:** This study used 6-month follow-up data of a randomized controlled trial, involving 66 office workers who reported neck and/or low back pain during the trial. At baseline, participants were cluster-randomized into an intervention group, which received a dynamic seat cushion designed to encourage postural shifts, or a control group, which received a placebo seat pad. Health outcomes included recovery duration and recurrence of pain. Analyses utilized log rank test and Cox proportional hazard models.

**Results:** The recovery rate from neck and/or low back pain was 100% for the intervention group, and 86% for the control group. The median recovery duration of participants who reported pain during the 6-month period was 1 month in the intervention group and 3 months in the control group. The intervention group had a higher probability of recovery compared to the control group (HR<sub>adj</sub> 4.35, 95% CI 1.87-10.11; p < 0.01). The recurrence rate of neck and low back pain was 27% in the intervention group, which was 75% in the control group. The Hazard Ratio, after adjustment, for the intervention group compared to the control group was 0.50 (95% CI = 0.11-2.12). **Conclusions:** A dynamic seat cushion that encourages postural shifts shortened recovery duration of neck and low back pain among office workers. Due to small numbers, a potentially relevant reduction in the recurrence of neck and low back pain could not be statistically confirmed. A power analysis was not conducted for this secondary analysis, and future studies should be designed with adequate sample sizes to explore the recurrence of pain with greater statistical power.

**Channak et al. 2024.**

**BMC Musculoskeletal Disorders, vol. 25, no. 1.**

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**Keywords:** Dynamic sitting; office worker; postural shift.

**Evidence Level:** 4A

**Link:** <https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/s12891-024-07947-4>

### **'Pain free if I ever will be': Lived experience of workers seeking care for pain attributed to musculoskeletal disorders**

**Background:** Pain attributed to musculoskeletal disorders are a significant hinderance to work ability and economic growth, especially in developing countries. Quality of life and lived experience of workers with musculoskeletal disorders have not been explored enough to determine whether person-centred care is provided. There is a wealth of evidence for using the biomedical approach in the management of workers with musculoskeletal disorders, which has proved ineffective in reducing absenteeism and symptoms

experienced by workers. The purpose of this study was to explore the lived experience of workers seeking care for musculoskeletal disorders and how their pain attitudes and beliefs influenced their experience.

**Methods:** A qualitative approach with thematic analysis was used. Purposive sampling was used to recruit six participants for semi-structured interviews. All participants were either experiencing pain attributed to a musculoskeletal disorder or had received care for a musculoskeletal disorder. **Results:** Pain attitudes and beliefs of workers with a musculoskeletal disorder and healthcare professionals greatly influenced the care and recovery process of musculoskeletal disorders. There is a primary biomedical lens informing care of workers with musculoskeletal disorders received. Workers expect healthcare professionals to explore their concerns further, but the focus of care for most participants was their presenting complaint. There is also a need for the autonomy of workers to be preserved, and communication between healthcare professionals and workers with musculoskeletal disorders needs to improve. **Conclusions:** Many stakeholders are involved in the recovery process from musculoskeletal disorders. There is a need for a biopsychosocial informed practice to improve return-to-work (RTW) in workers with musculoskeletal disorders. Change is needed at all healthcare system levels to reduce the negative experiences of workers and maladaptive pain beliefs that is associated with persisting symptoms and extended absenteeism.

**Petersen et al. 2024.**

**BMC Musculoskeletal Disorders, vol. 25, no. 1.**

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**Keywords:** Absenteeism; healthcare professionals; musculoskeletal disorders; pain attitudes and beliefs; workers.

**Evidence Level:** 5A

**Link:** <https://bmcmusculoskeletdisord.biomedcentral.com/articles/10.1186/s12891-024-07879-z>

## Guiding and Supporting Mental Health and Wellbeing

### Mental Health

#### **Influence of changes in occupational status during the COVID-19 pandemic on suicidal narrative, suicide crisis syndrome, and suicidal ideation in Brazil**

**Background:** This article aims to examine differences in suicidal narrative and suicide crisis syndrome symptoms, and suicidal ideation among those who maintained, lost, and gained employment or student status during the COVID-19 pandemic. **Method:** It is a cross-sectional study based on an online and anonymous self-report questionnaire. Participants were recruited through social media platforms between November 2020 and October 2021. **Results:** Changes in occupational status were assessed in 2,259 individuals. The sample was divided into four groups according to work (full-time/part-time) and study status (1) maintained, (2) lost, (3) gained, and (4) unemployed. Suicide outcomes were investigated by the Suicidal Narrative Inventory, Suicide Crisis Inventory, and Columbia - Suicide Severity Rating Scale Screener version. Changes in occupational status influenced symptoms of the suicide crisis syndrome and suicidal narrative, but not suicidal ideation. Those who maintained their work, such as full-time/part-time scored lower on the total scores of the Suicidal Narrative Inventory and Suicide Crisis Inventory-2 compared to those who lost their employed status and unemployed. **Conclusion:** Our findings suggest that it is appropriate to consider changes in employed status as a mental health risk factor during pandemics.

**Peper-Nascimento et al. 2024.**

**Ciência & Saúde Coletiva, vol. 29, no. 10.**

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**Keywords:** COVID-19; suicide; suicidal ideation.

**Evidence Level:** 4B

**Link:** <https://www.scielo.br/j/csc/a/J4xH386JkWttj6QsvYqnjJk/?lang=en>



### **The influence of different conflict management styles on depressive symptoms in employees: The mediating role of emotional exhaustion**

**Background:** Although some studies have found that conflict management styles impact employees' levels of depression, the expressions of employees' depressive symptoms under various conflict management styles and the underlying mechanisms remain to be elucidated. **Method:** In this study, a total of 1,312 employees were gathered through an online survey to examine their current depressive status. Drawing on the conservation of resources theory, the mediating role of emotional exhaustion in the association between conflict management style and employee depression was further explored. **Results:** The findings revealed that the prevalence of moderate to severe depression among the workers was 13.9%. Employees with different conflict management styles displayed distinct depression scores. The high coordination style group exhibited a significantly lower depression score compared to the high concession style group. Emotional exhaustion played a mediating role in the impact of both the coordination style and the concession style on employees' depression. **Conclusion:** It can be seen that the mental health needs of the workplace are imminent. The intervention measures to improve the mental health of employees in the working environment should take into account the cultivation of the coordination style of employee conflict management, reduce their emotional exhaustion, and stay away from depression through the acquisition of constructive and positive coping styles.

**Zhang et al. 2024.**

**Frontiers in Public Health, vol. 12.**

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**Keywords:** Concession style; coordination style; depression; emotional exhaustion; employee.

**Evidence Level:** 5B

**Link:** <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2024.1407220/full>

### **Persistent low job control and subsequent major depression: A prospective cohort study of Australian working males**

**Background:** Workers' perception of control over work is a key construct in the relationship between the psychosocial work environment and health. While exposure to low job control has been prospectively linked to poor mental health including depression and anxiety, there is less research examining the impact of prolonged exposure to low job control on mental health. **Method:** Data from 5054 employed men from 2013 to 2021 in the Australian Longitudinal Study on Male Health was used to examine persistent and intermittent low job control and subsequent major depression symptoms. Persistent low job control was based on consecutive self-reports of low job control over waves 1 and 2. Combinations of low and high job control were classified as intermittent exposure and continuous high job control exposure over both waves was classified as persistent high job control. Major depression symptoms, derived from the Patient Health Questionnaire-9, was measured in wave 3. Generalised linear models and augmented inverse probability weighting were undertaken. **Results:** There was a strong stepwise relationship between low job control and major depression. Compared to persistent high job control, intermittent low job control was associated with an increased risk of subsequent major depression symptoms by 32% (RR 1.32, 95% CI 0.82, 2.15); and persistent low job control by 103% (RR 2.03, 95% CI 1.21, 3.41). Compared to men exposed to persistent high job control, the average treatment effect for persistent low job control was 0.036 (95%CI 0.014, 0.058) and intermittent low job control 0.019 (95%CI 0.006, 0.032) equating to a risk ratio of 2.46 (95%CI 1.43, 3.50) and 1.79 (95% CI 1.14, 2.45) respectively. **Conclusion:** This study's findings have implications for public health and occupational policies, as they underscore the importance of reducing prolonged exposure to low job control to protect against the risk of major depression in the working population.

**Taouk et al. 2024.**

**Social Science & Medicine, vol. 359.**

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**Keywords:** Depression; job control; male health; mental health; psychosocial work stressors.

**Evidence Level:** 4A

**Link:** <https://www.sciencedirect.com/science/article/pii/S0277953624007378?via%3Dihub>

### **Work addiction and personality organization: Results from a representative, three-wave longitudinal study**

**Background:** Several studies have explored the relationship between personality and work addiction, suggesting that individuals with certain mental disorders, including personality disorders such as obsessive-compulsive personality disorder (OCPD), may be more prone to work addiction. However, the characterization of personality organization (PO) among workaholics and its contribution to the persistence of work addiction remains unclear. **Methods:** In this longitudinal study of a representative sample of young adults (N = 1748), we applied the Bergen Work Addiction Scale and the Inventory of Personality Organization. **Results:** We found significant correlations between work addiction and identity diffusion, primitive psychological defenses, reality testing, and overall personality disorganization across three waves. A latent class growth analysis revealed three profiles: no work addiction, increasing work addiction, and constant moderate work addiction. Multinomial logistic regression analysis indicated that higher levels of personality disorganization in wave 1 and increases in personality disorganization between waves 1 and 3 were associated with higher odds of belonging to the increasing work addiction group. Similarly, higher overall personality disorganization in wave 1 was associated with higher odds of belonging to the constant moderate work addiction group. **Conclusion:** These findings suggest that individuals with chronic work addiction have lower levels of PO, and PO declines as work addiction persists. Screenings for work addiction are recommended to prevent potential mental health issues. Future research should explore the influence of workplace characteristics and work motivations on the association between work addiction and personality disorders.

**Bodó et al. 2024.**

**Comprehensive Psychiatry, vol. 134.**

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**Keywords:** Longitudinal; personality disorders; personality organization; work addiction; workaholism.

**Evidence Level:** 4B

**Link:** <https://www.sciencedirect.com/science/article/pii/S0010440X24000646?via%3Dihub>

### **Even if you build it, they may not come: Challenges in the uptake of workplace mental health toolkits**

**Background:** Strategies to promote workplace mental health can target system, organization, team, and individual levels exclusively or in concert with each other. Creating toolkits that include these different levels is an emerging innovative strategy to support employees working in various sectors. Our paper describes the development, implementation, and refinement of two different online toolkits: the Healthy Professional Worker Toolkit for Education Workers and the Health Worker Burnout Toolkit. **Methods:** The Knowledge to Action Framework guided the team during the development and early interventions phases of toolkit development. Stakeholder engagement regarding the intended use of the toolkit of promising practices for workplace interventions was integrated throughout with different forms of feedback in a research capacity between 2022 and 2024. **Results:** Reflecting on the different phases of the KTA Framework, we describe first the engagement involved in building the toolkits and then on their utilization. Our toolkits were built to include different resources aimed at empowering workers, teams, and employers offering innovative ideas to address the mental health-leaves of absence and return to work cycle in one case and the different forms and consequences of burnout in the other. Criteria for inclusion were informed by ongoing research with a range of stakeholders and other intended toolkit users including managers, supervisors, executives, human resource specialists, staff, and others in healthcare and educational organizations and settings. In the implementation phase, the volume of resources available in each toolkit considered a strength by some was overwhelming for some partners and individual workers to navigate. Capacity, engagement, time, and readiness for change, are themes that heavily influenced if and when organizations interacted with each toolkit, and how much time they spent exploring the resources provided. **Conclusion:** It is critical to ground toolkits in the experiential evidence of workplace mental health as is linking these to evidence-informed interventions that correspond to workplace concerns. Organizational readiness to adopt and adapt resources and implement changes is a key consideration. Ultimately, user engagement is what brought these toolkits to life.

**Corrente et al. 2024.**

**BMC Public Health, vol. 24, no. 1.**

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**Keywords:** Burnout; capacity; engagement; health worker; mental health; professional worker; toolkits.

**Evidence Level:** 6B

**Link:** <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-20039-1>

### **The role of social identity in a suicide prevention programme for construction workers in Australia**

**Background:** Each year, more than 700 000 people die by suicide globally, the majority of whom are men. The United Nations and World Health Organization have set targets to reduce suicide rates by one-third by 2030. While large-scale suicide prevention programmes are required to meet these targets, diffusion of these types of initiatives is difficult-particularly with male populations. **Method:** This qualitative study investigated the MATES in Construction suicide prevention programme in Australia. Guided by Social Identity Theory and the Social Identity Model for Collective Action, the study aimed to understand why construction workers chose to volunteer and advocate for industry-based suicide prevention programmes, and how their worker identity, solidarity and relationships impacted their volunteering and advocacy. Semi-structured interviews were conducted with 28 participants who had chosen to engage with MATES as volunteers. **Results:** Data were interpreted using a reflexive approach to thematic analysis, and four themes were constructed from the data relating to feelings of belonging, connection and solidarity between workers and their industry; how specific context and roles impacted identity while existing within an overall sense of identity and solidarity; how industry mateship supported engagement in suicide prevention; and how the role of lived experience, mateship and responsibility provided hope for change. Providing intervention skills to workers, particularly workers with a lived experience of mental ill-health, empowered them to believe that they could make a difference by acting collectively. **Conclusion:** The MATES engagement model described in this study may have applications for other health promotion prevention programmes targeting male cultures.

**Gullestrup et al. 2024.**

**Health Promotion International, vol. 39, no. 5.**

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**Keywords:** MATES in Construction; mental health; lived experience; peer support; suicide prevention.

**Evidence Level:** 5A

**Link:** <https://academic.oup.com/heapro/article-lookup/doi/10.1093/heapro/daae140>

## **Bullying, Harassment and Occupational Violence**

### **The effect of workplace bullying on knowledge sharing of the employees in scientific and technological enterprises: A moderated mediation model**

**Background:** This study aims to understand how workplace bullying affects knowledge sharing among employees in Chinese scientific and technological enterprises. **Method:** A convenience sampling method was employed to survey 275 employees from scientific and technological enterprises of Yangtze River Delta, China. The survey utilized a general information questionnaire, a workplace bullying scale, an organizational belonging scale, a knowledge sharing scale, and a forbearance scale. A moderated mediation model was set up, and the hierarchical regression and the bootstrapping method were applied.

**Results:** The empirical results indicated that workplace bullying has a negative effect on the knowledge sharing, and organization belonging has played mediating effect. Furthermore, Forbearance not only moderated the effect of workplace bullying on organizational belonging, but also moderated the mediated effect of organization belonging, and the effect will be stronger when employees are at a lower level of forbearance. **Conclusions:** This study offers important implications for scientific and technological enterprises. The findings imply that enterprises should discourage person-related workplace bullying to increase employees' intention to engage in knowledge-sharing behavior. Moreover, the manager of these firms should develop a culture of family so that they can care for the organization belonging.

**Kong et al. 2024.**

**BMC Psychology, vol. 12, no. 1.**

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**Keywords:** Forbearance; knowledge sharing; organizational belonging; scientific and technological enterprises; workplace bullying.

**Evidence Level:** 5B1

**Link:** <https://bmcpyschology.biomedcentral.com/articles/10.1186/s40359-024-02056-2>

## Psychosocial Issues

### **Recharging exhausted parents: How and when involvement in children's education increases working parents' flourishing at home and engagement at work**

**Background:** Parental involvement in children's education is highly valued and encouraged in many societies. While existing research has mainly focused on the positive effects parental involvement has for children, we argue that engaging in such quality parent-child interactions can also be a resource-gaining process for parents. **Method:** Drawing on the conservation of resources theory and the work-home resources model, the current study aims to investigate how and when working parents' involvement in children's education enhances their well-being at home and engagement at work. **Results:** Using a two-wave survey of 206 full-time employees with at least one school-aged child, our results indicate that for parents experiencing higher levels of parental burnout, involvement in their children's education enhances their flourishing experience at home and subsequently improves work engagement and creative process engagement at work. **Conclusion:** Overall, our study contributes to the well-being and work-family interface literature by highlighting the positive effect of parental involvement, an underexplored construct, on working parents' well-being both at home and in the workplace. This study also provides practical implications for burned-out working parents that they can benefit from involving themselves in their children's education to cope with and thrive from family demands.

**Wang et al. 2024.**

**PsyCh Journal, vol. 13, no. 5.**

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**Keywords:** Conservation of resources theory; engagement at work; flourishing; parental burnout; parental involvement in children's education; work-family interface.

**Evidence Level:** 4B

**Link:** <https://onlinelibrary.wiley.com/doi/10.1002/pchj.753>

### **Navigating workplace conflicts and fostering innovative behaviors: The role of job commitment and socio-instrumental ESM utilization**

**Background** This study explores the dynamics of intersection between workplace conflicts, job commitment, and socio-instrumental enterprise social media (ESM) utilization for improving innovation. This study proposes job commitment as a pivotal mediator that influences employees' attitudinal responses to the array of conflicts encountered in the workplace. Additionally, it introduces socio-instrumental ESM use as a potent moderator, influencing employees' appraisals of workplace conflicts. **Method:** To illuminate the intricate tapestry of these interactions, we present a moderated mediation model that delineates the complex nomological network governing the interplay among workplace conflicts, job commitment, and the cultivation of innovative behaviors. **Results** Based on empirical data encompassing 447 employees, our findings illuminate the distinctive moderating roles played by these socio-instrumental ESM usage. These patterns differentially moderate the connections between workplace conflicts and job commitment, as well as the indirect connections between workplace conflicts and the stimulation of employee innovation through job commitment. **Conclusion** This research significantly advances our theoretical understanding of the multifaceted interplay among workplace conflicts, job commitment, socio-instrumental ESM utilization, and employee innovation. Moreover, it offers implications that can facilitate organizational strategies aimed at fostering innovation. By recognizing the pivotal roles of job commitment and socio-instrumental ESM, organizations can strategically harness these factors to cultivate a culture of innovation, positioning themselves for success in an increasingly competitive and dynamic business environment.

**Cai et al. 2024.**

**BMC Psychology, vol. 12, no. 1.**

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**Keywords:** Employee innovative behavior; job commitment; Socio-instrumental use of ESM; workplace conflict.

**Evidence Level:** 5B

**Link:** <https://bmcpyschology.biomedcentral.com/articles/10.1186/s40359-024-02089-7>

### **Experiences of psychological, social and organisational work environments in occupational health service in Sweden: A cross-sectional survey**

**Background:** The aim of this study was to compare and describe different professionals' experiences of workplace psychological and social factors in occupational health (OH) organizations in Sweden.

**Methods:** This cross-sectional study with a descriptive and comparative design included 472 respondents with common professions in the occupational health service (OHS) in Sweden. Data were collected with "The General Nordic Questionnaire for Psychological and Social Factors at Work" (QPS<sub>Nordic</sub>). The professions have been compared pairwise using the Independent Samples Kruskal-Wallis test, adjusted by Bonferroni correction for multiple tests on subscales and single items and these are presented descriptively.

**Results:** The experience of the psychological and social work environment on job task measurement level differed between the professionals. Experiences on social and organizational as well as on individual measurement levels are similar between the professionals who perceive them as satisfactory. Out of the 472 respondents, 7% reported that they had seen someone being subjected to harassment and bullying at the workplace during the last six months. **Conclusions:** The experience among the professionals differs most in the Job task measurement level. The results indicate that although different OH professionals experience psychological and social factors at work in different ways, their experiences are generally satisfactory even though harassment and bullying do exist. The research about occupational health professionals and their work environment is sparse. Further applied research is needed for the planning and development of occupational health services in Sweden.

**Mouazzen et al. 2024.**

**BMC Health Services Research, vol. 24, no. 1.**

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**Keywords:** Occupational health; occupational health service; organisational and social factors at work; psychosocial working conditions; QPS<sub>Nordic</sub>.

**Evidence Level:** 4B

**Link:** <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-024-11766-7>

### **The effects of work-family conflict, work engagement, and job burnout on self-rated health of public health emergency responders in Jilin Province, China, in the context of the COVID-19**

**Background:** Amid sudden public health crises, preserving the well-being and optimal working states of frontline healthcare professionals is imperative for efficaciously managing the emergencies. However, there is a paucity of research investigating the health status of frontline healthcare professionals through the perspective of work-family conflict. This study sought to elucidate the complex interrelations between work-family conflict, work engagement, job burnout, and self-rated health among public health emergency responders within the context of the COVID-19 pandemic. **Methods:** A convenience sampling method was employed to survey 1,309 public health emergency responders at the Jilin Provincial Center for Disease Control and Prevention. An online survey was administered utilizing a self-constructed questionnaire. The hypothesized relationships between the variables were tested using structural equation modeling.

**Results:** The direct impact of work-family conflict on self-rated health is not significant. The association between work-family conflicts and self-rated health was significantly mediated by work engagement and job burnout, respectively. Meanwhile, work engagement and job burnout had a chain mediating effect on work-family conflict and self-rated health. **Conclusion:** Work-family conflict plays a critical role in shaping the health and work status of public health emergency responders during public health crises.

Organizations and managers should, in their workplace management practices, focus not only on work-related factors but also give due consideration to family-related factors. Supportive policies, including

family-friendly initiatives, should be developed to safeguard the health and work engagement of public health emergency responders.

**Hu et al. 2024.**

**Frontiers in Public Health, vol. 12.**

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**Keywords:** Job burnout; public health emergency responders; self-rated health; work engagement; work-family conflict.

**Evidence Level:** 4B

**Link:** <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2024.1469584/full>

### **Work stress and burnout among active correctional officers in Puerto Rico: A cross-sectional study**

**Background:** Correctional officers (COs) are exposed to emotional and physical harm by the nature of their work. Operational stress can lead to burnout and influence absences and COs work performance.

**Objectives:** This study aimed to evaluate the association between work-related stress and burnout adjusted by potential confounding variables (age, sex, correctional facility, type of correctional facility, distance to work, and absenteeism).

**Methods:** The sample of this cross-sectional study was made up of 799 prison officials. The self-administered questionnaire consisted of four instruments: demographic data, Health and Job Performance Questionnaire, Police Operational Stress Questionnaire, and Maslach Burnout Inventory.

The questionnaires were completed online and in person. **Results:** A high proportion of COs reported high operational stress and burnout levels. Fatigue was the highest mean value from all stressors, with 5.89. COs reported high levels of emotional exhaustion and depersonalization. They also reported low levels of personal accomplishment.

Furthermore, COs with high stress levels are approximately eight times more likely to experience burnout. **Conclusion:** These findings suggest that COs in Puerto Rico exposed to stress are more vulnerable to present burnout. The findings suggest that evidence-based interventions and programs should be implemented to help prevent and reduce operational stress and burnout among COs.

**Laureano-Morales et al. 2024.**

**PLoS One, vol. 19, no. 10.**

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**Keywords:** Work stress; burnout; correctional officers.

**Evidence Level:** 4B

**Link:** <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0304886>

## **Fostering Work Participation**

### **Return to Work**

#### **Do return-to-work trajectories differ by mental disorder diagnosis? A register study among 37 523 Dutch workers**

**Background:** Return to work (RTW) of workers with mental disorders is often a process of gradually increasing work hours over time, resulting in a RTW trajectory. This study aimed to investigate 2-year RTW trajectories by mental disorder diagnosis, examining the distribution of age, sex and contracted work hours across the diagnosis-specific RTW trajectories. **Methods:** Sickness absence episodes diagnosed within the ICD-10 chapter V (mental and behavioral disorders) and ICD-10 Z73.0 (burnout) were retrieved from a Dutch occupational health service register, together with age, sex and contracted work hours. Sickness absence episodes due to adjustment disorders (N=25 075), anxiety disorders (N=1335), burnout (N=3644), mood disorders (N=5076), and post-traumatic stress disorders (N=2393) were most prevalent and included in latent class growth analysis (LCGA) to estimate 23-month RTW trajectories. **Results:** Four main RTW trajectories were identified for all mental disorder diagnoses: fast full RTW [range 82.4% (mood disorders) to 92.0% (adjustment disorders) of the study population], slow full RTW [3.5% (burnout) to 6.1% (mood disorders)], slow partial RTW [0.6% (adjustment disorders) to 1.6% (mood disorders)] and no RTW [2.2% (adjustment disorders) to 9.7% (mood disorders)]. Trajectories with a late onset of fast full RTW included higher percentages of women and lower percentages of full-time workers. **Conclusions:** RTW trajectories

were similar for different mental disorder diagnoses although the distribution differed across diagnoses, with more partial and no RTW trajectories among workers with mood disorders. To better guide workers back to work, more knowledge is needed of factors associated with late, partial, or no RTW.

**Vendelbosch et al. 2024.**

**Scandinavian Journal of Work, Environment and Health, vol. 50, no. 7.**

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**Keywords:** Return to work; mental health; diagnosis.

**Evidence Level:** 4B

**Link:** <https://www.sjweh.fi/article/4183>

### **Development of a vocational rehabilitation intervention to support return-to-work and well-being following major trauma: A person-based approach**

**Background:** Major trauma centres (MTCs) save lives but rehabilitation to support return-to-work (RTW) is lacking. This paper describes development of a vocational rehabilitation intervention (the ROWTATE intervention) to support RTW following traumatic injury. **Design:** Sequential and iterative person-based approach in four stages-*Stage 1:* review of evidence about the efficacy and mechanisms of RTW interventions; *Stage 2:* interviews (n=38) and focus groups (n=25) with trauma survivors and service providers in five UK MTCs to identify the issues, and challenges faced postinjury; *Stage 3:* codesign workshops (n=43) with trauma stakeholders in MTCs to conceptually test and identify intervention delivery barriers/enablers; *Stage 4:* meetings (n=7) with intervention development working group (IDWG) to: (1) generate guiding principles, (2) identify key intervention features (process, components, mechanisms) to address unmet rehabilitation needs; (3) generate a logic model and programme theory to illustrate how the intervention works; and (4) develop a training package to support delivery. **Results:** Trauma survivors described unmet needs relating to early advice about RTW; psychological support; pain management; hidden disabilities (eg, fatigue); estimating recovery; and community, amputee and musculoskeletal rehabilitation. Mechanisms of effective interventions identified in the review included early intervention, colocation, employer engagement, case coordination and work accommodations. Intervention features identified by IDWG members (n=13) from stages 1 and 2 were use of stepped-care approaches by occupational therapists (OTs) and clinical psychologists (CPs), OT/CP formulation for complex cases, assessment of mental health problems, individually tailored rehabilitation including vocational goal setting, cross-sector coordination/communication, employer engagement, phased RTW, education/advice for family/employers, exploration of work alternatives, ongoing review of physical and mental health needs, work stability monitoring. Conceptual testing ratified the logic model. Geography and long waiting lists were identified as potential delivery barriers. **Conclusions:** Real-world testing of the intervention is underway in a randomised controlled trial.

**Radford et al. 2024.**

**BMJ Open, vol. 14, no. 10.**

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**Keywords:** Clinical trial; implementation science; occupational & industrial medicine; psychosocial intervention; rehabilitation medicine; trauma management.

**Evidence Level:** 5B

**Link:** <https://bmjopen.bmj.com/content/14/10/e085724.long>

### **Have my back as I get back to work: Experiences of stakeholder support in returning to work after sick leave due to chronic pain: A qualitative interview study**

**Background:** Chronic pain (pain > 3 months) is a disabling condition affecting around one fifth of the population. Chronic pain significantly affects a person's psychological and physical health and often interferes with the ability to work. It is one of the most common reasons for extended sick leave and persons with chronic pain often have difficulties returning to work. Interpreting the experiences of currently available is necessary in order to facilitate a return to working life. Therefore, this study aimed to describe and interpret the meaning of support during the return-to-work process for persons on sick leave due to chronic pain. **Method:** A qualitative interview study was conducted with 14 participants (12 women and 2 men) who experienced sick leave due to chronic pain. The participants were recruited through

patient organizations focusing on pain or pain-related conditions. Collected data was analyzed using a phenomenological hermeneutical approach. **Results:** Have my back as I get back to work was the theme of the analysis, along with six subthemes. Being able to work was important for the participants. However, they often experienced returning to work was a battle for support, dealing with fragmented backing from the involved stakeholders. Participants with access to collaborative support involving competent care, recognition and the possibility to influence their work felt valuable and capable as persons and workers. Thus, they were provided conditions allowing a successful re-entry into the workplace. **Conclusions:** Our findings contribute to an enhanced understanding of the importance of stakeholder support in persons with chronic pain re-entering the workplace after an extended break due to sick leave. Through an inclusive, collaborative and flexible approach involving all stakeholders working towards the same goal, a person with chronic pain can feel supported in developing and cultivating the capabilities necessary to manage life and work.

**Lundin et al. 2024.**

**PLoS One, vol. 19, no. 10.**

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**Keywords:** Return to work; chronic pain; sick leave.

**Evidence Level:** 5B

**Link:** <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0312478>

### **Women's health and psychological well-being in the return-to-work process after long-term sick leave for common mental disorders: Women's and first-line managers' perspectives**

**Background:** Common mental disorders are common reasons for long-term sick leave, especially among women. Return to work is often complex and unsuccessful, why more knowledge is needed regarding women's health and psychological well-being in the return-to-work process. Therefore, the aim was to describe women's health and psychological well-being in the return-to-work process, from women's and first-line managers' perspectives. **Methods:** Individual interviews were conducted with 17 women and 16 first-line managers. Qualitative content analysis was performed based on the content areas "Women's health (i.e. overall well-being, both physical and psychological) throughout the whole RTW process" and "Women's psychological well-being (happiness, meaning and a sense of being significant) at work after work resumption" Themes and categories were created. **Results:** Women and managers had similar descriptions, i.e. that women's health and psychological well-being depend on the individual characteristics of women themselves, their private life, work and other stakeholders. However, women described relational work tasks (e.g. meeting patients) as beneficial for health, and highlighted small stressors in the work environment, which the managers did not. Having work that was compatible with private life, being in good health, having stimulating work tasks and strengthening relationships at work were important for the women's psychological well-being. **Conclusions:** Based on women's and first-line managers experiences, promotion of women's health and psychological well-being during the return-to-work process requires individually adapted assessments and actions involving women's entire life situation. First-line managers should know that relational work tasks (e.g., meeting patients) can be beneficial for women's health as well as that minor stressor in the work environment can put their health at risk.

**Hedlund et al. 2024.**

**BMC Public Health, vol. 24, no. 1.**

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**Keywords:** Common mental disorders; first-line managers; health; psychological well-being; return to work; women.

**Evidence Level:** 5B

**Link:** <https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-024-20350-x>



## Presenteeism and Absenteeism

### **Associations between work-related factors and sickness presenteeism: A prospective study using the national French working conditions survey**

**Background:** The objectives were to assess the prospective associations between work-related factors, including psychosocial and physical work factors and working time/hours factors, and sickness presenteeism alone or combined with sickness absence. **Methods:** The study relied on prospective data of a national representative sample of 16 129 employees followed up from 2013 to 2016 in France. Work-related factors were assessed in 2013 and included 20 psychosocial work factors, 4 working time/hours factors and 4 physical work factors. Sickness presenteeism was studied using two items in 2016: the presence and duration of sickness presenteeism within the last 12 months. Weighted Hurdle and multinomial logistic regression models were performed to study the prospective associations between work-related factors at baseline and sickness presenteeism (both presence and duration) and sickness absence at follow-up. Models were adjusted for covariates. **Results:** Almost all psychosocial and physical work factors were predictive of sickness presenteeism (ORs ranging from 1.30 to 2.07 for men, and from 1.16 to 2.30 for women) but only some of them predicted its duration. Dose-response associations were observed between multiple exposures to these factors and sickness presenteeism. These factors predicted more sickness presenteeism alone or combined with sickness absence than sickness absence alone. Gender differences were observed in these associations, as some associations were found to be stronger among women than among men. **Conclusions:** There is a need to study sickness presenteeism and sickness absence combined. Prevention oriented towards the psychosocial and physical work environment may contribute to reduce sickness presenteeism and sickness absence.

**Neidhammer et al. 2024.**

**Occupational and Environmental Medicine, vol. 81, no. 9.**

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**Keywords:** Occupational health; sick leave.

**Evidence Level:** 4B

**Link:** <https://oem.bmj.com/content/81/9/448.long>

## Workers Compensation

### **Lessons learned from implementing a digital rehabilitation care planning platform to improve care access for patients with work disability: Qualitative process evaluation of the RehaPro-SERVE study**

**Background:** Inpatient rehabilitation therapies can be applied for in Germany by patients of working age to support their return to work. However, there are some problems that impede an easy and uncomplicated application process. An interdisciplinary case management approach for rehabilitation care planning was developed to facilitate the access to rehabilitation. Case conferences (CCs) were held with relevant stakeholders and took place on a digital communication platform. We conducted a qualitative process evaluation to understand the implementation of the intervention and to identify contextual factors as well as mechanisms for a successful implementation in the context of primary care. **Methods:** The process evaluation included interviews with primary care physicians (PCPs), patients and stakeholders involved in the intervention process. Reflexive thematic analysis was used to analyse the data. Emerging themes were structured according to the Donabedian framework of structure, process and outcomes. **Results:** A total of 18 interviews were conducted. Important results included the desire for more patient involvement and case management. Patients especially valued the opportunity to receive support from a social worker. Limitations of the platform related to usability and limited opportunities for stakeholder communication. Despite training for PCPs, several problems arose regarding the clarity of the intervention process. Patients were satisfied with their application process and the treatments offered, while PCPs reported an increase in workload. **Conclusions:** A digitalisation of the application procedure for rehabilitation and further treatment options is acceptable to patients and personal support of a social worker is particularly valued. However, patients should be included in the CC in terms of a shared decision-making process. The digital platform requires sufficient training and adjustments have to be made to enhance usability and to improve

the efficiency of the process for PCPs. Overall, the exchange between the various stakeholders in the CC is considered particularly useful in more complex cases.

**Buch et al. 2024.**

**BMC Health Services Research, vol. 24, no. 1.**

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**Keywords:** Case conferences; case management; complex intervention; digital platform; interdisciplinary care planning; primary care; process evaluation; rehabilitation.

**Evidence Level:** 5B

**Link:** <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-024-11778-3>

## Wellness Programs

### **A universal digital stress management intervention for employees: Randomized controlled trial with health-economic evaluation**

**Background:** Stress is highly prevalent and known to be a risk factor for a wide range of physical and mental disorders. The effectiveness of digital stress management interventions has been confirmed; however, research on its economic merits is still limited. This study aims to assess the cost-effectiveness, cost-utility, and cost-benefit of a universal digital stress management intervention for employees compared with a waitlist control condition within a time horizon of 6 months. **Methods:** Recruitment was directed at the German working population. A sample of 396 employees was randomly assigned to the intervention group (n=198) or the waitlist control condition (WLC) group (n=198). The digital stress management intervention included 7 sessions plus 1 booster session, which was offered without therapeutic guidance. Health service use, patient and family expenditures, and productivity losses were self-assessed and used for costing from a societal and an employer's perspective. Costs were related to symptom-free status (PSS-10 [Perceived Stress Scale] score 2 SDs below the study population baseline mean) and quality-adjusted life years (QALYs) gained. The sampling error was handled using nonparametric bootstrapping. **Results:** From a societal perspective, the digital intervention was likely to be dominant compared with WLC, with a 56% probability of being cost-effective at a willingness-to-pay (WTP) of €0 per symptom-free person gained. At the same WTP threshold, the digital intervention had a probability of 55% being cost-effective per QALY gained relative to the WLC. This probability increased to 80% at a societal WTP of €20,000 per QALY gained. Taking the employer's perspective, the digital intervention showed a probability of a positive return on investment of 78%. **Conclusions:** Digital preventive stress management for employees appears to be cost-effective societally and provides a favorable return on investment for employers.

**Freund et al. 2024.**

**Journal of Medical Internet Research, vol. 26.**

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**Keywords:** Cost-benefit; cost-effectiveness; cost-utility; economic evaluation; employees; internet-based; return-on-investment; stress management; universal prevention.

**Evidence Level:** 2B

**Link:** <https://www.jmir.org/2024/1/e48481>

### **Moving diabetes prevention programs to the workplace: A qualitative exploration of barriers and facilitators to participant engagement when implemented by an employer-based clinic**

**Background:** The Diabetes Prevention Program (DPP), an effective evidence-based strategy to reduce the incidence of type 2 diabetes, has been widely implemented in various locations, including workplaces. However, most people do not remain engaged in the program for the recommended full year. Limited qualitative research exists around participant engagement in the workplace DPP. Our study aimed to explore participant engagement in the DPP delivered through the employer-based clinic (EBC) at a large technology company. Intervention approach: The DPP was implemented through the EBC at a large technology company in Southern California, beginning in September 2019 by using in-person and virtual synchronous group classes before and during the COVID-19 pandemic. Evaluation methods: Virtual focus groups with DPP participants from 2 inaugural cohorts were conducted via Zoom from October 2020 to

February 2021. Data were analyzed by using inductive thematic analysis. **Results:** Five focus groups with 2 to 3 participants in each (total n = 12) were conducted, 2 focus groups per cohort and 1 focus group with the group instructors. Barriers and facilitators to engagement in the DPP were grouped into thematic domains: Individual Drivers, Small Group Community, Workplace Setting, Integrated EBC, and the COVID-19 Pandemic. Results showed that prepandemic workplace demands (ie, meetings, travel) affected DPP participation, yet the group setting provided social support in the workplace to engage in and maintain healthy habits. With the move to a virtual synchronous offering during the pandemic, participants valued the group setting but expressed a preference for in-person meetings. Collectively, participant engagement was bolstered by shared buy-in and collaboration between the employer and the EBC. Our findings suggest that engagement in a workplace DPP can be supported by addressing workplace-specific barriers and gaining buy-in from employers. Delivering the DPP, in person and virtually, through an EBC has the potential to engage employees who have prediabetes.

**Tsai et al. 2024.**

**Preventing Chronic Disease, vol. 24.**

**Keywords:** Diabetes; prevention; workplace.

**Evidence Level:** 5B

**Link:** [https://www.cdc.gov/pcd/issues/2024/24\\_0173.htm](https://www.cdc.gov/pcd/issues/2024/24_0173.htm)

### **Working young adults' engagement with public and workplace health promotion efforts in Singapore: A qualitative study**

**Background:** Young adults entering the workforce are at increased risk of becoming overweight or obese. Yet, internationally, young adults are rarely targeted in health campaigns, and little is known on how to improve their interest and participation in health promotion efforts. **Method:** Through 33 semi-structured interviews with young adults working in Singapore, we explored their engagement with existing public and workplace health promotion efforts that encouraged healthy eating and increased physical activity, and their subjective health in the context of their daily lives. Interviews were coded and thematically analysed, taking an inductive and deductive approach. **Results:** Despite some interest in health messaging, participating working young adults rarely adopted health-promoting activities such as meeting daily recommended servings of fruits and vegetables and exercising regularly. Participants reported that the health promotion campaigns they were aware of, suggested actions that they couldn't incorporate in their lives as they did not address the barriers that they are facing from socio-environmental contributors such as long working hours, personal and social commitments, and the food environment. Furthermore, some considered their health to be good enough and therefore had little reason to change existing practices. Affordable and accessible health screenings were an objective way for young adults to re-evaluate their perceptions of their own health which motivated some to favourably change their behaviours. **Conclusion:** Our findings suggest that future health promotion campaigns would benefit from more fully addressing some of the existing barriers that young working adults face, in tandem with policy changes to directly tackle the socio-environmental conditions for young workers.

**Leu et al. 2024.**

**PLoS One, vol. 19, no. 10.**

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**Keywords:** Young adults; public; health promotion; workplace.

**Evidence Level:** 5B

**Link:** <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0309983>

### **Nutritional education in Polish companies: Employee needs and the role of employers in health promotion**

**Background:** The modern work environment is constantly evolving, and with it, the emphasis on employee health and well-being is increasing. Nutritional education has become a key component of health promotion strategies in many companies that recognize the benefits of healthy eating habits for enhancing efficiency and job satisfaction. **Objectives:** The aim of this study was to understand employees' nutritional needs at work, and to assess the support provided by employers. The analysis focused on employees' eating habits and their attitudes towards eating at work, motives and barriers to healthy eating.

**Methods:** The study was conducted using an anonymous survey completed by 1.056 individuals from across Poland. A discriminant function was selected for data analysis, which examined the differences between groups. **Results and Conclusions:** The larger enterprises are more inclined to establish meal consumption spaces, which contributes to a more organised work culture. The larger the business, the more time employees spend eating meals, it being influenced by better-developed eating facilities, which undoubtedly encourages the workers to take longer breaks. The people with obesity were found to place the highest value on healthy food options and the people with a normal BMI are more responsive to healthy food subsidies, nutritional advice provided by a dietitian, and access to fitness facilities.

**Mazurek-Kusiak et al. 2024.**

**Nutrients**, vol. 16, no. 19.

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**Keywords:** Barriers and motives; company canteens; employee; employer; healthy eating.

**Evidence Level:** 5B

**Link:** <https://www.mdpi.com/2072-6643/16/19/3376>

## Organisational Issues

### Which character strengths may build organizational well-being? Insights from an international sample of workers

**Background:** The nature and composition of well-being has been the subject of ongoing debate in the field of positive psychology. Recent discussions identify Seligman's PERMA dimensions as concrete pathways to achieve subjective well-being, rather than a distinct type of well-being. Four additional "building blocks" have been categorized to define positive functioning at work (PERMA+4). **Method:** The present study adds another level of inquiry, by newly examining the relationships of character strengths and a general factor of character with PERMA+4 and life satisfaction in a large international sample of 5,487 employees. **Results:** We found that 21 of the 24 character strengths were significantly (yet only slightly) more strongly correlated with PERMA+4 than with life satisfaction, and that PERMA+4 was consistently related to life satisfaction. The happiness strengths (hope, gratitude, zest, curiosity and love) and the general factor of character were also directly and indirectly related to life satisfaction. **Conclusion:** Taken together, these results suggest that the PERMA+4 dimensions may help bridge the gap between strengths and well-being, explaining how individuals with good character are also those who report higher life satisfaction. Future longitudinal studies should build on the present findings and examine whether character strengths can act as the "building blocks of the building blocks" of life satisfaction.

**Casali et al. 2024.**

**PLoS One**, vol. 19, no. 10.

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**Keywords:** Wellbeing; organizational; psychology.

**Evidence Level:** 4A

**Link:** <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0312934>

### "Do I feel safe here?" Organisational climate and mental health peer worker experience

**Background:** In Australia, lived experience peer support workforces are expanding making it one of the fastest growing emerging disciplines in transdisciplinary mental health settings. This article provides insight for organisations on the contextual realities peer workers face, increases understanding of peer support services to improve service delivery environments and contributes to mental health systems reform. This study aimed to qualitatively explore peer support workers experience integrating into and working within transdisciplinary mental health service teams. **Method:** Semi-structured interviews were undertaken with 18 peer support workers currently working in mental health services in Australia. The research was a qualitative descriptive study design. All data collected were analysed utilising thematic analysis.

**Results:** Peer workers found their experience in the workplace was influenced by their colleagues and the organisation's understanding of the peer role. Factors relating to organisational culture and climate were a central theme throughout discussions noting that a negative climate was perceived as harmful to peer workers. Themes established through results include (1) the role of leadership, (2) attitudes and behaviours

of colleagues, (3) provision of psychologically safe environments, (4) the organisations messaging and use of language and (5) organisational structures and policy. **Conclusion:** This study contributes to evidence for the impact of organisational culture on integrating and supporting peer support workers in mental health service delivery. This study provides insights into peer worker experiences integrating into transdisciplinary teams, confirming findings established in previous studies, highlighting a lack of movement or change in workplace culture to support peer worker integration into mental healthcare settings.

**Reeves et al. 2024.**

**BMC Health Services Research, vol. 24, no. 1.**

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**Keywords:** Organisational climate; organisational culture; peer support.

**Evidence Level:** 5B

**Link:** <https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-024-11765-8>

## Management and Leadership

### **Inclusive leadership and employee workplace well-being: The role of vigor and supervisor developmental feedback**

**Background:** Employees within organizations actively pursue and maintain their workplace well-being. Although there are current studies that have examined the linking inclusive leadership to employee workplace well-being, the underlying intrinsic link between the two remains unclear. On the basis of self-determination theory, this research examined the relationship between inclusive leadership, vigor, supervisor developmental feedback, and workplace well-being. **Patients and methods:** Data were collected from 61 teams that totaled 342 full-time employees through a 3-stage questionnaire. Multilevel Structural Equation Modeling and Monte Carlo simulations were conducted on data for hypothesis testing. **Results:** Inclusive leadership positively correlated with employee workplace well-being. Employee vigor mediates the link between inclusive leadership and employee workplace well-being. Supervisor developmental feedback moderated the relationship between inclusive leadership and employee vigor. **Conclusions:** Inclusive leadership can improve employees' workplace well-being by stimulating their vigor. Therefore, managers need to be able to effectively meet employees' basic needs to stimulate their vigor. Based on meeting employees' basic needs, managers can also provide targeted developmental feedback to meet employees' growth needs, which can more effectively promote employees' vigor and workplace well-being.

**Liu et al. 2024.**

**BMC Psychology, vol. 12, no. 1.**

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**Keywords:** Inclusive leadership; supervisor developmental feedback; vigor; workplace well-being.

**Evidence Level:** 5B

**Link:** <https://bmcpyschology.biomedcentral.com/articles/10.1186/s40359-024-02029-5>

## Work Ability

### **Salutogenic mechanisms in nature-based work: Fostering sense of coherence for employees with limited capability for work**

**Background:** Having a job is important for the well-being and inclusion of people with limited capability for work (LCW) due to physical and/or mental disability. This study explores salutogenic mechanisms that contribute to work-related sense of coherence (Work-SoC) of employees with LCW, i.e. perceiving their work in nature as manageable, comprehensible and meaningful. **Method:** Semi-structured interviews (26 in total) were conducted with employees with LCW, employee supervisors, job coaches and foresters, all working in nature management. Interviews were held at four worksites of a governmental organisation in the Netherlands that provides permanent jobs for people with LCW. Employees with LCW contributed to the design and analysis of the study as co-researchers. Thematic analysis was used and member checks

were carried out on preliminary findings. **Results:** We identified six salutogenic mechanisms that contribute to nature-based Work-SoC of employees with LCW: (i) having constructive working relationships, (ii) experiencing structure and clarity, (iii) receiving practical and emotional support, (iv) support in the creation of meaning, (v) experiencing and learning in practice and (vi) physical activity and (absence of) stimuli. Identified mechanisms can create a positive effect when leveraged, thereby boosting (new) salutogenic mechanisms. **Conclusions:** Our findings illustrate that nature-based work can provide resources that promote Work-SoC of employees with LCW through the identified mechanisms. However, employees with LCW, colleagues, supervisors and stakeholders must recognize, mobilize and use these resources to leverage identified mechanisms in order to facilitate health-promoting workplaces for people with LCW. This, in turn, can contribute to sustainable inclusion through enablement.

**Hiemstra et al. 2024.**

**Health Promotion International, vol. 39, no. 5.**

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**Keywords:** Disability; health-promoting environments; limited capability for work; mechanisms; salutogenesis; work sense of coherence.

**Evidence Level:** 5B

**Link:** <https://academic.oup.com/heapro/article/39/5/daae127/7816076?login=false>

## Adapting to the Future of Work

### Aging Workforce

#### **The challenge of new forms of work, innovative technologies, and aging on decent work: Opportunities for occupational safety and health**

**Background:** Occupational Safety and Health (OSH) can be relevant in achieving the United Nation's Sustainable Development Goal of decent work by 2030. However, further OSH actions are needed. This paper identifies the role of OSH in addressing two of many determinants of decent work: new forms of work/innovative technologies and worker aging. **Method:** The authors conducted a discursive analysis of the two determinants and provided examples for consideration. **Results:** New forms of work/innovative technologies can not only promote but also undermine the future of decent work, and unhealthy aging impedes longer working lives. **Conclusion:** With a focus on the OSH aspects of new forms of work/innovative technologies and aging, decent work is more likely to be achieved.

**Schulte et al. 2024.**

**La Medicina del Lavoro, vol. 115, no. 5.**

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**Keywords:** Work; innovation; occupational safety and health.

**Evidence Level:** 6B

**Link:** <https://www.mattioli1885journals.com/index.php/lamedicinadellavoro/article/view/16421>

#### **Association between frailty and main work during the LIFE: A cross-sectional analysis of the UK Biobank**

**Background:** The role of main work during the life course in predicting frailty, a typical geriatric syndrome, is still largely unknown. Therefore, with this research, we aimed to investigate the potential association between the main work done during the life with frailty and pre-frailty among participants 60 years and older of the UK Biobank study. **Methods:** Frailty and pre-frailty presence were ascertained using a model including 5 indicators (weakness, slowness, weight loss, low physical activity, and exhaustion); the main employment status was ascertained using self-reported information. The association between frailty and main work was explored using an ordinal logistic regression model and reported as odds ratios (ORs) with their 95 % confidence intervals (CIs). **Results:** The final sample comprised a total of 50,447 individuals (mean age: 64.2 years, females: 50.2 %). Individuals with higher qualifications had a reduced risk of frailty (OR = 0.881, 95%CI = 0.83-0.95, p-value<0.001 for pre-frail and OR = 0.681, 95%CI = 0.63-0.73, p-

value<0.001 for frail) compared to those with lower qualifications. Moreover, active participation in the workforce, compared to being inactive, emerged as a protective factor from frailty (OR = 0.753, 95%CI = 0.70-0.81, p-value<0.001). The categories of Associate Professional and Technical Occupations exhibited protective effects against both pre-frailty and frailty. Similarly, occupations categorized as Professional and Management demonstrated protective effects against pre-frailty and frailty when compared to Elementary Occupations. Additionally, engagement in Trades and Services occupations, as opposed to Elementary Occupations, appeared to be protective against frailty. **Conclusions:** In this large cross-sectional investigation based on the data of the UK Biobank we found that work during lifetime could be an important factor in determining frailty later in life.

**Veronese et al. 2024.**

**Experimental Gerontology, vol. 195.**

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**Keywords:** Frailty; job; UK Biobank; work.

**Evidence Level:** 4B

**Link:** <https://www.sciencedirect.com/science/article/pii/S0531556524001943?via%3Dihub>

## Technology

### **Assist me or replace me? Uncovering the influence of AI awareness on employees' counterproductive work behaviors**

**Background:** Drawing on the conservation of resources theory (COR), the research aims to reveal the influence of artificial intelligence (AI) awareness on employees' mental health and behaviors, particularly examining whether and how employees' AI awareness impacts their counterproductive work behaviors (CWB) in human-intelligence collaborations. **Methods:** Data was collected from 327 Chinese employees who collaborated with AI in sales, manufacturing, logistics, and other industries. The measurement instruments included scales for AI awareness, psychological contract (PC), emotional exhaustion (EE), and counterproductive work behavior (CWB). We used Hayes's PROCESS macro to analyze the data. **Results:** AI awareness had a significant positive impact on CWB ( $\beta = 0.448, p < 0.01$ ). PC and EE play a role as partial mediators in the relationship between AI awareness and CWB. The mediating pathways consist of three sequences: "AI awareness  $\rightarrow$  PC  $\rightarrow$  CWB," "AI awareness  $\rightarrow$  EE  $\rightarrow$  CWB" and "AI awareness  $\rightarrow$  PC  $\rightarrow$  EE  $\rightarrow$  CWB," with the respective contributions to the overall effect amounting to 8.04, 18.53, and 4.91%.

**Conclusion:** Our research contributes to the study of AI in the management field by elucidating the relationship between AI awareness and CWB, as well as the mediating mechanisms of this relationship, which enriches the literature on CWB and expands the understanding of the associations between AI and CWB.

**Bai et al. 2024.**

**Frontiers in Public Health, vol. 12.**

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**Keywords:** Artificial intelligence awareness; conservation of resource theory; counterproductive work behaviors; emotional exhaustion; psychological contract; psychological contract breach.

**Evidence Level:** 5B

**Link:** <https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2024.1449561/full>

### **How can AI-integrated applications affect the financial engineers' psychological safety and work-life balance: Chinese and Iranian financial engineers and administrators' perspectives**

**Background:** The integration of AI in finance has significantly reshaped the role of financial engineers, improving efficiency and decision-making. However, it also affects psychological safety and work-life balance. Financial engineers face increased pressure to keep up with evolving technologies, fear of job displacement due to automation, and blurred boundaries between work and personal life. Exploring the link between AI applications, psychological well-being, and work-life balance is crucial for optimizing individual performance and organizational success, ensuring a sustainable and supportive work environment. **Objectives:** This qualitative study investigates how AI-integrated finance applications

influence financial engineers' psychological safety and work-life balance. By exploring financial engineers' lived experiences and perceptions, the study seeks to provide insights into the human implications of AI adoption in finance. **Method:** The study utilized qualitative research methods, specifically thematic analysis, to examine data from 20 informants selected through theoretical sampling. Thematic analysis techniques were employed to identify recurring patterns, themes, and meanings within the data, allowing for a rich exploration of the research questions. **Results** Data analysis revealed several themes related to the impact of AI-integrated applications on financial engineers' psychological safety and work-life balance. These themes include the perception of job security, the role of automation in workload management, and the implications of AI for professional identity and job satisfaction. **Conclusions:** This study's findings highlight the multifaceted effects of AI integration in finance, shedding light on the opportunities and challenges it presents for financial engineers. While AI offers potential benefits such as increased efficiency and productivity, it raises concerns about job security and work-related stress. Overall, the study underscores the importance of considering the human implications of AI adoption in finance and calls for proactive measures to support the well-being of financial professionals in an AI-driven environment.

**Gao et al. 2024.**

**BMC Psychology, vol. 12, no. 1.**

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**Keywords:** AI-integrated applications; auditors; organizational psychologists; psychological safety; work-life balance.

**Evidence Level:** 4B

**Link:** <https://bmcpyschology.biomedcentral.com/articles/10.1186/s40359-024-02041-9>

### **The work affective well-being under the impact of AI**

**Background:** Artificial intelligence (AI) technology is expected to help enterprises reduce costs and improve efficiency, but it may also threaten the employment of employees. It may form a substitution effect on employees' jobs and might make them experience negative work emotions. Employees' work emotions could then affect their innovative abilities, which in turn impacts the innovation ability and competitiveness of enterprises. Therefore, the impact of applying artificial intelligence technology on employees' work well-being has become a pressing issue for businesses today. **Method:** Through empirical analysis of 349 questionnaire responses, we found that employees' STARA awareness negatively predicts their work affective well-being. Job stress mediates the relationship between STARA awareness and employees' work affective well-being. Psychological resilience moderates the relationship between STARA awareness and job stress, moderates the indirect effect of STARA awareness on employees' work affective well-being through job stress. Theoretical discussions and analyses of the mechanism through which STARA awareness affects employees' work affective well-being were conducted based on the Conservation of Resources theory.

**Conclusions:** In practice, we provide valuable insights for employees and enterprises to address the impact of AI, enhance work affective well-being, and strengthen enterprises' innovation and competitiveness.

**Jin et al. 2024.**

**Scientific Reports, vol. 14, no. 1.**

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**Keywords:** AI; well-being; work.

**Evidence Level:** 5B

**Link:** <https://www.nature.com/articles/s41598-024-75113-w>